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**INTERNATIONAL POSTGRADUATE STUDENTS ADJUSTMENT IN
MALAYSIA-THE ROLE OF PERCEIVED ENGLISH LANGUAGE
PROFICIENCY, ACCULTURATION STRESS, AND PERCEIVED
SOCIAL SUPPORT**



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UUM
Universiti Utara Malaysia

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2019**



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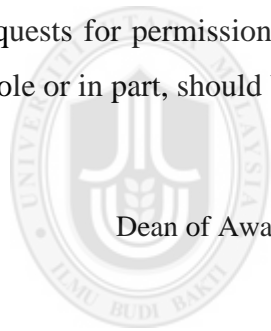
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Abstrak

Pelajar antarabangsa dengan bahasa penguasaan rendah bahasa Inggeris tetap berisiko tinggi untuk penyelarasan akademik, sosial, dan psikologi yang tinggi. Walau bagaimanapun, kebanyakan kajian mengenai kemahiran bahasa telah dijalankan dengan penutur Bahasa Inggeris bukan asli di negara-negara barat Anglo Saxon yang mewujudkan jurang yang luas dalam kajian berkaitan dengan negara-negara berbahasa Inggeris bukan asli seperti Malaysia. Kajian ini dilaksanakan untuk memahami mekanisme di mana kemahiran bahasa dapat mempengaruhi pelarasan pelajar. Kajian ini meneroka tekanan pembudayaan dan sokongan sosial sebagai kontruk yang berpotensi menghubungkan kajian yang menyiasat bahasa dan mengkaji penyesuaian diri pelajar. Kajian ini telah menggunakan reka bentuk kajian kolerasi. 659 pelajar antarabangsa pascasiswazah dari lima universiti awam di Malaysia telah dipilih dengan menggunakan teknik pensampelan pelbagai peringkat sebagai sampel kajian ini. Analisis Model *Structural Equationl* mendedahkan bahawa model ini sesuai dengan data yang dikumpul dan ia mengesahkan bahawa kemahiran bahasa Inggeris adalah peramal penting dalam penyelarasan akademik, sosial dan psikologi pelajar antarabangsa dengan tekanan pembudayaan dan sokongan social sebagai pembolehubah mediator. Dapatan ini memberikan implikasi teoritis yang ketara dengan memperluas hubungan dan keberhasilan di kalangan pelajar lepasan ijazah antarabangsa kerana model-model sebelum ini telah difokuskan kepada pendatang dan pelarian. Selain itu, pengamal pendidikan tinggi dan pembuat dasar dicadangkan untuk melabur wang untuk memenuhi keperluan pelajar antarabangsa bagi meningkatkan kepuasan dan kesanggupan pelajar antarabangsa untuk mencadangkan institusi pendidikan Malaysia kepada orang lain.

Kata kunci: Penguasaan bahasa Inggeris, tekanan pembudayaan, sokongan sosial yang tertanggap, penyesuaian akademik, penyesuaian sosial, dan penyesuaian psikologi.

Abstract

International students with low proficiency of English language remain at high risk of academic, social, and psychological maladjustment. However, most of the studies on language proficiency have been conducted with non-native English speakers in Anglo Saxon western countries which creates a wide gap in research pertaining to non-native English-speaking countries such as Malaysia. The present research has sought to understand the mechanism by which language proficiency can influence students' adjustment. The study explores acculturation stress and social support as a construct that potentially connects the body of research investigating language and that examining students' adjustment. A cross sectional research design was employed. Data was collected from five public universities of Malaysia and a total number of 659 postgraduate international students were recruited using multistage sampling technique. Structural Equation Modeling analysis revealed that the model adequately fit the data collected and it confirmed that English language proficiency is a significant predictor of academic, social and psychological adjustment of international students and this relationship is mediated by acculturation stress and social support. The findings provided significant theoretical implication by extending the nexus of antecedent and outcomes in the international postgraduate students as previously existing models focus on migrants and refugees. Moreover, it also offers recommendations for higher education practitioners and policymakers to invest money for identifying and satisfying the needs of international students for increasing the satisfaction and willingness of international students to recommend Malaysian educational institutions to others.

Keywords: Perceived English language proficiency, acculturation stress, perceived social support, academic adjustment, social adjustment, and psychological adjustment.

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List of Abbreviations

ELP	English Language Proficiency
SIT	Social Identification Theory
SCT	Stress & Coping Theory
CLT	Culture Learning Theory
FA	Factor Analysis
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis



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CHAPTER ONE

INTRODUCTION

1.1 Overview

The present chapter provides an overview of the study which begins with a description of the background of the pertinent issues leading to the problem statement. In the next section, the research objectives and research questions are explained, followed by the conceptual framework and the scope of the study. Finally, the operational definitions of the study variables are provided.

1.2 Introduction

People have travelled throughout the world for various purposes such as trading, working, traveling, and studying. Technological development and globalization have made it easier to move across various national boundaries. This has led to an increase in international mobility. Among the international mobility, global mobility in education especially higher education is popular. The issue of cross-cultural adjustment becomes paramount since international students try to overcome challenges and flourish academically, socially, and psychologically in a new environment. Therefore, this study was conducted to identify the factors influencing international postgraduate students' academic, social, and psychological adjustment in Malaysian public universities, an emerging education hub in the region.

1.3 Background of the Study

Globalization of higher education has opened incalculable doors for culturally diverse contacts. In 2016, the number of tertiary students studying abroad rose to five million,

marking an increase of 67 percent since 2005. According to UNESCO (2013), over 4.1 million students were studying abroad, and the number is expected to increase to eight million by 2025 (ICEF, 2016). The international students mobility trend which was traditionally limited to native English speaking countries, such as the United Kingdom, the United States of America, Australia, and New Zealand (Marginson, 2012; Sawir, Marginson, Forbes-Mewett, Nyland & Ramia, 2012) is now expanding to non-native English speaking countries in Asia (Wang & Hannes, 2014). Tertiary education in China, Japan, Taiwan, South Korea, and Malaysia has unequivocally established goals to increase recruitment of international students by 2020. For example, China has set a target to recruit 500,000 international students, Japan has declared to attract 300,000, and Malaysia 250,000 between 2020 and 2025 (Luo, 2017). This rising trend in Asia is apparently due to stricter admission policy, visa procedure, and an increase in tuition fees in the West (Wang & Hannes, 2014).

Malaysia was considered 11th in the world ranking for the enrollment of international students (Salman & Hasim, 2012) and managed to capture two percent of the international students market in the fast-growing private educational sector (UNESCO, 2013). Malaysia has become a preferred destination for receiving international students for higher education for multiple reasons. Firstly, Malaysia provides excellent educational facilities and is an educational center (Grapragasem, Krishnan, & Mansor, 2014). Secondly, even though Bahasa Melayu is the national language, the English language is widely used as a medium of instruction at the undergraduate and postgraduate levels in many Malaysian universities (Gill, 2004). Thirdly, Malaysia is a country of multiple faiths comprising Islam, Christianity,

Hinduism, and Buddhism (Noor & Leong, 2013). Fourthly, Malaysia educational facilities are recognized in the world ranking system (ICEF, 2016). According to the 2013 QS World Universities Ranking, Universiti Sains Malaysia ranked number two among five top Asian universities. Furthermore, Malaysia is close to the countries in the South East, Middle East, and East Asia (Sam, Zain, Bin Jamil, Souriyavongsa, & Quyen, 2013). Lastly, the cost of living in Malaysia is relatively low, offering affordable higher education (Trahar, 2014).

Malaysia targets to be a center of world-class education and a huge player in the regional education (Knight & Morshidi, 2011). By the year 2020, Malaysia aims to attract 200,000 international students (Ndanusa, Harada, Romle, & Olanrewaju, 2015). About 80,750 international students enrolled in both public and private universities in Malaysia. These students were from 167 different countries including Iran (10,932 students), Indonesia (9,812 students), China (9,177 students), Nigeria (5,969 students), and Yemen (4,931 students) (MOHE, 2010).

The presence of international students on the university campuses contributes to the diversity (Andrade, 2006), and internationalisation of the classrooms, campuses, and communities by bringing new and different ways of thinking (Ryan & Hellmundt, 2003) and catalyzing academic competition, thereby contributing and positively influencing the student population on so many different levels promoting intercultural communication competencies and critical thinking skills among students. Furthermore, it also significantly impacts academic prestige and economic status of the institutions (Pandian et al. 2016).

Secondly, international students constitute an important source of diversity on college campuses. They encounter cultural multiplicity, hence, gains multiethnic experiences. In addition, international students help the faculty and students to develop their cultural sensitivities and skills in working with people from different backgrounds. International students can provide opportunities for Malaysian faculty, students, and Malaysian society to experience different languages, cultures, and traditions (Hammer et al., 2003). Thirdly, international students also contribute significantly in both developing a strong international bonding and economic asset through the means of their expenditures on tutoring and living expenses. They are either self-sponsored or funded students. Hence, open the ways to universities in generating a higher revenue in terms of tuition and other fees (Singh, Schapper, & Jack, 2014). According to MOHE (2012) the contribution of international students to revenue generation for the country is increased to an estimated level of RM 2.6 billion. An average contribution of RM 600 billion was estimated to the country's economy right from the international student's enrollment in Malaysia (Ali, 2013; Raduian, 2012).

Besides, there is a growing trend towards studying abroad and as a consequent enrollment is noticeable particularly in Malaysia. Certainly, Malaysia gained attention due to its cultural diversity (Mahmud et al., 2010). Nevertheless, apart from desirability of cultural diversity it also brings novel challenges and consideration that need strong attention towards understanding on how international students make adjustment (Liu, 2012). Therefore, it is important from an economic standpoint, since, international students contribute significantly towards the economic growth of the

Malaysian universities therefore, if their needs are met, they will recommend and act as a bridge for future international students that will continue this contributory process.

1.4 Problem Statement

The National Higher Education Strategic Plan (Knight & Morshidi, 2011) plans to transform Malaysia into an education hub by 2020-2025 by recruiting 250,000 international students in the higher education institutes across the country (Wan et al., 2013). These international students contribute to cultural diversity (Pandit, 2013), knowledge and skills (Takagi, 2015), and economic capital (Singh et al., 2014) to the host country and in return gain higher education (Smith & Khawaja, 2011). However, over the course of their study international students face various adjustment challenges due to differences in terms of culture (Glass & Westmont, 2014), new social environment (Rienties, Héliot, & Jindal-Snape, 2013), academic styles (Naeeni et al., 2015), and language (Meng, Zhu, & Cao, 2018). English language proficiency plays a significant role in the international students' scholastic performance and quality of social relationship (Zhang et al. 2011). Students' inability to cope up with academic tasks such as comprehending lectures, asking questions, writing assignments, participating in class discussion and interacting with peers and lecturers for academic activity intensify the stress (Huang, 2006). Furthermore, a lack of language proficiency also inhibits social integration and peer support which supplements the amount of stress experienced by international students (Rienties, Beusaert, Grohnert, Niemantsverdriet, & Kommers, 2012) and put them at a great risk which is harmful to them as well the host nation. Hence, it is deemed important to consider English language as primary variable of investigation in international students adjustment.

Most of the studies on English language proficiency among international students' experience have been conducted with non-native English speakers in Anglo Saxon Western countries (e.g. Basow & Gaugler, 2017; Wang & Hannes, 2014) which creates a wide gap in research pertaining to non-native English speaking country such as Malaysia which aspire to recruit 250,000 international students in the higher education institutes (Kaur, Noman, & Nordin, 2017). Therefore, there is need to study international student population in Malaysia as the composition of international students' population in Malaysia is significantly diverse in terms of culture, language, and race as most of the students are from China, Yemen, Libya, Syria, and Iran (Luo, 2017). These countries are among the top fifteen nationalities from where maximum number of students come to Malaysia for their higher education. In these countries English is not second or foreign co-official language and is rarely used as a medium of instruction in education (the world fact book, 2017).

Furthermore, Malaysia is a multicultural (Yusoff, 2012) and multilingual nation country (Kaur, Noman, & Nordin, 2016) with a mixture of Malay, Chinese, and Tamil, each of them have variances in English accent (Mahmud, Amat, Rahman, & Ishak, 2010), pronunciation (Sam, Md Zain, Jamil, Souriyavongsa, & Quyen, 2013), enunciation (Wan, Nordin, & Razali, 2013), and slang (Al-Zubaidi & Rechards, 2010). Additionally, it should be noted that under internationalization thrust Malaysian universities employ scholars from around the world who bring along a variety of English language accents. The students' lack of English language proficiency compounded by the fact that these students would have to adjust to different English

language accents of local and international instructors poses a great challenge to international students' adjustment in Malaysia.

The present research has sought to understand the mechanism by which ELP can influence students' adjustment (academic, social, and psychological). The study explores acculturation stress and social support as a construct that potentially connects the body of research investigating English Language Proficiency (ELP) and that examining adjustment (academic, social, and psychological). Specifically, it examines the extent to which ELP may be associated with acculturation stress, social support and adjustment as well as the extent to which acculturation stress and social support may also be associated with adjustment (academic, social, and psychological). Acculturation stress is defined as the stress which is caused due to dissimilarity between the host and international students' culture and lack of knowledge about new cultural norms and values (Berry et al. 2006) which leads to negative consequences such as feeling of marginality, anxiety, lowered self-esteem, and identity confusion (Berry et al. 2006). The current study focus on acculturation stress because 43.3% international students in Malaysia reported homesickness and 33.8% reported depression (Saravanan, Mohamad, & Alias, 2019). However, while tremendous attention has been paid to cross-cultural adjustment by researchers in acculturation literature, the context remains limited to immigrants and refugees only (Smith & Khawaja, 2011). Therefore, the issue of international students' adjustment in relation to acculturation stress remains less explored and is crucial to consider as it is directly linked to their mental health and academic outcomes (Shafaei & Razak, 2016).

To overcome the negative consequences of acculturation stress an individual need to use positive coping mechanism (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lee & Ciftci, 2014) such as social support which can be received from friends or peer groups (Dao, Donghyuck, & Chang, 2007) and it is found as a significant source to deal with academic, social, and psychological stress (Rui & Wang, 2015; Van Gorp, Boroş, Bracke, & Stevens, 2017). However, inability to communicate in the English language further aggravates the academic and social challenges as poor language proficiency inhibit meaningful interactions with peers, faculty, and others members of the host society and development of social networks which, in turn, lead to academic, social and psychological maladjustment (Sam et al. 2015) and eventually to drop out (Hang, Kaur, & Nur, 2017; Martirosyan, Nara, Hwang, Eunjin, Wanjohi, 2015). Social support and acculturation stress have both been associated with adjustment. In the current study, we sought to extend knowledge of these constructs in relation to ELP. From previous research, it is known that acculturation stress and social support predicts adjustment (Meng et al., 2018; Yan, 2017) and through separate studies that ELP predict adjustment (academic, social, and psychological). What is less well understood is the relative salience of Perceived English Language Proficiency in linking with perceived social support and acculturation stress or how ELP and perceived social support and acculturation stress function in relation to three types of adjustment when considered in same model in Malaysian context.

Furthermore, past studies in Malaysian higher education has investigated the issues surrounding international students' adjustment such as challenges related to culture, teaching and learning, institutional climate, and academic and socio cultural

adjustment (Alghail & Mahfoodh, 2016; Faiz et al. 2015). However, those investigations have mainly employed qualitative approach with considerably small sample sizes which limit our understanding of the issue at a larger scale. Therefore, quantitative approach is deemed appropriate to obtain insight from wider perspective. A quantitative investigation would allow a higher degree of generalization of the results, and the use of a large sample will allow the researchers to use multivariate statistical analysis to test the proposed model that will explain more variance than an ordinary standalone model.

1.5 Theoretical Framework of the Study

This section provides the theoretical framework for the current study which is a collection of interrelated concepts that lead to research; it determines the variables/dimensions that should be measured, and the relationships required from the data (Borgatti, 1999). A theoretical framework also explains in detail the variables that are considered relevant to problems under investigation and interprets the relationships between these variables (Frankfort-Nachmias & Nachmias, 1996).

Numerous theories related to adjustment have been postulated, however, those were tested among immigrants and refugees, but the adjustment experience causes international students to experience more stress than these international groups (Misra & Castillo, 2004). Therefore, considering the problems highlighted above, the researcher came up with a framework that will explain the adjustment (academic, social, and psychological) among postgraduate international students in Malaysia.

The theoretical framework of the study is based on the underpinning concept of three core theories namely culture learning, stress and coping models and social identification theories. These three contemporary theories will be used to explain how international students adjust in Malaysia. These theories are focused on explaining affective (A), behavioural (B) and cognition (C) aspects of adjustment, thus, termed as ABC model (See Figure 1.1) since they are used in the past to explain cross cultural adjustment.

Affective/emotional aspects of the study is explained by SCT that was proposed by Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen (1986) that explains “stress is a particular relationship between the person and its environment that is appraised by exceeding his or her resources and endangering his or her well-being”. Hence, when an individual considers the cross-cultural transition as an opportunity, he tries to face the environment by using its coping resources such as social support. Social support is found as a key factor impacting student’s adjustment in the new environment (Poyrazli, Senel; Kavanaugh, 2004; Poyrazli & Isaiyah, 2018). Social support can be achieved through socializing with members of the host country (Rienties, Beusaert, Grohnert, Niemantsverdriet, & Kommers, 2012; Rienties & Jindal-Snape, 2016) or other international students (Faiz et al., 2015; Sam et al., 2013) as it tends to overcome the negative effects of transition (Oh, Ozkaya, & LaRose, 2014). On the other hand, if the student does not have enough support system such as co-national network (Glass, 2014) thus, he fails to overcome the stressful situation, will experience maladjustment (Hunt, Martens, Wang, & Yan, 2016) or in severe cases may observe psychopathology

such as depression (Liu et al., 2016) and anxiety (Hjeltnes, Binder, Moltu, & Dundas, 2015).

Behavioral aspect of intercultural communication was described by CLT which was formulated by (Argyle, 1973) which explained the role active social participation plays. CLT rooted in social and experimental psychological therefore, it can be explained from two perspective i.e. communication competence and cultural differences in terms of styles, values, and norms of communication which are causes of social interaction and social skills (Hui, Chen, Leung, & Berry, 2015; Ward & Masgoret, 2006).

CLT posits that English Language Competency (ELC) plays a significant role in cross-cultural adjustment. International students ability to communicate has direct relationship to their social experience (Hendrickson, Rosen, & Aune, 2011), ability to communicate effectively with other cultures (Moore, Rutherford, & Crawford, 2016; Ryan, Bhattacharyya, Stratilas, & Goela, 2016), forming social networks (Jinhyun Cho, 2018; Sawir et al., 2012), and ability learn new culture (Lee, Sung, Zhou, & Lee, 2018) which in turn will leads to adjustment. CLT emphasizes on interaction with host national as through such interaction they can acquire culturally relevant skills that will enhance their academic, social, and psychological adjustment. Lack of ELC will inhibit the international student from active participations in the learning processes (Reinhardt, 2011) such as difficulty in participating in classroom discussions (Janta, Lugosi, & Brown, 2014), and articulating their knowledge in exam (Mesidor & Sly, 2016). Hence, impede their social integration which in turn affect their academic,

social, and psychological adjustment. Therefore, Perceived English Language Proficiency plays a significant role in the adjustment of international students.

Social identification theory (SIT) was based on the theory of social identity (Tajfel & Turner, 1979) which focuses on intercultural contact's cognitive component. It explains the process in which international student's cultural identification and its interaction with in and out groups. Hence, international student's perception of cultural identity and their relationship with host and co-national can affect their adjustment process (Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2013). When an international student travels abroad he face identity confusion (Wu & Wilkes, 2017) due to differences in country of origin and host (Sadewo & Kashima, 2016) which naturally causes stress (Szabo, Ward, & Jose, 2016) hence, lower their mental health (Berry & Hou, 2017). The stressors of acculturation stress may emanate from a variety of sources involved in the process of acculturation, however, inability to communicate in the English language is a significant factor which further aggravates the academic and social challenges which, in turn, lead to academic, social and psychological maladjustment of international students (Sam et al. 2015).

If an individual cognitively appraise transition as an opportunity, he will use effective coping skills to overcome the potentially negative aspects of the acculturation using ELP by communicating with host and co-national (Ra & Trusty, 2015) to adopt to the new culture and keeping the original culture. On the other hand, if the international students negatively appraise the demands of these new environments can trigger stressors that may put adjustment at risk by straining interpersonal relationship (Dao

et al. 2007), causing homesickness and physical health problems (Myers-Walls et al. 2011) , undermining self-esteem (Sawir et al. 2012) thereby resulting into poor academic performance and emotional health and eventual dropout (Toyokawa & Toyokawa, 2002).

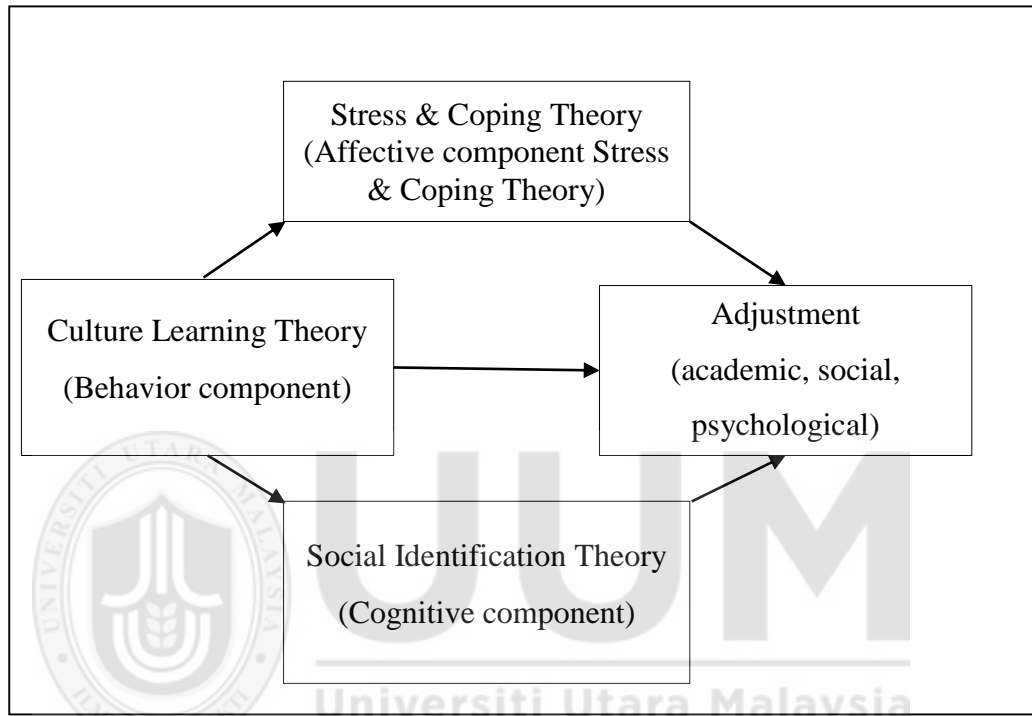


Figure 1.1. Theoretical Framework Based on Stress & Coping Theory, Culture Learning Theory and Social Identification Theory

1.6 Conceptual Framework

A person's on-going adjustment functioning is a product of continuous interaction between affective, behavioral, and cognitive factors which is unique, relatively consistent pattern of thoughts, feeling and affect, and behavior intentions in form of cognition and affect. These factors are cognitively appraised and perceived as opportunities; thus, it may not consider as a source of acculturative stress. The framework of the current study incorporates these three theories and hypothesize for

that international students using behavioral component of CLT would employ Perceived English Language Proficiency skills to engage in social interaction and build networks. This in turn would facilitate their affective component of SCT approach whereby they will seek social support for enhanced social, psychological and academic adjustment. Correspondingly, quality interaction would also facilitate the cognitive component of SIT by reducing stress and promoting psychological well-being for enhanced adjustment (Dao et al. 2007).

The variables of the study are embedded in stress & coping theory, culture learning theory and social identification theory (See Figure 1.2) as these theories are considered as most appropriate and relevant theories to the study.

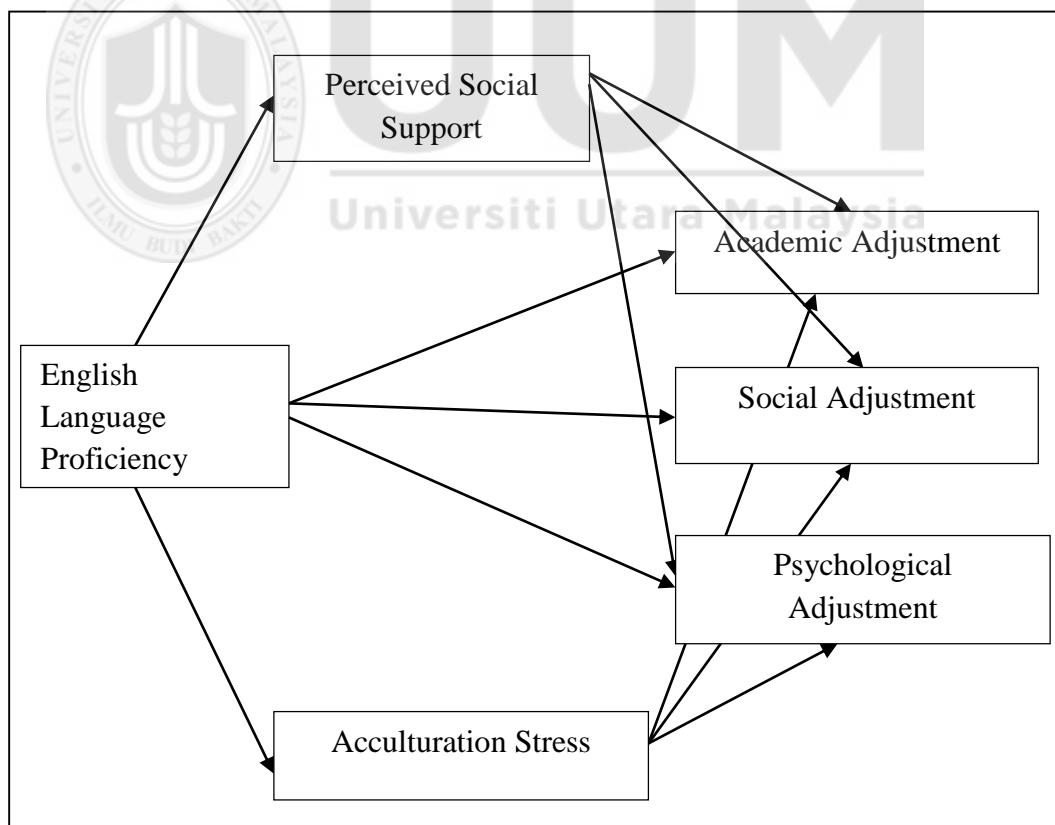


Figure 1.2. Conceptual Framework of the Study

According to Hayes (2009) when the third variable plays an important role in governing the relationship between the other two variables this type of relationship is known as mediation. The present study considered social support and acculturation as a mediator based by following conditions provided by Hayes (2009):

- (a) The predictor (Perceived English Language Proficiency) and outcome (academic, social, and psychological adjustment) variables initially have a significant relationship (Andrade, Evans, & Hartshorn, 2016).
- (b) The potential mediator social support (Carhill, et al. 2008) and acculturation stress (Hamamura & Laird, 2014) is significantly related with the predictor (Perceived English Language Proficiency) variable (Lee, Koeske, & Sales, 2004),
- (c) The potential mediator (social support and acculturation stress) is significantly related with the outcome (academic and psychological adjustment) variable (Andrade, 2006).

Therefore, in this study we propose a model (Figure 2) to examine whether social support and acculturation stress will mediate the association between Perceived English Language Proficiency and students' academic, social and psychological adjustment.

1.7 Research Objectives

Based on the research background and the related issues, four objectives of this research have been formulated as follows:

1. To examine the relationship between Perceived English Language Proficiency (ELP), and adjustment (academic, social, and psychological).
2. To examine the relationship among Perceived English Language Proficiency, perceived social support, and acculturation stress.
3. To examine the mediating role of perceived social support on the relationship between Perceived English Language Proficiency and adjustment (academic, social, and psychological).
4. To examine the mediating role of acculturation stress on the relationship between Perceived English Language Proficiency and adjustment (academic, social, psychological).

1.8 Research Questions

Based on the background and the problem statement, this study seeks to address the following questions:

1. Is there a significant relationship between Perceived English Language Proficiency and (academic, social, and psychological adjustment)?
2. Is there a significant relationship among Perceived English Language Proficiency, perceived social support, and acculturation stress?

3. Does perceived social support mediate the relationship between Perceived English Language Proficiency and adjustment (academic, social, and psychological)?
4. Does acculturation stress mediate the relationship between Perceived English Language Proficiency and adjustment (academic, social, and psychological)?

1.9 Research Hypotheses

Based on the considerations, study was guided by three research hypotheses that are written below:

H₁: There is a significant relationship between Perceived English Language Proficiency and academic adjustment.

H₂: There is a significant relationship between Perceived English Language Proficiency and social adjustment.

H₃: There is a significant relationship between Perceived English Language Proficiency and psychological adjustment.

H₄: There is a significant relationship between Perceived English Language Proficiency and perceived social support.

H₅: There is a significant relationship between Perceived English Language Proficiency and acculturation stress.

H₆: Perceived social support mediates the relationship between Perceived English Language Proficiency and academic adjustment.

H₇: Perceived social support mediates the relationship between Perceived English Language Proficiency and social adjustment.

H₈: Perceived social support mediates the relationship between Perceived English Language Proficiency and psychological adjustment

H₉: Acculturation stress mediates the relationship between Perceived English Language Proficiency and academic adjustment.

H₁₀: Acculturation stress mediates the relationship between Perceived English Language Proficiency and social adjustment

H₁₁: Acculturation stress mediates the relationship between Perceived English Language Proficiency and psychological adjustment

1.10 Significance of the Study

The significance of the study is explained in five core features. The explanation on each of the feature is given below:

1.10.1 Conceptual

The present study proposed a model to examine the academic, social, and psychological adjustment among international students using culture learning theory (CLT), stress and coping theory (SCT), and Social Identification Theory (SIT).

Although, these theories are widely tested in cross-cultural studies however, they have not applied in combination in the present study context. Therefore, this study contributes to the cross-cultural body of knowledge.

1.10.2 Contextual

Past studies were conducted in English speaking countries such as UK, Australia, Canada, and USA. however, there is a scarcity of adjustment literature in Malaysian context (Yusoff, 2012; Yusoff & Chelliah, 2010). Thus, the present study provides an insight for policymakers, university administration, and MoHE since Malaysia aspires to recruit 250,000 international students in the higher education institutes (Kaur, Noman, & Nordin, 2017)

1.10.3 Empirical

Previous studies have investigated the role of social support and acculturation stress with ELP (Katsiaficas, Suárez-Orozco, Sirin, & Gupta, 2013; Li & Gasser, 2005; Misra, Crist, & Burant, 2003; Oppedal, Røysamb, & Sam, 2004; Zhou, Jindal-Snape, Topping, & Todman, 2008; Li & Gasser, 2005; Yuefang Zhou, Jindal-Snape, Topping, & Todman, 2008) however, it can be noted that most of these studies are generally restricted to traditional study destinations such as the U.K and Australia (Wan, Nordin, & Razali, 2013). To date, very few studies have been conducted in a multicultural and rapidly growing higher education hub, Malaysia.

1.10.4 Methodological

The current trend of internationalization of Malaysian higher education has stirred considerable interest among the researchers to investigate the issues surrounding international students' adjustment such as challenges related to culture, teaching and learning, institutional climate, and academic and socio cultural adjustment (Alghail & Mahfoodh, 2016; Faiz et al. 2015). However, those investigations have mainly employed qualitative approach with considerably small sample sizes which limit our understanding of the issue at a larger scale. Therefore, quantitative approach is deemed appropriate to obtain insight from wider perspective.

1.10.5 Practical

It is expected that the finding of the study will contribute in providing valuable insight knowledge concerning services to international students. This insight information will thus; helps in providing preventive measurement or orientation programs for improving future counseling interventions (Scheel et al., 2008). One of the major reasons of ignoring towards seeking counseling services might be the subjective evaluation and diverse culture viewpoint (Mori, 2000). Since; the current study is focusing on the international students concerning issues in-terms of cultural diversity. Therefore, it expected that the finding of the study may help in providing effective counseling services, professionals services and the relevant support personnel in understanding the international student's experiences.

1.11 Definitions of the Variables

Research in social sciences has explored two core domains namely conceptual domain and operational domain (Gravetter & Wallnau, 2016). The conceptual domain explored most significant and relevant variables in the study whereby the operational domain explores the conceptualized research variables used for testing formulated hypothesis. The variables and important concepts used in the study are defined below:

- (i) **Academic Adjustment:** It refers to the capability of a student in achieving adjustment to the university life and turned into a state of satisfaction and ability on his performance (Baker & Siryk, 1984). In this study academic adjustment is operationalized as the international postgraduate students' ability to cope with educational demands and demonstrate satisfactory academic performance.
- (ii) **Social Adjustment:** The conceptual definition of social adjustment is the extent of adjustment between the student and the surrounding environment (Baker & Siryk, 1984). The term social adjustment is operationalized in the present study as postgraduate student fit with social and culture of the new environment and perceiving social situations in the new environment as friendly and welcoming.
- (iii) **Psychological adjustment:** The conceptual definition of psychological adjustment refers to the student ability to achieve self-satisfaction within different activities (Baker & Siryk, 1984). In the past literature psychological adjustment has been measured as psychological adaptation (Shafaei & Razak, 2016), depression (Liu et al., 2016) and anxiety (Hjeltnes et al., 2015), self-esteem, (Sawir et al. 2012) psychosomatic symptoms (Poyrazli & Lopez, 2007; Berry et

al. 2006). In this study, it is operationalized as the experiences of well-being and satisfaction during the process of adjustment in Malaysia.

(iv) Acculturation stress: The conceptual definition of acculturation stress refers to “the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (Berry, 2005, p. 698). This study operationalizes acculturation stress as the stress that international students’ face in cross-cultural contact (Berry, 2006).

(v) Perceived English Language Proficiency: Perceived English Language Proficiency is defined as individual ability to understand, speak, read, and write in English language (Kwak, 1991). In the present study it is operationalized as international postgraduate students’ self-assessment of their proficiency in understanding, speaking, reading, and writing English language while studying in Malaysia.

(vi) Perceived Social Support: The conceptual definition of perceived social support refers to the level of support that an individual’s perceives from the general support or specific supportive behaviors (available or enacted on) from people in their social network, which enhance functioning or may buffer them from adverse outcomes (Dao, Lee & Chang, 2007). In this study, social support is operationalized as the extent to which international postgraduate students’ perceive support from international students center, international students organization and university lecturers in Malaysia.

1.12 Scope of the Study

The scope of the present research is limited to international postgraduate students (Masters and PhD) in five public universities of Malaysia namely, Universiti Utara Malaysia (UUM), Universiti Malaysia Perlis (UniMAP), Universiti Tun Hussein Onn Malaysia (UTHM), Universiti Teknikal Malaysia Melaka (UTeM), and Universiti Malaysia Terengganu (UMT) since, they have good reputation among international postgraduate students and good ranking in Malaysia (QS Worldwide University Rankings, 2014). Moreover, there are numerous factors that affect international student's adjustment however, only those factors were examined which were in line with the present study theoretical foundation. Furthermore, sample included only postgraduate students' who were non-native speakers of English. Therefore, the results of the present study cannot be generalized to all international students' population since, it only includes postgraduates from above mentioned five Public universities in Malaysia.

1.13 Summary

The present study chapter introduced background of the study which highlighted the importance of international students, increase in the number of international students, research gaps in the previous studies were highlighted especially in the context of Malaysia. In addition, reasons for conducting the study was justified in the problem statement. Based on the highlighted research problem, research objectives and research questions were formulated. The study proposed academic, social, and psychological adjustment model based on existing theories for international students. Furthermore, significance, scope, and limitation of the present study was discussed. In

the next chapter, the underpinning theories, and previous studies on the study variables will be presented.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter starts by defining the concept of adjustment, its types, theories, and challenges. Furthermore, the chapter presents the past studies on the current study variables and how social support and acculturation stress plays a mediating role in explaining international students' academic, social, and psychological adjustment in Malaysia. Furthermore, several past studies focusing on the adjustment of international students are presented. Lastly, focus was given to adjustment and the relevant issues associated with language proficiency, perceived social support, and acculturation stress of international students.

Due to globalisation in higher education many students have travelled to pursue education from various countries which leads the interest in cross-cultural adjustment by researchers in United States e.g., (Bastien, Seifen-Adkins, & Johnson, 2018; Cho & Yu, 2015; Kim, Edens, Iorio, Curtis, & Romero, 2015), Australia (Larcombe et al., 2016; Yu & Wright, 2016), United Kingdom (Huang & Turner, 2018; Newsome & Cooper, 2016; Ploner, 2018), and China (Dong, Bernardo, & Zaroff, 2016).

Sawir, Marginson, Forbes-Mewett, Nyland, & Ramia, (2012) has highlighted the fact that there were about 2.5 million students studying overseas and this growing trend of international student's mobility shifts from English-speaking countries such as the US, the UK, Australia, Canada, and New Zealand to non-English-speaking countries such as China, Singapore and Malaysia (Wan et al., 2013). Therefore, it is expected that the

number of students will be increased up to eight million students by 2025 in non-native English language countries. In the last few years Malaysian Universities have witnessed a rapid increase in the number of international students moving to study in Malaysian public and private universities (Singh et al., 2014). In 2008, there were 49,916 international students in public universities nearly half (45 percent) of whom were from countries in Middle East a detailed of which has been shown in the figure 2.1 below from the Ministry of Higher Education 2013.

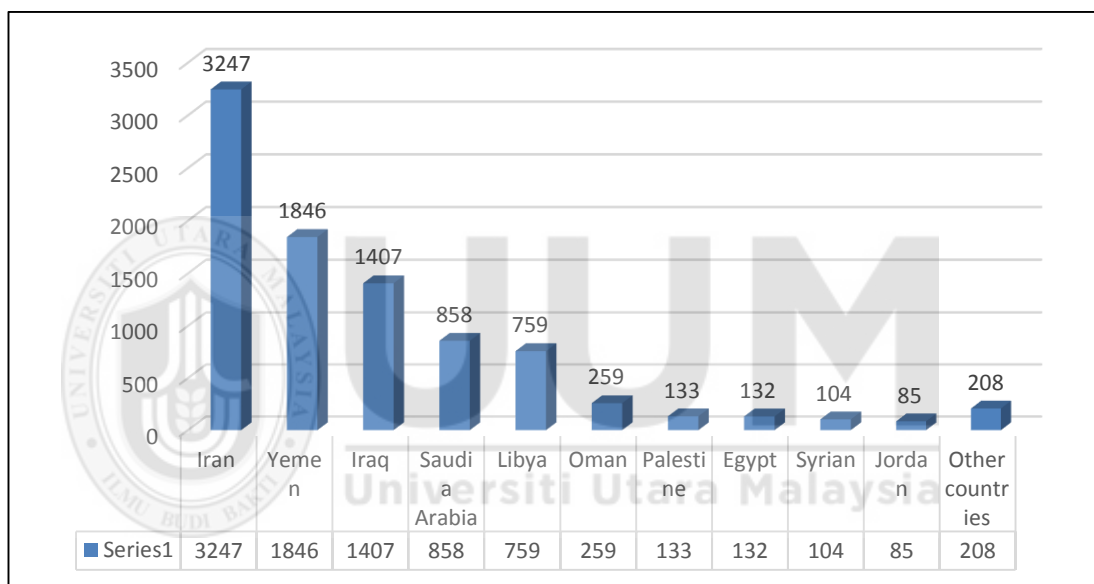


Figure 2.1. Distribution of Students from Top 10 Countries in (a) Middle East and (b) Africa in Malaysian public higher education institutions (MoHE, 2013).

This growth in the number of international students is also associated with cultural and language barriers as English is a foreign language or second language to them. Consequently, numerous international students who enrolled in Malaysia universities found difficulties in adjustment (Glass & Westmont, 2014). Next, section will discuss various definitions of adjustment.

2.2 Adjustment

In the past various terms has been used interchangeably to explain the process of adjustment such as adaptation to explain the affective, behavioural, and cognitive changes experienced by international students, however, in the present study we are using the term adjustment which refers to “the dynamic, interactive processes involved in functioning in the new environment” (Young & Schartner, 2014, p. 548) whereas, adaptation refers to “the outcomes of these adjustive processes” (Young & Schartner, 2014, p. 548). Adjustment is a psycho-social process which occurs when an individual integrates into a transition from one situation to another in his life (Schlossberg, 1981) which affects its performance and functioning (Satici, Uysal, & Deniz, 2016). Furthermore, adjustment refers to the process of learning which greatly influence an individual’s emotions, motivation, knowledge, and values (Faiz et al., 2015). Hence, we can say that adjustment is a state which focuses on individual’s struggle to get along with new surroundings (Kwon, 2013).

2.2.1 Outcomes of adjustment

Depending on the way an individual adapts, an adjustment can have positive and negative outcomes. Positive adjustment outcome will leads to successful meaningful relationships, personal strength, effective interactions, pursue new possibilities of life, high awareness, gain an appreciation of life, self-confidence, enhance spiritual growth, and stress reduction (Cheng, Lau, & Chan, 2014; Holm-Hadulla & Koutsoukou-Argyaki, 2015; Kim & Kim, 2013; Kim, Suh, & Heo, 2014). On the other hand, negative outcomes will lead to emotional distress, cultural identity confusion (Andre & De Araujo, 2011), dysfunctional communication (Zhang & Goodson, 2011a),

homesickness (Poyrazli & Grahame, 2007), undermine self-esteem (Kim & Kim, 2013), feeling of isolation (Wang & Hannes, 2014), health problems (Li et al., 2017), strain interpersonal relationship (Glass, 2014), and depression (Yusliza Mohd Yusoff & Chelliah, 2010b). Researchers have suggested that “when the experiences of international students in a different culture are accompanied by positive adjustment, students are left with positive learning experiences and have significant potential to become a different, but better individual (Matsumoto, Wallbott, & Scherer, 2005, p 17).”

Adjustment literature suggest that the process of succesful adjustment depends on “the capabilities of students to learn from their intercultural experiences (i.e. international students' interactions with diverse cultures, such as hosts and other international students) and from staff in an 'international classroom (i.e specific learning and teaching activities in classrooms that consist of students with diverse cultures and backgrounds)” (Gu, Schweisfurth, & Day, 2010, p. 10; Schartner, 2016). The classroom conditions are often different from the international student’s previous academic environments, therefore, how they respond to the new experience will determine the outcome of their adjustment. If international students postively adjust to the new environment it will leads to postive learning outcomes (Glass & Westmont, 2014; Volet & Ang, 2012). Contrastingly, negative adjustment process would leads to psychological distress (Andre & De Araujo, 2011), feeling of isolation (Wang & Hannes, 2014), and health problems Li et al., 2017) which contributes to negative learning experiences (Taušová, Bender, Dimitrova, & van de Vijver, 2019).

2.2.2 Types of Adjustment

The present study is looking into three types of adjustment namely academic, social, and psychological of international students. The details of each are discussed in the section below respectively.

2.2.2.1 Academic Adjustment

Academic adjustment is a broad concept which has been conceptualized differently by the past researchers on the basis on its positive and negative effects. Some of the past studies definition of academic adjustment is presented in the table 2.1 below

Table 2.1

Definition of Academic Adjustment

Author	Definition
Wang & Hannes (2014)	“The degree to which students cope with the various demands in an educational context, including for example their motivation and academic performance” (p. 67).
Cao & Meng (2017)	“How well international students can manage the educational styles and demands of the host university” (p.2)
Young & Schartner (2014)	“Academic adjustment is defined as adjustment to the demands of academic life including styles of teaching and learning at the host university” (p. 548).

Ion & Cazan (2014)	“How well the student manages to meet the educational demands of the university experience” (p. 656).
Rienties, Beausaert, Grohnert, Niemantsverdriet, & Kommers (2012)	“The extent to which students adapt to the academic way-of-life” (p. 686)
Janjua et al. (2011)	The fit of a learner into an academic environment.
Chen & Chen (2009)	“A student’s success in coping with the various educational demands characteristic of the college experience” (p. 56).
Baker & Siryk (1989)	“Academic Adjustment subscale measures a student’s success at coping with the various educational demands characteristic of the college experience” (p. 1)

“Adjustment is a dynamic and interactive process that takes place between the person and the environment and is directed towards an achievement of the fit between the two. Thus, academic adjustment is a fit of a learner in the academic environment” (Janjua, Malik, & Rahman, 2011, p 1360). Adjustment is interpreted by Anderson (1994) as “working toward a fit to the person and the new environment, which further refers to people trying to adapt to a change of situations” (p. 299). These changes are evaluated and possible ways to overcome these challenges are determined by international students. Looking into educational perspective, several studies supported the notion that adjustment in academia is considered as a contributing factor towards depicting students’ academic level. Much emphasis has been placed on studying the

contributing factors towards academic adjustment among international students (Adeyemo, 2007). Hence, academic adjustment can be referred to as the degree to which students cope with the various demands in an educational context, such as unfamiliar educational system (Poyrazli & Grahame, 2007).

2.2.2.1.1 Challenges Associated with Academic Adjustment

International students encounter various learning challenges while studying at foreign universities. Some of the issues that are commonly cited includes differences in study techniques, test taking, or classroom instruction, grading style (Poyrazli & Grahame, 2007), student-supervisor relationship (Cruwys, Greenaway, & Haslam, 2015), teaching styles, meeting deadlines, working with students in team from different cultures (Wan et al., 2013), course requirements, time management issues, financial burdens, interactions with faculty, adjustment to the campus environment and pressure of doing well academically (Lowinger, He, Lin, & Chang, 2014). Table 2.2 below summarizes some of the past studies on the challenges encountered by international students in academic adjustment.

Table 2.2

Prior Studies on the Challenges Associated with Academic Adjustment

Challenges	Description	Authors
English proficiency	language • Staff was not empathetic	(Robertson, Line, Jones, & Thomas, 2000; H. Wu, Garza, & Guzman, 2015b).
	• Unsuccessful participation in host community, unable to	(Liu, 2012)

	<ul style="list-style-type: none"> understand instructors, and asking for help. 	
	<ul style="list-style-type: none"> Negative impression from professors 	(Terui, 2012)
	<ul style="list-style-type: none"> Lack of confidence in student ability to complete assignments. 	(Beoku-Betts, 2004)
Academic activities	<ul style="list-style-type: none"> Students face challenges in curricular related activities such as reading extensively in English and attending oral exam. 	(Sodbir, 2012)
	<ul style="list-style-type: none"> Students were unable to choose suitable resource for their research 	(Wang & Hannes, 2014)
Academic resources	<ul style="list-style-type: none"> Students were facing difficulties to adjust to computers, e-books, and online learning platform 	(Wang & Hannes, 2014)
Time management	<ul style="list-style-type: none"> Balancing life and study 	(Zhai, 2004)
Academic expectations	<ul style="list-style-type: none"> A mismatch between students' academic expectation, quality and efficiency of educational services 	(Smith & Khawaja, 2011b)
Teaching style	<ul style="list-style-type: none"> Different from student host country teaching style which mostly focus on rote learning 	(Edgeworth & Eisman, 2007; Townsend & Jun Poh, 2008)
Grading style	<ul style="list-style-type: none"> Unfamiliar grading style 	(Naeeni, Mahmud, et al., 2015)

Among numerous factors that are reported above the recurrent factor that impact students' academic adjustment (Sherry et al. 2010) is a low level of English language proficiency as it affect students' adjustment negatively. Due to low level of ELP international students are unable to communicate in academic or social situations, unable to comprehend academic content or establish peer support group (Carhill et al., 2008), and face difficulties in understanding the lectures. This, in turn, contributes to stress and leave students emotionally isolated and distressed (Myers-Walls et al., 2011; Sherry et al., 2010).

Similar results have been reported in the study conducted by Zhou (2010) which found that international students often have trouble in interacting with their professor which leads towards failure in meeting the professor's expectations. Similarly, Brown and Holloway (2008) found an associated between academic adjustment and difficulty in communicating with their professors and peers which leads to poor academic performance.

Numerous researches have been conducted on international students and they solely focused on identifying the factors that significantly impact on the academic performance and success of students. For instance; Poyrazli & Kavanaugh (2006) research emphasized on the relationship between English proficiency and level of student sojourners' academic adjustment. It was found that there exists a statistically significant positive association between English proficiency and academic adjustment among sojourners students. Other studies such as Huang (2006) reported that international student's usually face difficulties in taking lecture notes. Additionally, Kuo (2011) found that international students struggled with articulating professor's

knowledge on essay exam and reading textbooks in a predicted time. Similar study was replicated by Lee & Carrasquillo, (2006) where due to lack of ELP professor face challenges at the time of explaining hypothetical concepts and in expressing critical thoughts.

Limited language proficiency causes speaking anxiety which affects student's classroom performance. For example, Han (2007) and Gebhard (2010) stated that students might face difficulties while giving oral presentations, inquiring, and interacting during seminar discussions. Furthermore, Gill (2007) and Fang & Wang (2014) in their study identified two significant factors that influenced academic performance of international students namely language proficiency and different education system. Research has also indicated that students who perceived themselves as highly efficacious and proficient towards English language tend to have more confidence towards their abilities. Thus, in a nut-shell it can be stated that English language is a predictor of academic adjustment and success as students who are efficacious in English-language are confident in their capacity to meet academic requirements.

2.2.2.1.2 Previous Studies on Academic Challenges

The challenges that has been reported in the previous literature was summarized in five broad themes: academic culture, academic activities, academic resources, and language barriers. Within each theme details highlighted by past researchers are presented. An overview can be found in table 2.3

2.2.2.1.2.1 Academic Culture

In 2008, a study conducted by Durkin using a sample of 42 Chinese international students encountered learning challenges at UK universities which they reported was due to Western style of argumentation that requires strong critical thinking and aggressive debating which was different from teaching and learning practices of their home country, which left students with a strong feel to access to greater intensity of knowledge (Sofurah & Faiz, 2012). Furthermore, the challenges were more exacerbated due to differences in the culture (collectivism v individualism) as in China students do not indulge in classroom discussion, which is opposite to US educational settings where educational tradition involves open classroom discussions. Chinese students studying in the United States are usually found to be compliant and quiet in classroom as they are not comfortable actively expressing their thoughts or asking questions until they are invited to do so by their teachers (Kwon, 2013). Hence, academic culture plays a significant role in academic adjustment.

2.2.2.1.2.2 Academic Activities

Student academic activities involves curricular-related activities, scientific research, and extra-curricular academic activities. The biggest challenge reported by past researchers was students undergoing curricular-related activities that requires them to read extensively for their courses, and they have less time due to limited library hours and duration of study, therefore, these students usually take photos of heavy reading materials. Moreover, international students have to read this material in English language which further adds challenges to their leaving process.

This was also evident in a qualitative study conducted by Wang & Hannes (2014) on a sample of Asian international students in Belgium where one of the participant reported that “the books are way a lot for me actually, because all of them are in English. I need to read two or three times to catch the meaning.” Therefore, academic activities such as extensive reading material, limited time, and limited English language proficiency leads to poor academic performance.

2.2.2.1.2.3 Academic Resources

Previous scholars reported that university libraries, e-books, computers, multi-media classrooms, and cosy lounges for student activities enhances academic adjustment, as they bring much convenience to the students. Moreover, extracurricular academic activities on the campus such as seminars, workshops and information sessions have been reported beneficial for the studies in the past literature as they are framed as a source of opportunity for learning, connecting, and professional development (Wang & Hannes, 2014). However, those students who came from a non-research academic background face difficulty to use online library due to differences in assessing various electronic resources. Hence, their lack of experience in using online resources impede their successful academic adjustment.

2.2.2.1.2.4 Language Barrier

Previous studies have highlighted the relationship between language and academic adjustment. “Students who succeed in academic adjustment tend to show better study results” (Rienties et al., 2012, p. 696). A study was conducted by Ramsay, Barker, & Jones (1999) that investigated the positive and negative learning experiences

impacting on the academic adjustment of both international and local Australian students. They found that a Learning Assistance Center was reported most often by international students as being beneficial for their studies, while peer support in study groups, tutors and tutorials were mostly reported as a source of positive learning experience mentioned by local students.

On the other hand, negative experiences were often related to lectures or lecturers. The authors (Ramsay et al., 1999) identified difficulties in understanding the lectures, which may be a result of either lecturers' poor communication skills or international students' lack of English language skills. Hence, poor language cast a negative impact on learning.

Table 2.3

Summary of Previous Literature on Academic Adjustment

Broad themes	Sub-themes	Challenges
Academic activities	Curricular-related activities	Reading extensively in English; confusions in reading information sheets and choosing courses; difficulty in attending an oral exam (Janjua et al., 2011).
	Scientific research	Confusions in choosing suitable resources in online library (Wang & Hannes, 2014).
	Extracurricular academic activities	Too many options to choose from such as workshops, seminars etc (Toyokawa & Toyokawa, 2002).

Academic resources	Libraries	<p><i>Opportunities:</i> Immersion in the classic structures of the library buildings; the rich collection of books; the abundant space preserved for self-study; different types of library (Wang & Hannes, 2014).</p> <p><i>Challenges:</i> Limited opening hours of libraries (Wang & Hannes, 2014).</p>
	Other hardware and software resources	<p><i>Opportunities:</i> The cozy lounges, computers and multi-media classrooms, e-books and online learning platforms.</p> <p><i>Challenges:</i> Difficulties in operating lockers in a library and computers in a multi-media classroom; difficulties in finding campus buildings</p>
Language barriers	Academic English	<p><i>Challenges:</i> Difficulties in understanding professional English terms and following lectures in English (Smith & Khawaja, 2011b)</p>
	Host country's native language	<p><i>Challenges:</i> Difficulties in understanding the host country books in the library, signpost, web pages, and newspapers. <i>Opportunities:</i> Taking language courses and joining language exchange programs (Wang & Hannes, 2014)</p>

2.2.2.1.3 Outcomes of Academic Adjustment

Students who successfully achieve academic adjustment tend to show better academic results (Alavi & Mansor, 2011; Rienties et al., 2012; Wan, Nordin, & Razali, 2013), enhanced motivation (Hechanova-Alampay et al. 2002), improved well-being, general satisfaction (Mori, 2000), feeling of belongingness and connectedness (Glass &

Westmont, 2014), less anxiety and stress (Kuo & Roysircar, 2006), and enhanced self-esteem (Sawir et al., 2008). However, those students who failed to cope demonstrates poor academic performance that in-turn result in financial pressures, homesickness, thought distortion specifically that pressured in leaving the country, and persistently thought on wrong decision-making ability (Shafaei, Nejati, & Abd Razak, 2018b; Toyokawa & Toyokawa, 2002).

Among numerous factors that are reported above the recurrent factor that impact students' academic adjustment (Sherry et al. 2010) is a low level of English language proficiency as it affect students' adjustment negatively. Due to low level of English language proficiency international students are unable to communicate in academic or social situations, comprehend academic content or establish peer support group (Carhill et al., 2008), and face difficulties in understanding the lectures. This, in turn, contributes to stress and leave students emotionally isolated and distressed (Myers-Walls et al., 2011; Sherry et al., 2010). Similar results have been reported in the study conducted by Zhou (2010) which found that international students often have trouble in interacting with their professor which leads towards failure in meeting the professor's expectations. Similarly, consistent results were found in the associated between academic adjustment and difficulty in communicating with their professors and peers and poor academic performance (Brown & Holloway, 2008). Hence, language is found to play a significant role in the academic adjustment of international students. Therefore, students should pay attention to enhance their language competency to achieve academic success.

2.2.2.2 Social Adjustment

Social adjustment is conceptualized by Searle & Ward (1990) as the “ability to fit in and to negotiate interactive aspects of the new culture” (p. 450). This concept is defined by CLT where individuals tries to manage to fit in the new environment by learning culturally sensitive skills and integrate with host nationals. Numerous scholars have defined social adjustment in various ways the definitions of which have been provided in the table 2.4 below

Table 2.4

Prior Definitions on Social Adjustment

Author	Definition
Yusliza, 2010	Fit between the students and their academic environment.
Brisset <i>et al.</i> , 2010	Individuals’ skills to handle daily life in a new culture.
Kwon, 2013	Sojourners’ perceptions about adaptation in a new environment.
Lee and Ciftci, 2014	Sojourners’ skills in handling life in a new environment.

2.2.2.2.1 Challenges Associated with Social Adjustment

In the past social adjustment has been mainly conceptualized based on the definition provided by Ward and Kennedy (1999) which is in accordance culture learning theory as how well an acculturating individual can manage daily life and fit in a new environment through acquiring culturally appropriate skills and interacting with the

host nationals (Ward & Kennedy, 1999). Ward and Kennedy's (1999) definition of social adaptation has been empirically supported in a number of previous studies and has become the basis for defining and measuring social adjustment (e.g., Li & Gasser, 2005; Swami, 2010). The difficulties these sojourners face in handling everyday life in a new environment includes understanding host cultural norms and values, performing culturally appropriate behaviours, interacting effectively with host nationals in a new environment, and managing everyday life (Searle & Ward, 1990).

2.2.2.2.2 Previous Studies on Social Adjustment

Change in social status, economic position, and living far away from family members, communication problems, and completely separation from the norms and values of home culture cast a negative impact on students (Pedersen, 1991; Sandhu & Asrabadi, 1994; Yeh & Inose, 2003). According to Misra & Castillo (2004), it is a big issue for all international students to adopt to new social culture and also to adopt to new ways of education.

Adoption to new cultural values and change in environment is very tough and stressful phase for international (Li & Gasser, 2005; Sumer et al., 2008). Generally, adoption in host country values, norms cultural event, and adjustment with new environment is really stressful. McDermott & Pettijohn (2011) claimed that academic, cultural, social differences and serious health problems are the core issues that international students faced.

Yan & Berliner (2011) international students confronted with the adoption of new academic policy which is stressful which is further exacerbated due to lack of English

language proficiency that act as a barrier in building relationships with faculty members, leading to miscommunication that increase the level of stress of international students. The social adjustment can be explained through the framework of Searle and Ward (1990) which has explained social adjustment through cultural distance, cultural identity, cultural knowledge, language competency, and the level of interactions with the host nationals (Searle & Ward, 1990).

2.2.2.2.1 Cultural Distance

Perceived cultural distance from their original culture plays a significant role in social adjustment of international students. For example, a study was conducted on undergraduate Chinese students studying in Korea. Korea is a male-dominated society where students have to always respect professors and seniors by obeying their opinions or decisions without any questions (Kim, Tatar, & Choi, 2014) which is dissimilar to Chinese culture. However, the lack of Korean culture knowledge made them to perceive a greater cultural distance at the beginning stage of their study lives in Korea which hinders their social engagement and they face difficulty in class activities such as classroom discussions, asking questions, making presentations, and sharing their feelings or emotions in classroom (Kwon, 2013).

2.2.2.2.2 Culture Knowledge

Language plays an important role as being unable to understand the language means being unable to understand the culture (Swagler & Ellis, 2003). As host language competency help students in the academic settings and daily lives. Hence, their limited ELP will impede student's understanding of academic terminology and their will not

feel free to communicate with professors and classmates hence, their social participation will be restricted which instigate a feeling of isolation. Hence, language competency allows students to actively participate in research abilities and get engage in research projects with professors. Therefore, students should focus on their English language to be able to understand the teaching and learning culture of the host country (Kwon, 2013).

2.2.2.2.3 Interaction with Host Nationals

Participating in the host society can have positive effects on the social adjustment as close and harmonious relationship with advisors and classmates was found key to function well and achieving academic success (Cui, 2008). Furthermore, with respect to the level of interaction the quantity and quality of contacts with host nationals tend to play a significant role in the social adjustment of international student (Huang, 2006). However, the complexity of the limited host language proficiency as well as the perceived cultural distance appeared to affect the interaction and lasting meaningful relationship with the host nationals. At the same time, as social contacts increase the host language improves which can lead to meaningful interaction, and vice versa (Swagler & Ellis, 2003).

2.2.2.2.3 Outcomes of Social Adjustment

Social adjustment is an important phase of an international students which can be facilitated by various factors that includes close contact with host nationals, social support, involvement in extracurricular activities, good language skills, less perceived discrimination, and longer periods of stay (Constantine et al., 2005; Swami, 2009;

Toyokawa & Toyokawa, 2002). However, building up friendships with local students is a difficult process. Hendrickson et al., (2011) identified three main factors which may affect this process: (1) the poor language skills of international students (2) perceived discrimination (3) the fact that local students may be less open to form new friendships with international students, as they may have already well established friendships within their own social networks.

English is used widely as the instructional and social language. Therefore, lack of ELP will leads to poor social integration such as establishing social bonding with lecturers, peers and local residents (Yeh & Inose, 2003), isolation and loneliness. However, friendships with host nationals tend to increase life satisfaction and decrease feelings of homesickness and loneliness among international students (Wang & Mallinckrodt, 2006). Through contact with local communities, international students gain new knowledge and understanding of the lifestyle, values and customs of the host society. Moreover, interactions with host nationals also provide facilities for international students to practice their communication and language skills (Brunette, Lariviere, Schinke, Xing, & Pickard, 2011; Hendrickson et al., 2011).

2.2.2.3 Psychological Adjustment

Psychological adjustment is related to psychological “feelings of well-being and satisfaction” (Searle & Ward, 1990, p.450). Psychological adjustment is a broad term which has been conceptualized differently by researchers. But mainly they conceptualize based on its positive and negative effects. For example, Stress and Coping Theory states its “the ability of individuals to handle life stressors results in

positive and negative outcomes”. Such as confusion (Andre & De Araujo, 2011), anxiety (Wang & Mallinckrodt, 2006), and depression (Martirosyan, Hwang, & Wanjohi, 2015) which are considered as negative outcomes whereas, high self-esteem (Kim & Kim, 2013) is the outcome of positive effect of psychological adjustment. Some of the definitions of psychological adjustment is summarized below in the table 2.5.

Table 2.5

Definitions of Psychological Adjustment

Authors	Definitions
Ward & Kennedy (1999)	“the ability to ‘fit in’, to acquire culturally appropriate skills and to negotiate interactive aspects of the host environment” (pp.660–661).
Jibeen & Khalid (2010)	Individuals psychological health comprised of immigrants' positive relations with others, self-acceptance, autonomy, purpose in life, environmental mastery and personal growth.
Brisset, Safdar, Lewis, & Sabatier (2010)	Individuals' psychological health or life satisfaction in a new environment.
Swami, Arteche, Chamorro-Premuzic, & Furnham (2010)	“The mental health and overall well-being” p.57
Tonsing (2013)	Psychological distress and life satisfaction.

Several researchers looked at psychological adjustment through its negative effects by defining it as emotional problems, psychological distress which includes depressed mood, feelings of worthlessness, loneliness, and unfriendliness from others (e.g., Abu-Rayya, 2014; Zhang & Goodson, 2011a). However, Tonsing (2013) proposed a more comprehensive definition for psychological adjustment by incorporating both positive and negative effects and operationalized psychological adjustment as both psychological distress and life satisfaction. According to Tonsing (2013), the presence and absence of psychological distress does not necessarily mean that immigrants are happy and satisfied with their everyday life.

The present study conceptualized psychological adjustment by applying Tonsing (2013) suggestion and incorporated both positive (i.e. self-esteem) and negative (i.e., depression) aspects of psychological adjustment.

2.2.2.3.1 Challenges Associated with Psychological Adjustment

Various challenges are reported to be associated with psychological adjustment. Ward and colleagues mentioned that psychological health and life satisfaction contribute to individuals' successful adaptation (Ward & Kennedy, 1999). Hence, psychological satisfaction is an important issue for their adjustment to the new environment. As such high self-esteem can lead to lower acculturative stress, positive feelings, and higher psychological adjustment (Yang, Noels, & Saumure, 2006). Furthermore, stress and anxiety prevents an individual from developing an adaptive and compatible behavior in a new environment. For example, depression is one of the most common negative psychological response to adjustment (Berry, 2006).

Previous literature suggests that stressful life events can lead to positive changes and help in the positive life changes such as personal strength, pursue new possibilities of life, strengthen meaningful relationships, gain an appreciation of life, and enhance spiritual growth known as stress related growth (C. Cheng et al., 2014; Holm-Hadulla & Koutsoukou-Argyaki, 2015; Junhyoung Kim & Kim, 2013; Junhyoung Kim et al., 2014).

However, on the other hand it has been demonstrated that international student encounter cultural identity confusion (Andre & De Araujo, 2011), strain interpersonal relationship (Glass, 2014), health problems (Z. Li et al., 2017), feeling of isolation (Q. Wang & Hannes, 2014), homesickness (Poyrazli & Grahame, 2007), and undermine self-esteem (Junhyoung Kim & Kim, 2013) which in return affect their psychological well-being. Additionally, students who experience psychological problems are then at greater risk for poor academic performance, which in return perpetuate a cycle of stress thus increasing academic stress (Richardson, Abraham, & Bond, 2012).

Many international students also experience problems in academic adjustment due to unfamiliar education system (Poyrazli & Grahame, 2007). A variety of factors have been examined contributing to academic stress for example, International students experience problems due to differences in study techniques, test taking, or classroom instruction, grading style (Poyrazli & Grahame, 2007), student-supervisor relationship (Cruwys et al., 2015), teaching styles, meeting deadlines, working with students in team from different cultures (Wan et al., 2013), course requirements, time management issues, financial burdens, interactions with faculty, adjustment to the

campus environment and pressure of doing well academically (Lowinger et al., 2014). All in all, these factors leads to poor psychological adjustment.

2.2.2.3.2 Previous Studies on Psychological Adjustment

Happiness is an essential component of psychological adjustment that enables an individual to thrive (Holahan, Moos, & Bonin, 1997). Whereas, psychological distress such as anxiety (Wang & Mallinckrodt, 2006), lack of happiness that leads to stress (Brisset et al., 2010) are serious threats to individuals' health (Steptoe, O'Donnell, Marmot, & Wardle, 2008). Therefore, possessing a positive psychological promotes better psychological well-being which in turns leads to psychological adjustment. Individuals are the building blocks of any society, therefore, their adjustment would lead to success and well-being in the society (Moore, Bates, Brierley-Bowers, Taaffe, & Clymer, 2012).

The presence of international students on the university campuses contributes to the diversity, and internationalisation of the classrooms, campuses, and communities by bringing new and different ways of thinking and catalysing academic competition, thereby promoting intercultural communication competencies and critical thinking skills among students. Furthermore, it also significantly impacts the academic prestige and economic status of the institutions (Pandian et al., 2016). Therefore, socio-emotional wellbeing, and academic success of the international students become of paramount importance to higher education institutions. There seems to be a common consensus among the researchers that given the complexities of acculturation process

the international students remain at high risk of academic, social, and emotional maladjustment (Ramos et al., 2016).

International students face more difficulty in adjustment as compared to the local students due to lack of resources for handling these issues of adjustment (Lee et al., 2004), new learning styles (Devos, 2003; Tseng & Newton, 2002), cultural and linguistic diversity (Marcellino, 2015), and communication gap and barriers (Xiong, & Zhou, 2018).

Searle & Ward (1990) psychological adjustment is the ability to fit into a new culture in the cross-cultural adaptation process. Cigularova (2005) in his study identified various factors such as demographic factors (age, gender, and cultural difference), personality characteristics (locus of control and neuroticism), and situational factors (support from society) that have influence on the international student's psychological adjustment.

Other challenges faced by international students includes physical environmental differences (Bradley, 2000), difficulty encountered with respect to social life (Sawir, Marginson, Deumert, Nyland, & Ramia, 2008), academic study (Misra, Crist, & Burant, 2003) and financials (Poyrazli & Grahame, 2007). Unfortunately, difficulties experienced by international students often result in psychological difficulties such as homesickness, anxiety, feelings of isolation and depression (Zhang & Goodson, 2011).

To prevent disastrous outcomes such as suicide, researchers (Wang & Mallinckrodt, 2006) claim psychological difficulties need special attention at both the individual and

the school level. In fact, Leong and Chou (2002) estimated that between 15 and 25% of international students are in danger of experiencing psychological and psychiatric issues. Even though it is shown that psychological maladjustment was one of the most common reasons for international students to utilise counselling services (Hwang, Bennett, & Beauchemin, 2014), Asian international students are reluctant to use the service, to express their feelings and to seek help (Komiya, Good, & Sherrod, 2000; Sandhu, 1995).

Moreover, studies have found that Asian international students have difficulties developing friendships especially with host national students (Olivas & Li, 2006; Williams & Johnson, 2011), because of challenges in languages (Liu, 2009; Smith & Khawaja, 2011) and differences in social norms (Lee & Rice, 2007). This is detrimental to international students because social support and social connectedness are crucial elements to cope with life transition such as school adaptation (Lee, Koeske, & Sales, 2004). Wang, Wei, Zhao, Chuang, and Li (2015) asserted that international students experienced difficulties in social and personal-emotional aspects of adjustment because they leave behind what they used to be familiar with, such as personal relationships and home environments. Therefore, to overcome these challenges an international student needs to interact with host and co nationals.

Shin, Han, and Kim (2007) stated that interactions with host nationals as well as relatives and friends in individuals' home country are greatly important to diminish acculturative stress and increase their psychological adjustment. Therefore, an individual need to establish effective social networks with others and pursuing goals

by facing challenges are an important factor that plays a key role in determining psychological adjustment (Ryff, 2008).

2.2.2.3.3 Outcomes of Psychological Adjustment

International students reported that psychological adjustment may not be easy while they try to adapt to cultural differences between them and the host country (Glass & Westmont, 2014). International students frequently report factor such as language barriers (Meng, Zhu, & Cao, 2018), academic styles (Misra, McKean, West, & Russo, 2000), separation from home (Hendrickson et al., 2011), poor social integration, and problems in daily life tasks (Yeh & Inose, 2003a) that inhibit their adjustment. Failing to adjust to these challenges can be detrimental to various aspects of college life such as poor academic results, psychological and physical health, and drop out (Martirosyan, Hwang, & Wanjohi, 2015).

Without resolving the stressors, international students may eventually develop physiological, emotional and psychological health issues (Hamamura & Laird, 2014) that would affect their learning, engagement (Suárez-Orozco, Onaga, & de Lardemelle, 2010), confidence (Zajacova, Lynch, & Espenshade, 2005), academic and social competence (Duru & Poyrazli, 2007), and self-concept (Heine & Lehman, 2004).

2.2.3 Existing studies on adjustment

There is a need for these International students who decided to study outside nation to conquer the obstacles that are encountered during this cultural change. They are needed to manage and overcome the (Al-Mubarak, 2000).

Apparently, numerous changes in all aspect of life, facing the higher learning organization environment, new life with full of challenges. Obviously, foundation of higher learning institution is deference of all level in education and its necessary adjustment. All the projects and their development, completion, and implementation are very difficult for the international student for the world because it's impossible that without examining by the high learning intuition of experts and policy makers. It would be of help if counselors, advocates, academic and universal faculty workplaces and scholar help administrations to guide global students that have past practical and make plan for scholars that are ready for traveling to another country. The school standards and qualities are defined by the institution`s mission, vision, and center qualities. Learners are required to get well adjusted to the school set up via altering their both qualities and practices.

Dyso & Renk (2006) help this thought when they say practically all new students experience an adjustment stage upon the section to a college with every student shifted in his or her pace of development. For the reduction of stress and enlarge the opportunities for those students who travel abroad for education many research scholars and educated personalities have a keen interest in the area psychosocial adjustment of foreigner scholars. The outcomes of adjustment either positive or negative are heavily depending on the ways of adaptation. Positive adjustment takes

account of strong bonding, mindfulness, and self-assurance whereas, the negative adjustment consequences include mal-adjustment and communication difficulties and these difficulties further leads towards certain psychological disorders namely anxiety, depression, eating disorder and so on.

Moreover, internationalization and democratization of advanced education in Malaysia has raised much enthusiasm among instructors and scientists to comprehend this sensation. As an after effect of development in the worldwide economy and with a specific end goal to satisfy business necessities for global fitness and abilities, college graduates regularly assess the likelihood of proceeding with studies overseas to enhance their abilities and capacities.

By 2025, globalization will have honed the pecking order in world advanced education, with a modest bunch of college transnational companies in the most elevated level close by private firms. Rapidly expanding quantities of college students are going abroad every year to improve their training through a worldwide point of view. Global students have turned into an undeniably vital piece of the higher instruction arrangement of Malaysia. With its reality class instruction framework and solid global notoriety, Malaysia is an undeniably famous study terminus for international students keen on instruction abroad. They are selected in an extensive variety of controls at each level of training, including transient and expert courses, confirmations, four-year college education and other post-graduate studies, for example, experts' degrees right through to doctoral degrees. It has been assessed that universal students assume a key part in helping a socially different society by giving a wide mixture of diverse societies and viewpoints. And also, the lavishness of

expanding, there is likewise the imperative advantage of international students as a monetary driver.

Table 2.6 provides a meta-analysis of studies that been conducted on Asian international students and focusing on the adjustment of international students.

Table 2.6

A Review of past studies

Author	Location	Sample	Core concepts
Toyokawa & Toyokawa (2002)	U.S.	85 Japanese students	A:academic adjustment P: psychological adjustment SC: Social support, extracurricular activities
Yang <i>et al.</i> , (2011)	Hong Kong	214 undergraduates international students	SC: intercultural learning O: goals, host country experiences and learning outcomes
Hung & Hyun (2010)	U.S.	7 East Asian international students	A: internationalization, cross-cultural meta-cognition, epistemological experiences, EFL international student positionality.
Swami <i>et al.</i> , (2010)	U.K.	110 Malay and 139 Chinese international students	SC + P: relationship between family income, language proficiency, perceived discrimination (P), health status and sociocultural adjustment (SC)
Brunette <i>et al.</i> , (2011)	Canada	14 Chinese international students	SC: physical activity and acculturation
Li and Gasser (2005)	U.S.	117 Asian	SC: relationship between ethnic identity, racial discrimination, sociocultural adjustment
Brisset <i>et al.</i> , (2010)	France	112 Vietnamese international	SC + P: Sociocultural adaptation (SC), social support (SC),

			students and 101 French students	cultural identification (SC); trait-anxiety (P), adult attachment (P), psychological distress (P), satisfaction (P)
Iwamoto & Liu (2010)	U.S.	402	Asian American and Asian international college	SC + P: the effects of racial identity (SC), race-related stress (P), ethnic identity (SC), Asian cultural values (SC) on psychological well-being (P)
Wang & Mallinckrodt (2006)	U.S.	104	Chinese and Taiwanese international students	P: relationship between acculturative stress, psychosocial adjustment, adult attachment
Ye (2005)	U.S.	115	East Asian international students	P: relationship between acculturative stress and Internet uses (including Internet types and Internet motives)
Wei <i>et al.</i> , (2007)	U.S.	189	Chinese and Taiwanese international students	P: relationship between acculturative stress, maladaptive perfectionism and depression

A, academic adjustment; SC, socio-cultural adjustment; P, psychological adjustment; O, other.

Adjustment can be considered as a stressful experience if a person fails to adjust well with the surrounding. Since adjustment requires certain psychological and physical abilities to deal with the demanding scenario. Therefore, prior entering a new environment; a state of readiness is demanded only then the person could be successful able to deal both mentally and physically with the challenges. As literature has identified numerous common challenges including racial discrimination, language problems, accommodation difficulties, dietary restrictions, financial stress, misunderstandings, and loneliness. It is also perceived and researches has supported the notion that personality played a vital role towards adjustment.

2.2.4 Theories for Adopting Variables

Adjustment have been apparent in multidisciplinary research areas such as psychology psychological and medical literature since the 1950s (Ying, 2002; Oberg, 1960; Lazarus, 1990). In order to address and analyzing students' adaptation problems, researchers have been persuading by two common explanations for psychological problems.

At present, Malaysian institutions of higher education are determined to attract international students and the number of these international students studying in Malaysia has been increasing tremendously (Altbach, & Knight, 2007). Therefore, there is a need to understand and to address their academic, social, and psychological adjustment. To understand academic, social, and psychological adjustment of international students the present study adopted Stress and Coping Theory (SCT), Culture Learning Theory (CLT) Social Identification Theory (SIT). Zhou et al., (2008) adapted a model based on the mentioned three theories focusing on the affective, behavioral and cognitive aspects of adjustment. These three suggested theories by the researchers can provide a comprehensive, broad, and conceptual basis for intercultural contact and change studies (Ward et al., 2006).

2.2.4.1 Stress and Coping Theory

Stress and Coping Theory (SCT) Stress and coping the was proposed by Lazarus and Folkman (1984) focusing on the idea that stress is an organizing concept by which various phenomena can be understood. In this theory, psychological stress is defined as "a particular relationship between the person and the environment that is appraised

by the person as exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p. 19). The appraisal processes determine whether a situation is stressful or not (Schuster, Hammitt, & Moore, 2003). Specifically, the relationship between stimulus and individual’s response forms the stress process that makes individuals cope with it. Lazarus and Folkman (1984) mentioned two groups of influential factors namely personal factors and situational factors which impact individuals' stress and coping process. Personal factors deal with how individuals perceive a person-environment relationship whereas situational factors consider novelty, predictability, and duration as the crucial components.

Stress and coping theory states that difficulties and challenges faced by individuals in a new environment are very stressful and the way individuals manage these challenges is defined as coping process (Decker & Borgen, 1993; Lazarus & Folkman, 1984; Taylor & Schneider, 1989). Since individuals have to deal with two cultures and also participate in them at different levels, there is a need to engage people in cross-cultural encounters to make them resilient, adapt, and develop coping strategies and tactics (Aldwin, 1994; Lazarus, 1990). Hence, managing stress at both individual and situational levels is the key factor in adjustment (Lazarus & Folkman, 1984). Subsequently, degree of life change in personal factors (Ward & Kennedy, 1992) and situational factors such as social support (Adelman, 1988) have been identified as key factors to impact international postgraduate students' coping process in a new environment by SCT.

2.2.4.2 Culture Learning Theory (CLT)

Culture learning theory was developed by Argyle (1969) mainly focuses on the behavioral aspect of intercultural contact and highlights the role of social interaction as a skilled behavioural performance culture learning theory was stemmed from social and experimental psychology as well as interpret oral behaviours (Margaret & Ward, 2006). Therefore, culture learning theory was explained from two perspectives: (a) communication competence, (b) cultural preferences in communication styles, norms, and values which both signify the two important determinants of social skills and social interactions (Bochner, 1982, Masgoret, Ward, 2000) specifically, lack of social skills and having difficulties dealing with daily life interactions such as norms, rules, values, and verbal and non-verbal communication due to cross-cultural differences are considered as the main cause of stress for sojourners in a new environment (Masgoret & Ward, 2006).

Since, cultural differences make the adaptation process difficult, culture learning theory concentrates on finding ways to diminish intercultural misunderstandings. It also suggests that through learning cultural skills and behaviours, individuals can adapt to the new environment (Bochner, 1972). In addition, having connections with the host nationals for international students is emphasized in this theory, because through interactions with host nationals. Such as students, teachers and counsellors, they can learn a series of culturally relevant skills enhance their psychological, social and academic success (Furnham, 2004).

Culture learning theory asserts that challenges and difficulties faced by international postgraduate students can be minimized if they acquire culture specific skills. A

number of variables such as general knowledge about a new culture, length of residence in the host culture (Ward et al., 1998), language or communication competence (Furnham & Shiekh, 1993), quantity and quality of contact with nationals (Bochner, 1972), friendship networks (Bochner et al., 1972) experience abroad (Klineberg & Hull, 1979), cultural distance (Ward & Kennedy, 1993), cultural identity (Ward & Searle, 1991), acculturation modes, temporary versus permanent residence in a new country (Ward & Kennedy, 1993), cross-cultural training and also having interaction with the host society (Furnham, 2004) have been proposed as the main factors influencing international postgraduate students' cross-cultural adaptation is a new environment by CLT.

2.2.4.3 Social Identification Theory (SIT)

Social identification theory was developed based on the theories of social cognition and social identity by Tajfel and Turner (1986). This theory focuses on the cognitive aspect of intercultural contact. Specifically, it involves individuals' ethnical and cultural identification of themselves and the way they interact with in and out groups. In other words, sojourners' perceptions of cultural identity and their relationships with co-nationals and host national can highly affect their adjustment process. At the core of social identification theories lies the notion of cognitive, mental and internal processes such as attitudes, perceptions, expectations, and values (Ward & Masgoret, 2006). Therefore, two major concepts namely acculturation and social identity theory are associated with social identification theories (Berry et al., 2006).

Acculturation refers to gradual continuum adaptation process to the new environment (Castro, 2003). The two popular models proposed for acculturation in the literature refer to the uni-dimensional and bi-dimensional models (Castro, 2003). Acculturation is defined as gradual and ongoing process of assimilation to the host culture in uni-dimensional model (Gordon, 1964). However, it has two strands in bi-dimensional model, which refers to both keeping individuals' original culture and adopting the host mainstream culture when individuals relocate to a new environment (LaFromboise et al., 1993; Sánchez & Fernández, 1993). The bi-dimensional model of acculturation considers both keep and adopt as the two important attitudes when individuals move to a new environment that has been the for developing further models as well as conceptualizing acculturation in the literature (Castro, 2003).

Social Identification Theory (SIT) explains the influence of social categorization on self-esteem and highlights the effects of cross-cultural diversity on group membership, perceptions, and interactions (Brown et al., 1992). Individuals' behavior in a new group and the behaviours of others during interactions is known to be influenced by the role of knowledge of the host and host attitudes towards sojourners, and degree of cultural similarity (Gudykunst, 1983a, 1983b).

Social identification theories emphasize the pivotal role of cognitive and identity change in cross-cultural adaptation. The main focus of the literature on cognitive aspects of sojourners' acculturation has been inter-group perceptions and relations. Perceiving prejudice and discrimination during interaction has been an issue for many international students which even leads to fostering a negative inter group stereotype

over time (Sodowsky & Plake, 1992; Stroebe, Lenkert, & Jonas, 1988). Moreover, the stereotypes which are formed in a society might affect sojourners' interactions with host nationals (Bond, 1986). Therefore, different complex and dynamic factors emphasized by social identification theories impact international postgraduate students' identity that could be at an individual level (e.g. age, gender, class and education), at a group level (e.g. motivation for immigration and permanence of cross-cultural relocation) and at a social level (e.g. cultural diversity, prejudice, and discrimination in a society).

Overall, the affective aspect of SCT, the behavioral aspect of CLT along with the cognitive aspect of SIT provide support in deriving the potential variables could influence international postgraduate academic, social, and psychological adjustment in Malaysia.

2.2.5 Overview of Adjustment Studies in Malaysia

There are several studies conducted that tested the relationship of psychological and socio-cultural adjustment practices by international students (Brisset et al., 2010; Li & Gasser, 2005; Ward & Kennedy, 1999; Yang et al., 2006) in the developed countries like United States, Australia, and United Kingdom.

With the increase in the number of international students in Malaysia, several studies have been conducted to investigate the factors influencing international students' adjustment. For example, Akhtari-Zavare and Ghanbari Baghestan (2010) examined Iranian students' adaptation challenges through a qualitative research approach by

interviewing three Iranian students in a Government University in Malaysia. In their study, emotional, sociocultural, economic, and environmental factors (teaching methods and communication problems) were reported as the main issues influenced Iranian students' adaptation.

In the same vein, language proficiency, similarity and familiarity of culture, and efficient services at the institution were found as the important factors in facilitating adaptation process (Mahmud et al., 2010) The study also suggested that Malaysian institutions need to improve their services by developing efficient international offices, well trained personnel, and support programs for their international students and international students need to improve their language fluency in both local language and English language in order to learn and enhance their knowledge about the culture of Malaysia.

Furthermore Yusliza (2011) investigated international students' adaptation in a Malaysian university. The influence of two factors of social support and self-efficacy on sociocultural adaptation of 185 international undergraduate students in a public Malaysia was examined. The results revealed sociocultural adaptation was significantly resulted from social support provided from friends and self-efficacy led to cultural empathy.

Moreover, the influence of demographic factors on international undergraduate students' sociocultural adaptation in a public university in Malaysia was investigated by Yusliza (2010) The findings indicated that cultural similarity, cultural empathy and impersonal endeavors were not significantly different by gender and marital status.

Besides, students between the ages of 18 to 20 reported a greater level of impersonal endeavors compared to other age groups. The length of residence was another significant factor in this study. Those who were living in Malaysia from 18 to 24 months had a higher adjustment in impersonal endeavors and cultural relatedness. Overall, the demographic factors were found to be important in relation with international students' sociocultural adaptation in Malaysia.

Additionally, Talebloo and Baki (2013) applied a qualitative research approach to identify international postgraduate students' challenges in the first year of their study. By interviewing 15 international students from different fields of study in university in Malaysia, four categories of challenges were reported namely a) problems with academic system, (b) social environment, (c) facilities, and programs offered by the international office.

Table 2.7

Prior Studies on Adjustment in Malaysian Context

Author	Research Approach	Factors examined
Akhtari-Zavare and Ghanbari Baghestan (2010)	Qualitative	Emotional, sociocultural, economic, and environmental factors
Mahmud et al., 2010	Qualitative	language proficiency, similarity and familiarity of culture, and efficient services at the institution

Yusoff & Chelliah (2010a)	Quantitative	The influence of demographic factors on sociocultural adaptation
Yusoff (2012)	Quantitative	The influence of social support and self-efficacy on sociocultural adaptation
Talebloo and Baki (2013)	Qualitative	Problems with academic system, social environment, facilities and programs offered by the international office
Naeeni, Zuria Mahmud, et al., (2015)	Qualitative	Psycho-educational support session to improve adjustment.
Shafaei, Nejati, & Abd Razak (2018a)	Quantitative	Acculturation attitude and individuals' psychological adaptation (i.e. life satisfaction, depression and self-esteem)
Shafaei et al., (2018b)	Quantitative	Length of stay on international students' adjustment and attachment attitude.

Majority of the studies in the context of Malaysia have applied qualitative approach to extract the key determinants influencing international students' cross-cultural

adjustment. Despite the fact international students' cross-cultural adaptation is an important factor in propelling Malaysia towards its goal to be an education hub in the region, not enough studies have been conducted in this context to empirically test the crucial factors affecting international students' cross-cultural adjustment. Review of the existing literature in the context of Malaysia emerges the need for studies to consider the factors raised by international students in the qualitative and quantitative studies to provide a better understanding of international postgraduate students' adjustment in Malaysia.

Indeed, if the challenges and difficulties mentioned by the international students are not addressed in time, it might prevent international students and higher education institutions from success. This might gradually lead to a decrease in the number of international students. Not only does international students' disappointment result in dissatisfaction, but it also diverts Malaysia from its target of an education hub in the region. As emphasized by Mahmud et al. (2010), Malaysian educational institutions need to improve their services in order to attract more international students and one of the crucial ways to provide efficient service international students is to understand their needs and expectations. Hence, the present study, by considering the independent and mediational factors derived from CLT, SIT, SCT, and the factors raised by the international students in the previous studies, aims to provide a better understanding of international postgraduate students academic, social, and psychological adjustment in Malaysia.

2.3 Perceived English Language Proficiency

English language proficiency has been recognized as one of the foremost adjustment issues for international student (Jenkins & Leung, 2013; Mamiseishvili, 2012). As language plays a vital role in understanding and learning new cultural skills, therefore, it is one of the essential factors in adaptation process (Argyle, 1969). Possessing sufficient language proficiency also assists international students to have better interaction with host nationals and get familiar with host country's values and norms (Mahmud et al., 2010).

Kim (1988) stated that effective social communication is the key of successful adjustment and this communication is done through language. According to Ward (2004, p. 190), "language skills are important because they affect the quality and quantity of intercultural interactions".

According to the literature, language proficiency is one of the several factors related to adjustment (Choudhury, Stanton, & Balsis, 2018; Neumann, Padden, & McDonough, 2019). Whereas lack of language proficiency leads to adjustment problems in a new environment (Chen, 2013; Tseng & Newton, 2002). Language plays an important role in facilitating academic success due to its vital role in communication, understanding, and acceptance in educating/training individuals from other cultures (Trudgill, 2000). Therefore, English language proficiency has a significant impact on educational achievement. By increasing English language proficiency, differences across ethnic groups would be disappeared while educational success and adjustment would be achieved (Furnham & Shiekh, 1993).

Previous researchers found that international students confronted with greater challenges with respect to communication with others in English especially in educational settings. Most of these communication problems were due to differences in accent, expression, slang, and use of special English words (Naeeni et al., 2015). The common element which relates significantly to both social contacts with host national students and psychosocial adjustment of international students are recognized to be affected by host nation tongue (Curtin, Stewart & Ostrove, 2013; Al-Zubaidi, 2012). Lingual capacities are noteworthy for academic execution, and additionally for social change. Hence, international students should grab opportunities that will help students to improve their fluency in the English language.

2.3.1 Challenges Associated with Perceived English Language Proficiency

Studies on the challenges related to lack of linguistic proficiency addresses that most international students encounter issues that hinder positive adjustment efforts lead towards maladjustment (Zhang & Mi, 2010; Benzie, 2010; Sawir et al., 2012). These issues also prevent international students' motivation to communicate with local students (and vice versa) thus, precipitate other challenges such as perceiving social support and acculturation stress.

International student finds it difficult to use English language as it has been expected from them by the institution (Akazaki, 2010; Bolton & Kuteeva, 2012). These issue in the communication arises as these non-native English speakers' international students are not much familiar with the use of English language. As demonstrated by the findings of Akazaki's study in the experience of Japanese students in UK at different

universities, results revealed that these Japanese students on the campus on UK universities were unable to follow the speed of the speech of lecturers and the local students. One of the reasons behind the inability to follow the speed is that they tend to mentally translate English into their native language before being able to comprehend and respond and also these local students and lecturers were very fluent in speaking English as they were native English speakers (Sawir et al., 2012).

The findings of this study were further supported by Kosheleva, Amarnor & Chernobilsky (2015) where 15 international students reported to have difficulty to follow the speed of the speech in English at a US university. The challenges were resulted due to distinct accents, idioms and jargon of lecturers as well as the use of English terms across disciplines that results in confusion and miscommunication experience. Owing to these reasons these students segregate themselves, moreover, they participate less in classroom discussions and group work assignments. The findings are similar to the Rienties & Jindal-Snape (2016) that studied Chinese postgraduate students at two universities in UK. The results demonstrated that international students with poor language proficiency tend to segregate themselves partly as they lack in confidence in communicating in English.

In the same way Wright & Schartner (2013) found that students encounter obstacles in the courses that are more linguistically demanding as compare to those courses that are less demanding. Similarly, Bolton and Kuteeva (2012) found that students from law and management courses perceive that English language use was more widespread and intense as the nature of these courses require more involvement in discussions and arguments as compare to engineering, where the use of English language is more

practical and direct. The summary of the challenges encountered by international students is presented in table 2.8

Table 2.8

The Summary of the Challenges Encountered by International Students

Challenge	Description	References
Academic writing	<ul style="list-style-type: none"> • Poor language proficiency impact on assignment writing and written examination 	Yildirim (2015)
Social adjustment	<ul style="list-style-type: none"> • Impede to make friends and interact with locals • Negatively associated with interpersonal relations with locals 	Lee (2015) Pathirage, Morrow, Walpitage, & Skolits (2014)
Psychological adjustment	<ul style="list-style-type: none"> • Low level of English language proficiency as a predictor of acculturation stress • Declined emotional wellbeing 	Welbourne, Blanchard, & Wadsworth (2015) Lee & Ciftci (2014)
Communication	<ul style="list-style-type: none"> • Difficulties such as English accent, terms, jargons and idioms. • Lack of communication with lecturers and local students • Miscommunication and misunderstandings 	Benzie, (2010); Zhang & Mi (2010); Akazaki (2010)

2.3.2 Previous Studies on English Language Proficiency

According to Suseela and Poovaikarasi, (2011) English capability and adjustment have associated. For instance, a few scientists have researched how students' language capability in English influences their adjustment. Poyrazli (2015) deliberated the general adjustment in their study included the capacity to arrange issues identified with instruction, social conformity, and the foundation of social associations with Americans. Accomplishment in these grounds relied upon the students' capacity to converse in English.

Correspondingly, Suseela and Poovaikarasi, (2011) stated that Malaysian students with the higher English capability were better adjusted in Britain. Majority of the international student who arrived from different countries had no background of English medium courses therefore, they face barriers in classrooms (Suseela & Poovaikarasi, 2011). Furthermore, past literature shows that international student in Malaysia face problems due to different accent of the lecturer as well the administrative staff of in Malaysia. For this, they required much time to understand the instruction of examiner or lecture. Furthermore, there is language entry test for the international students of many countries like TOEFL, IELTS, and ELPT these are the requirement of university or college but still they are facing the issue of language.

Regarding the issues of foreigner students, the Literature has been very consistent (Zhou & Cole, 2016). Gebhard (2012) stated that due to the difference in various accent international student have faced problem to understand lecture instruction and understanding of the classroom discussions. Furthermore, the reason highlighted by

past studies for poor language is the lack of English vocabulary therefore, they need to spend more time in reading books and articles.

Crawford and Candlin (2013) argue that, maladjustment in the academics is due to the reason of languages problem of international student, therefore, there is an urgent need to concentrate on language problems. Chaoping (2014) stated that most common barriers for foreigner scholars are the academic adjustment, language competency, and communication. The most frequent problem for the foreigner student is a lack of communication or lack of correct pronunciation which rises the stress in their academic performance.

Hamamura and Laird (2014) found that poor English communication is the main predictor of acculturation stress. Moreover, in the study conducted by Hirai, Frazier, & Syed (2015) argued about the anxiety of English communication which is associated with the Taiwanese student's basic adjustment. Yakunina et al., (2012) reported in their study that low level of stress is due to the reason of good English communication and proficiency of international students. Subsequently, Pathirage, Morrow, Walpitage, & Skolits (2014) stated that good communication skills play a vital role in the academic adjustment of international students.

In another qualitatively conducted study conducted by Jang, Woo, and Henfield (2014) on the challenges faced by international doctoral students suggested that participants' experiences difficulties due to lack of fluency in English language. Likewise, Kosheleva, Amarnor & Chernobilsky (2015) stated that competency in the language is a major consideration of international scholars. Additionally, Hua &

Beverton (2013) revealed that Taiwanese foreigner student were facing disappointment due to lack of English communication and competency.

International student faces many problems in the host country, but poor language competency was one of the major factors that influence their adjustment as well as academic success. Consequently, the international student prior to traveling abroad should pay special attention to language proficiency for the better success in academic, social, and psychological adjustment in the university environment which will ensure success and wellbeing.

2.4 Perceived Social Support

Social support is considered as a basic component that provides encouragement to the international student for generating basic understanding for the adjustment in the new culture. Social support can be explained by adopting stress and coping theory (Lazarus & Folkman, 1984) and it is one of the important determinants of cross-cultural adaptation (Adelman, 1988). Social support refers to the support networks of co-national and host national friends 'sojourners make in the host country in order to manage emotional, social, and academic problems (Alazzi & Chiodo, 2006).

2.4.1 Sources of Social Support

Social support can help international student's adjustment. There are various sources of support such as institution, academic staff/local students and individual support. These supports were perceived as being particularly important in assisting international students to adjust to new environment.

Table 2.9

Sources of support to assist adjustment

Sources of support	Support provided	Authors
Institutional	Establish orientation programs to enable international students to access and be informed about institutional requirements	Cemalcilar & Falbo (2008)
Academic staff/local students	Develop small or one to one tutorial groups	Wang & Mallinckrodt, 2006
Individual	Recommend systematic predeparture preparation	Forbes-Mewett, Nyland, & Ramia, 2012

2.4.1.1 Support from Institution

Institutions are deemed responsible for providing a diverse range of programs for international students that can assist their adjustment process especially during the first six months of their study (Brown & Holloway, 2008). During this period, international students experience high levels of anxiety and are also still strongly attached to their familiar networks. Hence, the physical separation from international students' usual relationships may discourage them from engaging in their new institutional environment, leading to negative adjustment outcomes (Wang & Mallinckrodt 2006).

A key element is the provision of support programs for international students (Cameron & Meade 2003; Hamza 2010). Cemalcilar and Falbo's (2008) study of 94 international postgraduate students at a US university showed that they needed crucial

institutional support to understand the academic and living environment in the first four months of their entry to the university. It was suggested that the institution should provide information on academic requirements especially assessments and on essential needs such as food, accommodation, health centers, and transportation. Academic and administration staff should be well informed of the available support services and be knowledgeable about the appropriate personnel to contact in order for the particular concerns of international students to be addressed. This study supports Cameron and Meade's (2003) study on international students studying at a university in New Zealand. The study indicated that international students require thorough assistance particularly in their first few months of study in terms of information about available support services and the contact details of key personnel.

2.4.1.2 Support from Academic Staff

Academic staff and local students play a significant role in supporting international students' adjustment (Arkoudis et al., 2013). Effective communication between international students and staff/peers (specifically local students) supports the establishment of positive networks. With this support, international students feel a sense of belonging, which helps them to solve academic issues, and it provides a platform from which they can express any concerns (Brown, 2009, Ramsay, Barker & Jones, 2007; Yusoff, 2011).

In terms of support from academic staff, studies by Kingston and Forland (2008) and Bartram (2008) highlighted that international students and academic staff support for thorough guidance on assessments and assignments, with transparency on marking

criteria. However, Arkoudis & Tran (2010) and Ryan (2013) suggested that academic staff could assist international students by being explicit in their teaching and expectations, as well as assisting peer interactions among diverse culture students. This would help to ensure that international students acknowledged and understood the academic system and were then able to adjust to academic requirements.

2.4.1.3 Support from Peers

With respect to peer support, Yusoff's (2011) study of 185 were then able to adjust to the international students at a Malaysian public university found that support from their families and friends (from home, other international students in the institution and local Malaysian peers) had a significant effect on their psychological adjustment. The participants often regarded their adjustment as being positive when they could closely connect to families and friends-especially local Malaysian friends. For these international students, having local friends helped them to have a 'sense of belonging and thus reduced their homesickness (Yusoff, 2011, p. 14).

Brown (2009) supported this finding with a study of 150 postgraduate students (the majority from South-East Asia) at a UK university, which revealed that social support from local UK students was viewed as the best source of information about institutional cultural norms and therefore significantly contributed to positive adjustment experiences. However, these and other (e.g. Cameron & Meade, 2003; Zhang & Goodson, 2011b) have also demonstrated that, despite the importance of receiving support from staff and students, international students often experience a lack of interaction with local students and academic staff. This leads to separation

between international and local students and staff and does not enhance successful adjustment.

2.4.2 Previous Studies on Social Support

Cemalcilar and Falbo (2008) argued that social support is the strong element that plays a vital role in the adjustment abroad and also gives courage to students facing problem regarding the adjustment in the new environment. Moreover, social support plays vital role in stress reduction, hence, it is found to be a strong factor that influence adjustment for individuals facing multicultural or cross-culture issues (Brisset et al., 2010; O'Reilly et al., 2010).

Toyokawa and Toyokawa (2002) conducted a study in Japan and America, where they examined the relationship between the engagement of 84 scholars in additional accomplishments and the students' adjustment in new cultural life in America. The finding concluded that student engagement matters as those students who were completely engaged in the social activities were seen to be more adjusted in the new culture as compared to those who were suffering from adjustment problem due to less social participation. To some extent, they consider that their anticipation and interest is different from others.

Lee et al., (2004) investigated that social activities reduces the mental stress and help to gain social support from the environment in his research at the Pittsburgh with seventy-four Korean students. Results revealed that students with high social support had less level of stress as compared to those who participated less in social activities. Thus, social support enhances psychological adjustment of international students.

Social support can be gained from co-national and multinational international student as they can guide them how to adjust in new environment (Ward et al., 2004). Furthermore, it is the responsibility of organization to provide friendly culture to international scholars within the campus and provide them with opportunities to participate in social gatherings so that they can gain the social support which will help in their adjustment.

In addition, universities can design the format event which provides the chance to international student to associate with host country culture like establishment of formal and non-format event, student orientation and other programs which increase their level of social support. Sumer et al., (2008) highlighted that the indicators of sadness and nervousness among students worldwide and found that social support had played a serious role in anticipating unhappiness. Specifically, students with lower levels of social support reported higher level of sadness. Hence, social support helped to reduce sadness.

On other hand, social support presented positive association with psychological well-being of international students (Hayes & Lin, 1994; Pedersen, 1991). Upon arrival at US international students had sad feelings about leaving home and their relatives behind. Therefore, it is the responsibility of the management for providing healthy environment for the formation of supportive culture for social support at campus (Mallinckrodt & Leong, 1992) as large number of students have been a target of lack of satisfaction.

Mallinckrodt and Leong (1992) investigated the quality of social support of some the best way which indirectly support them when they are suffering from psychological stress. Many authors find international students stress should be reduced by providing friendly organizational culture to international students within the campus and give them opportunities for partition in the event so that they can gain the social support which help in adjustment.

Furthermore, universities can design the arrange events which provides the chance to international student to connect with host country culture like establishment of formal and non-format event, student orientation and other programs which increase their level of social support. Meanwhile, stress is a global physiological and psychological state of the individual brings in relation through the experience of stressors. The responsibility and functionality of perceived social support is illustrated in Figure 2.2.

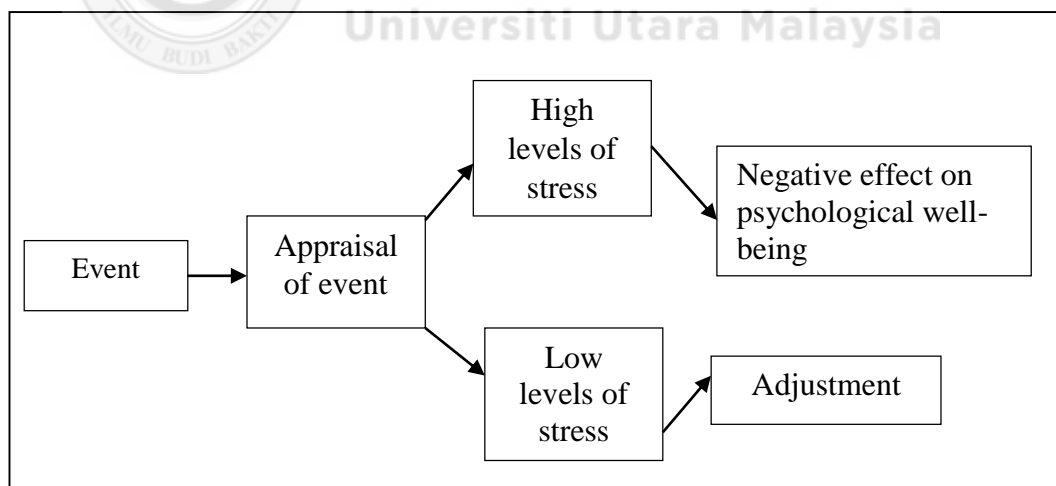


Figure 2.2 Model of stress
Source (Zhang et al., 2012)

From the Figure 2.2, the center part of the model shows how the perception of stress may possibly vary from person to person whereas high levels of stress are more likely to result in negative effect on psychological well-being in comparison to low levels of stress. But if the level of perceived social support is highly it is likely to reduce acculturation stress as shown in Figure 2.2.

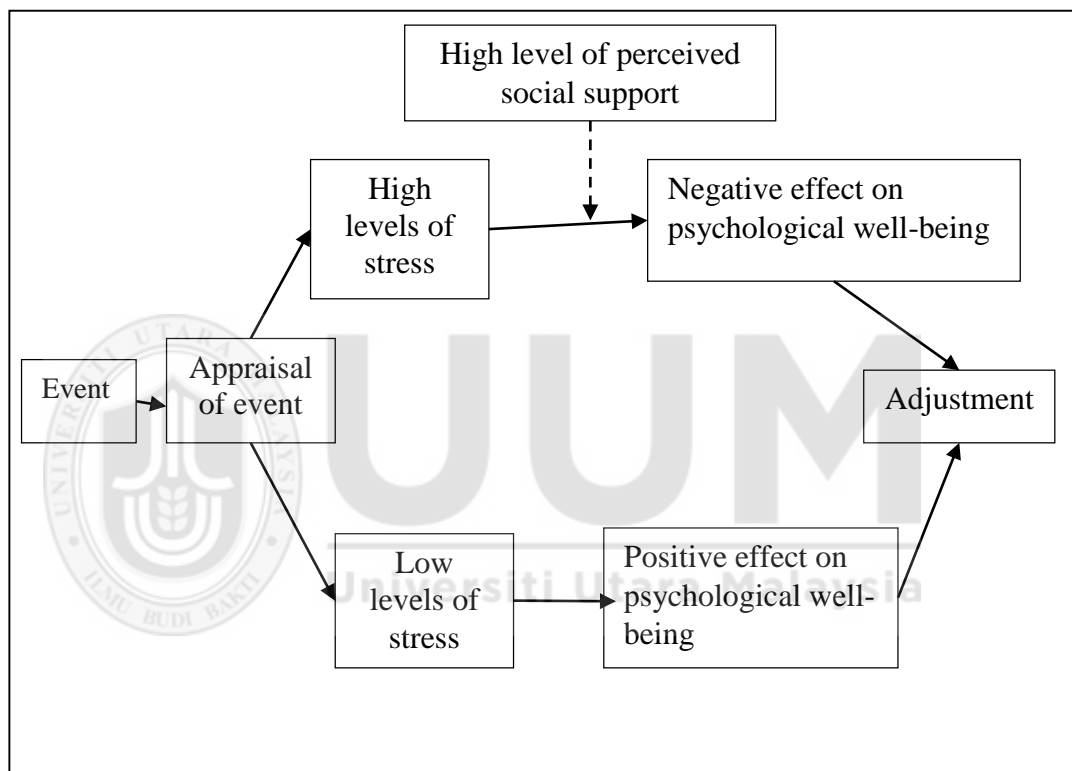


Figure 2.3 Perceived social supports as a mediator
 Source (Zhang et al., 2012)

Therefore, Figure 2.3 shows how perceived social support functions as a mediator to mitigate the association between acculturative stress and adjustment.

2.5 Acculturation Stress

Acculturation stress is a response by people to life events that are rooted in cross-cultural contacts (Lazarus & Folkman, 1984). Although acculturation is very well known phenomena frequently used in discussions around immigrants, refugees and international students, its meaning and operationalization remain understated (Sam et al., 2013). A more formal definition of acculturation was proposed by Redfield et al. in year 1936 where acculturation was defined as phenomenon which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of decline or both groups. This definition is now regarded as the classical and benchmark definition of acculturation stress cited by acculturation researchers (Sam et al., 2013).

These life events are embedded with depression and anxiety. Besides, acculturation stress is broadly similar to the culture shock however the term acculturation stress is chosen for two reasons (Oberg, 1960). Firstly, the terminology shock is perceived as a negative term that has been involved only in difficulty that results when an individual confronts with a culture that is different from its own culture. Likewise, stress has been assumed and hypothesized in previous studies with regard to how people dealt with pessimistic experiences by keeping themselves engaged in various coping strategies that would help them to cope with that stressful events, eventually leading them towards some form of adjustment (Berry, 2006). Secondly, acculturation stress is stated when the interaction lies between cultures, rather than in one culture or the other.

The present study is conducted in Malaysia which is a multicultural and multilingual country. Moreover, due to globalisation there is an increase in international mobility that have stimulated students to cross their national and cultural boundaries to seek international educational experiences (Sam, 2001). Consequently, the number of students seeking education outside their home country has grown over the years. This trend has made international students a large group of sojourners around the world. Although international mobility can be a source of prosperity for both individuals and host societies, the challenges involved in this process are inevitable (Baubock, Heller, & Zolberg, 1996).

2.5.1 Challenges Associated with Acculturation Stress

Millions of students travel every year to pursue higher education. These international students contribute to cultural diversity on the campus as they bring with them a wide range of knowledge and skills, thus also contributing to the intellectual capital of the host country. Their stay is mutually beneficial as they bring various assets to the host country and in return gain higher education (Smith & Khawaja, 2011a). However, the socio-psychological and academic adjustment of international students may not be easy while they try to adapt to cultural differences between them and the host country (Glass & Westmont, 2014).

International students frequently report factor such as language barriers (Meng et al., 2018), academic styles (Misra et al., 2000), separation from home (Hendrickson et al., 2011), poor social integration and problems in daily life tasks (Yeh & Inose, 2003a) that inhibit their adjustment .These factors also contribute to factors such as stress and

anxiety which impact upon international students' acculturation (Meng et al., 2018; Yan, 2017).

Acculturation is the students' ability to respond or cope with life events that are rooted in cross-cultural contact (J. W. Berry, Phinney, Sam, & Vedder, 2006). Furthermore, failing to adjust to these challenges can be detrimental to various aspects of college life such as poor academic results, psychological and physical health and drop out (Martirosyan, Hwang, & Wanjohi, 2015).

Recent research has found a mixed results on whether acculturation stress and academic and psychological adjustment challenge are beneficial or deleterious , as a growing body of literature suggests that stressful life events can lead to positive changes and help in the positive life changes such as personal strength, pursue new possibilities of life, strengthen meaningful relationships, gain an appreciation of life, and enhance spiritual growth known as stress related growth (C. Cheng et al., 2014; Holm-Hadulla & Koutsoukou-Argraki, 2015; Junhyoung Kim & Kim, 2013; Junhyoung Kim et al., 2014). However, on the other hand it has been demonstrated that international student encounter cultural identity confusion (Andre & De Araujo, 2011), strain interpersonal relationship (Glass, 2014), health problems (Z. Li et al., 2017), feeling of isolation (Q. Wang & Hannes, 2014), homesickness (Poyrazli & Grahame, 2007), and undermine self-esteem (Junhyoung Kim & Kim, 2013) which in return affect their psychological well-being.

Additionally, students who experience psychological problems are then at greater risk for poor academic performance, which in return perpetuate a cycle of stress thus increasing academic stress (Richardson et al., 2012). Many international students also experience problems in academic adjustment due to unfamiliar education system (Poyrazli & Grahame, 2007). A variety of factors have been examined contributing to academic stress for example, International students experience problems due to differences in study techniques, test taking, or classroom instruction, grading style (Poyrazli & Grahame, 2007), student-supervisor relationship (Cruwys et al., 2015), teaching styles, meeting deadlines, working with students in team from different cultures (Wan et al., 2013), course requirements, time management issues, financial burdens, interactions with faculty, adjustment to the campus environment and pressure of doing well academically (Lowinger et al., 2014)

Dealing with norms and values of a new culture and coping with academic demands put international students in a challenging and stressful situation. Compared to their local peers, international students experience more difficulties since they have to adjust their behaviours to the new environment (Li & Gasser, 2005). The emotional and social challenges that international students encounter while residing in a new environment is a serious threat to their psychological well-being (Negovan, 2010). International students attempt to not only achieve good academic results, but also live a good life in the new environment. This could be a potential source of stress and challenge for international students in a foreign country (Ross, Cleland, & Macleod, 2006). Thus, it is paramount to focus on the underlying factors that could enhance

international students' happiness and satisfaction while experiencing a good university life in a culturally unfamiliar environment (Sheu & Lent, 2009).

2.5.2 Factor Causing Acculturation Stress

There are several factors that affect an international students' which leads to acculturative stress such as cultural practices, English language proficiency and educational experiences, geographical distance and dissimilarity between the two cultures (Zhang & Mi, 2010). A detailed discussion of various factors causing acculturation is discussed in the next section.

2.5.2.1 Perceived Stereotype

Primary basis for judging a group and its members is stereotyping (Kunda & Sherman-Williams, 1993). Individuals' beliefs toward members of some social groups is referred to as stereotypes (Jussim, Nelson, Manis, & Soffin, 1995) that involves generalisations about their typical characteristics (Judd, Ryan, & Park, 1991). It also refers to people's social categorical judgment of the members of other groups (Cuddy et al., 2009). Stereotypes could be negative leading to prejudiced behaviours towards other social groups (Hilton & Von Hippel, 1996). They could also be positive leading people to making sense of their interactions (Haslam, Powell, & Turner, 2000; McGarty, Yzerbyt, & Spears, 2002). Stereotype enhances predictability while it reduces uncertainty (Hamilton, 1979; Hewstone & Jaspars, 1982), and it strongly impacts expectations about intergroup interactions (Hamilton, 1979).

Stereotypes influence individuals behaviours and lead them to have confirming behaviour more than disconfirming one (O'Sullivan & D 2003). By evaluating a social group's attitudes and behaviors, a stereotype would be formed which generally represent that group. Through increasing contact among the group members, the stereotype might be changed beliefs and when people have direct contact and experience with the members of a group, their beliefs would be influenced. Having direct experience with other social groups would create more well-defined perceptions (Fazio, Powell, & Herr; 1983, Stangor, Jonas, Stroebe, & Hewstone, 1996). These stereotypes, formed in the society, can lead to positive or negative reflections in interactions with host nationals and influence sociocultural adaptation.

2.5.2.2 Perceived Complexity

Culture in any society provides guidance on norms, values, thoughts, and behaviors. Culture learning theory highlighted the role of two important factors in achieving successful adaptation namely; (a) having sufficient knowledge about the culture, and (b) interacting with host nationals (Argyle, 1969), Nonetheless, in the process of adjustment, individuals may encounter some complications in understanding and dealing with the norms and values of the new culturally different environment. One of the contributing reasons for individuals to observe such problems could be complexity of interaction norms in the new society (Bandura & McClelland, 1997).

Complexity in this context refers to the degree to which norms and rules are difficult perceived difficult to understand. The more simplistic the rules and norms are, the easier it is for individuals to adopt. In fact, complexity can exist at cultural level

(Church, 1982; Mendenhall & Oddou, 1985) and at interaction levels (Molinsky, 2007) which has not been paid enough attention in the literature despite its importance. In a few qualitative studies, complexity has been pointed out as one of the important factors which can influence adjustment (Akhtari-Zavare & Ghanbari-Baghestan, 2010; Mahmud et al., 2010). Hence, when an international student perceive complexity in interaction with others play an important role in determining their academic, social, and psychological adjustment.

2.5.2.3 Discrimination

The physical differences cause discrimination which is allied to skin color and other facial features (Wan, 2001). As an example, European international students may adjust more easily to the United States because of their Caucasian features and skin color, while international students from Africa region, South America, and Asia are noticeable by their physical features and skin color, and therefore, may experience subtle prejudice and discrimination that may not assist easy adjustment.

Moreover, perceived discrimination was significantly correlated with co-national cultural identification, adult attachment on socio-cultural, and psychological adjustment. Previous study reported that identification with Asian cultural values was negatively linked with the psychological well-being of Asian Americans and Asian international students (Iwamoto & Liu, 2010). Other authors, however, reported a positive association between these two factors (Playford & Safdar, 2007). Moreover, identification with own culture group could lead to more engagement in local society (Brisset et al., 2010). Brisset and colleagues (2010) further studied attachment

intimacy in Vietnamese international students and linked it to higher psychological distress but better socio-cultural adaptation. Wang & Mallinckrodt (2006) found that attachment anxiety and avoidance were negatively associated with acculturation of Chinese international students.

2.5.2.4 Geographical Distance

Several studies had indicated that international students that are from non-Western countries experience notably more adjustment difficulties as compare to those international students that come from Western countries. Yeh & Inose (2002) conducted a study where they took a sample of 274 Chinese, Japanese, and Korean immigrant junior high and high school students that were asked to report the most stressful and challenging problem as well the coping strategy that they use in order to cope that event and fell well-adjusted with their environment. The results of which revealed that students consider communication complications as the most common problem, and the use of social support networks was the most frequently reported coping strategy.

Later, Yeh and Inose (2003) studied a group of interns from Asia and found that Asian international students, compared with their counterparts from Europe, Central/Latin America, and Africa, seemed to experience higher acculturative stress. The study also found that English fluency, social connectedness and satisfaction with social support were predictive of lower acculturative stress experienced by international students. For the period of international students' acculturation course, cognitive efforts are required for processing information, communicating in a new language and behaving

appropriately in a new academic, physical and disorientation (Constantine *et al.*, 2005; Mori, 2000).

2.5.2.5 Length of Stay

The interplay between acculturation stress and several other variables has been the focus of several studies on psychological adjustment of Asian international students. Wei and colleagues (2007) reported that depression was positively associated with acculturation stress and maladaptive perfectionism. For students who were in the US for a shorter period of time, both high and low maladaptive perfectionism exacerbated the effect of acculturation stress on depression, while for those who stayed in the US longer, a low level of maladaptive perfectionism served as a buffer against the negative impact of acculturation stress on depression.

2.5.2.6 Language Proficiency

Language proficiency has a direct impact on individual's learning and development because of its influential value in communication of information and for regulating cognitive processes (Baker, 2001). When the focus is given directly to observe the relationship between language proficiency and learning, the communicative function of language is highlighted. Thus, language is a major acculturation stressor that makes an international student anxious and has huge impact on academic and social domain and effect their academic performance and social participation (Driessen, 2000). A study was conducted USA that found that the overall adjustment strain in international students was due to their low level of English proficiency (Mori, 2000). Furthermore,

language is helpful in satisfying basic needs for connection and bonding (Vedder, 2005).

Moreover, English language proficiency plays a significant role in adjustment of international students as poor ELP impede their ability to make friends and interacting with locals as demonstrated in the study of Mori (2000) that international students with high English competency were positively associated with more interpersonal relations with locals. Thus, language and cultural learning are closely associated, and miscommunications will probably result if international students do not obtain at least some basic verbal skills that will lead them towards isolation and maladjustment (Masgoret & Ward, 2006). Studies have established a straightforward relationship between English language proficiency and Sociocultural adjustment (Ward & Kennedy, 1993; Spitzberg, 1988). For this reason, it seems important to scrutinize the role of language barriers in adjustment of international students.

2.6 Chapter Summary

In this chapter, literature review was presented to provide background information related to the scope of the thesis, where the key areas namely concept of adjustment, Perceived English language proficiency, perceived social support, and acculturation stress of international students were encompassed. International students are esteemed both for the financial benefits as well as diversity on the campuses. However, the institutions are not well prepared for the challenges that these international students face. As a result, a new framework for international students' adjustment has been

introduced and which is based on ABC model engaging academic, social, and psychological adjustment proposed by SCT, CLT, and SIT theories.

In the next Chapter a detailed explanation of applied research approach, research design, population and sample, instruments as well as data analysis techniques and ethical consideration is presented.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used to address the research questions formulated in chapter 1. This chapter is divided into eight Sections which indicates the research approach, research design, sampling, instrumentation, pilot study, data collection, data analysis and ethical considerations. It ends with a summary of the present chapter.

3.2 Research Approach

Research approach refers to “plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation” (Creswell & Creswell, 2017, p. 3). There are three research approaches namely qualitative, quantitative, and mixed method (Creswell & Creswell, 2017). Qualitative research is an approach “for exploring and understanding the meaning individuals or groups ascribe to a social or human problem”. Quantitative research is an approach for “testing objective theories by examining the relationship among variables” Whereas, “Mixed methods research is an approach that involves in collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks” (Creswell & Creswell, 2017, p. 4). In the present study, the researcher formulated a set of hypotheses to determine the relationship among the variables which is in line with the definition of quantitative research approach therefore, this

study applied quantitative research approach as limited number of quantitative researches are available in the Malaysian context as previous investigations (Alghail & Mahfoodh, 2016; Faiz et al. 2015). have mainly employed qualitative approaches with considerably small sample sizes which limit our understanding of the issue at a larger scale. Therefore, quantitative approach is deemed appropriate to obtain insight from a wider perspective.

3.3 Research Design

Research designs are types of inquiry that provide specific direction for procedures in a research design (Creswell & Creswell, 2017). On the other hand, Cooper, Schindler, & Sun (2006) described research design as the blueprint for the collection, measurement, and data analysis. Hair (2006) stated that an appropriate research design determines various procedures prior conducting the main study that includes the type of data, data collection technique, the sampling methodology, the schedule and the budget. In this study, cross-sectional study, also known as sample survey, is used to collect the required information from a sample of the population at one point in time (Edmonds & Kennedy, 2016). This technique is chosen as survey are convenient (Fowler, 2013) due to their structured formats, help researcher to collect large amount of data in a short period of time, and statistical hypothesis can be more objectively analysed (Harwell, 2011) .

3.4 Sampling

Target population is defined as the entire group of subjects of interest that are defined by the research objectives (Zikmund, 2003). The population of the present study

includes international postgraduate students (Masters and PhD) from the public universities of Malaysia. The public universities of Malaysia comprises of 20 universities which are divided into three categories (1) five research universities; (2) 11 focused universities, which offer specific expertise; and (3) four comprehensive universities (MoHE, 2012) as shown in the table 3.1 below

Table 3.1

Public Higher Education Institutions in Malaysia and their Characteristics

Categories	University	Characteristics
Research universities	Universiti Malaya (UM)	Focus on research
	Universiti Sains Malaysia (USM)	
	Universiti Kebangsaan Malaysia (UKM)	
	Universiti Putra Malaysia (UPM)	
	Universiti Teknologi Malaysia (UTM)	
Focused Universities	Universiti Utara Malaysia (UUM)	Focus on research based on specific expertise
	Universiti Pendidikan Sultan Idris (UPSI)	
	Universiti Tun Hussein Onn Malaysia (UTHM)	
	Teknikal Malaysia Melaka (UTeM)	
	Universiti Malaysia Perlis (UniMAP)	
	Universiti Malaysia Pahang (UMP)	
	Universiti Malaysia Terengganu (UMT)	

	Universiti Sains Islam Malaysia (USIM)	
	Universiti Sultan Zainal Abidin (UniSZA)	
	Universiti Malaysia Kelantan (UMK)	
	Universiti Pertahanan Nasional Malaysia (UPNM)	
Comprehensive Universities	Universiti Teknologi Mara (UiTM)	Various fields of study
	Universiti Islam Antarabangsa Malaysia (UIA)	
	Universiti Malaysia Sabah (UMS)	

(Source: MoHE, 2012)

Since getting the population frame of all postgraduate international students was difficult and not feasible, a multistage mixed sampling method was used which is an extension of cluster sampling (Ary, Jacobs & Razavieh, 2002; Bernard, 2017). The first part of the sampling technique involves cluster sampling. A total of three clusters were identified as the primary units.

Since most of the studies has been conducted on research universities (Mahmud et al., 2010; Mohammed & Abdalhussein, 2015; Naeeni, Mahmud, et al., 2015; Shafaei, Nejati, & Abd Razak, 2018) and there lack a comprehensive explanation of adjustment among postgraduates students from public focused universities (focus on research based on specific expertise) of Malaysia. Therefore, research universities were not selected. From the sampling frame, each individual in the population has equal chance

to participate in the study because this technique of sampling randomly samples the whole population. Therefore, the subjects to be sample are included in the sample frame (Black, 1999). Additionally, findings of the study can be generalized if the required data are collected using a random sampling technique. Random sampling is ideal type of sampling since it is highly representative of the population. However, the requirement for applying a random sampling technique is to have the complete list of population members (Black, 1999).

The combination of the universities was made carefully to ensure heterogeneity within the cluster and homogeneity between the clusters. Each cluster was then picked at random. This procedure of randomly selecting the cluster meets the criteria imposed to ensure that cluster sampling is a type of probability sampling as each individual in the population gets an equal opportunity to be selected (Levy & Lemeshow, 2013) and findings can be generalized through this sampling techniques. It is ideal for high representation of the population (Ary, Jacobs & Razavieh, 2002).

The target population for the present study is the international postgraduate students from five public universities such as UUM, UTHM, UTeM, UniMAP, and UMT. A second sampling strategies involved stratified random sampling. A complete list of postgraduate students from the selected universities was obtained. The total number of international postgraduate students was (UUM: 1445, UNIMAP: 172, UTHM: 624, UTeM: 221, UMT: 161) added (2623) and their percentages were calculated due to the variation in the number of postgraduate students in these universities (i.e =100%). The calculated percentage (UUM:55%, UNIMAP:07%, UTHM: 24%, UTeM: 08%,

UMT: 06%) was the proportion considered to select the number of students as a sample (i.e. proportionate sampling). Table 3.2 illustrates sampling procedure of the present study.

Table 3.2

Sampling Procedure of the Present Study

Selected Public Focused Universities	International postgraduates' students in the selected public focused universities	Percentages based on total number of international postgraduates' students
UUM	1445	55%
UNIMAP	172	7%
UTHM	624	24%
UTeM	221	8%
UMT	161	6%
Total	N=2623	100

Opinions regarding the minimum sample size vary due to the importance of sample size in order to obtain the realistic results, the present study performed power analysis using G*Power 3.1.9.2 to calculate the required sample size prior to data collection to control statistical power. Following the guidelines provided by the G*power software manual, Linear Multiple Regression: Fixed Model, R² Deviation from Zero from F-test family was selected, which mentioned statistical test is appropriate to test whether a number of predictors significantly predict an outcome variable. The effect size was selected as medium since where was no R² calculated to determine the exact effect size, power of 0.95, alpha value of .05, and 3 predictors (i.e. maximum number of

arrows that arrive to a latent variable). Hence, the minimum sample required for the present study was computed as 119 (Figure 3.1).

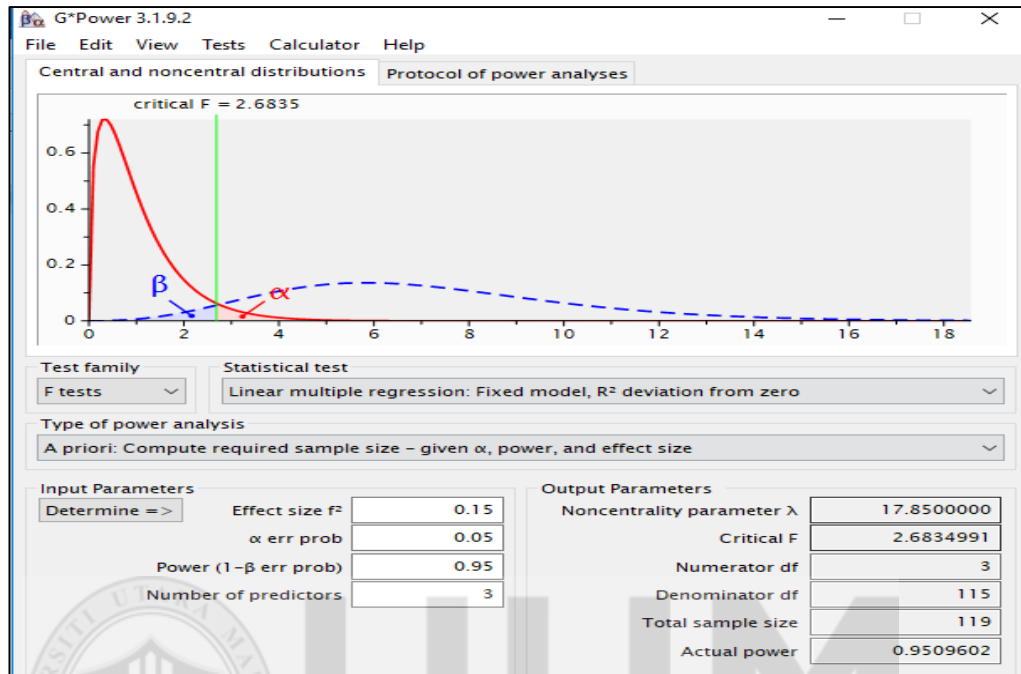


Figure 3.1 Minimum Sample Required

Furthermore, according to Krejcie and Morgan's (1970) sample size calculation, with the confidence level of 95%, the estimated number of respondents needed for this study is approximately 338 international postgraduate students. This number satisfies the proposed minimum of 200 subjects for SEM (Herzog, Boomsma & Reinecke, 2007). Furthermore, Hanson, Creswell, Clark, Petska, & Creswell (2005) demonstrated that the larger the sample, the less the probable error that the sample will differ by the population. So, greater sampling size is more precise compared to smaller sampling size and it may also decrease the sampling error. Therefore, a sample greater than approximate 338 was collected for the present study to avoid sampling error.

3.5 Instrumentation

The present study utilized survey method to collect the data (Fowler, 2013) where personally administered (self-administered) questionnaire were used in collecting the information. Sekaran and Bougie (2010) proposed that personally administered questioners are: (1) inexpensive and less time consuming for reaching a large sample size for a given budget, (2) minimizes the bias, and (3) do not require field worker training. Sekaran and Bougie (2010) revealed that self-administered questionnaires are appropriate for data collection due to their ability to achieve high response rate.

3.5.1 Demographic Information Form

The demographic information form was used to collect information about participants' background characteristics. The items related to the participants' age, gender, the level of education, semester, and nationality.

3.5.2 Acculturative Stress

The 36 items Acculturative Stress Scale for International Students (ASSIS) (Sandhu & Asrabadi, 1994) was used to measure acculturation stress. The ASSIS consists of 7 subscales: perceived discrimination (8 items, e.g., "I am treated differently because of my color"), homesickness (4 items, e.g., "I feel sad living in unfamiliar surroundings"), perceived hate/rejection (5 items, e.g. "People show hatred me through actions"), fear (4 items, e.g., "I feel insecure in this university") and stress due to change (3 items, e.g., "I feel uncomfortable to adjust to Malaysian foods"), guilt (2 items, e.g., "I feel guilty to leave my family and friends behind") and non-specific concerns (10 items, e.g., "I feel nervous to communicate in English"). The items on

the scales were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In the current study, the Cronbach's alpha for acculturation stress was (α .84).

3.5.3 Perceived Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988) is an 8-item self-report inventory assessing perceived availability of social support from friends using 4 items (e.g My friends really try to help me) and significant others (international students center, international students organization and university lecturers) using 4 items (e.g I can talk about my problems with members in international student's organization). The items on this scale were rated on a 5-point Likert scale which ranges from 1 (strongly disagree) to 5 (strongly agree), in which the higher score represents a higher perceived social support. Cronbach's alpha for the social support was (α .71).

3.5.4 Student Adjustment to the College Questionnaire

In order to measure student's adjustment, the Student Adjustment to the College Questionnaire (SACQ) (Baker & Siryk, 1989) was employed. SACQ is a 67 items self-reported questionnaire. The scale consists of three subscales measuring domains of academic, social, and psychological adjustment.

3.5.4.1 Academic adjustment

Academic adjustment subscale measures student's success at coping with the various educational demands of the college experience using 18 items (e.g., "I attend classes

regularly and I consider university degree important”). Good internal consistency was obtained for the academic adjustment (α .77)

3.5.4.2 Social adjustment

The social adjustment subscale measures interpersonal-societal demands associated with the college using 12 items (e.g., “I am involved in university social activities and I have a lot of close friends”). The Cronbach’s alpha for social adjustment was (α = .80)

3.5.4.3 Psychological adjustment

The psychological adjustment subscale measures students’ psychological feelings during college adjustment period using 9 items, (e.g., “I am not able to control emotions well and I get angry too easily”). All items are rated on a 5- point Likert scale, ranging from 1= strongly disagree to 5= strongly agree. The result of Cronbach’s alpha revealed good internal consistency (α = .85).

3.5.5 Perceived English language proficiency

English Language proficiency was measured by adopting items from Kwak (1991) 4-item measure which assesses English language proficiency in 4 areas of language; listening (e.g., “I am able to understand people when they speak with me in English”), reading (e.g., “I am able to read English text”), writing (e.g., “I am able to write about different types of topics in English”) and speaking (e.g., “I am able to express my ideas in English”). The items on this scale were rated on a 5-point Likert scale ranging from

1 (not at all) to 5 (very well), with a higher score representing high proficiency in English language. The Cronbach's alpha for the 4-item scale is .95.

3.6 Pilot Study

Before main data collection it is advised to conduct a pilot study to ensure the suitability of the language used in the questions which highlighted that the questions were easy, clearly understood and not confusing for the participants (Glasne, 2006). Pilot test is the test in which the survey questions were distributed to a small number of respondents with similar characteristics to the real sample participants prior to the real data collection (De Vaus, 1993: 54; Polit, Beck & Hungler, 2001). Any question which was vague and caused confusion could be identified and appropriate action could be taken. The number of representative and adequate sample size for pilot study is at least 30 as suggested by previous researcher (Dahlberg and McCaig, 2010). For this research, the pilot test involved 300 international students from UUM. The main purpose of the pilot test was to determine the reliability and validity of the adapted questionnaire. This test enabled the researcher to determine whether the items in the questionnaires distributed were acceptable or not. Other than that, pilot test also enabled the researcher to test the level of respondent's understanding of the questions.

Furthermore, the pilot test was done to evaluate the question design to ensure that the questions were relevant with the study performed. The appropriateness of the terms used and the arrangement of items in the questionnaire could also be determined by using pilot test (Piaw, 2006). The pilot test was also used by the researcher to determine how data should be analyzed.

3.7 Main Data Collection Procedure

Zikmund et al., (2003) described primary data as the data that assembled for the research purpose of the existing situation whereby the events are happening. There are several methods to gather the primary data. One of the methods is a questionnaire that is broadly used by most researchers as it helps to collect the data. Therefore, in the current study, the researcher selects the self-administrated questionnaire as a method to collect the primary data as it can increase the reliability and simplicity information for this study. Data gathering started with obtaining official permission from five public universities that are Universiti Utara Malaysia (UUM), Universiti Malaysia Perlis (UniMAP), Universiti Malaysia Terengganu (UMT), Universiti Teknikal Malaysia Melaka (UTeM) and Universiti Tun Hussein Onn Malaysia (UTHM). The administration was inquired about the total number of international postgraduate students enrolled in these universities. A copy of content letter (which stated that their participation is completely voluntary, and their responses would be kept anonymous) together with the purpose and objectives of the study was attached. The researcher provided the participants of the study with all the available information about the study in order to explain the purpose of the study (debriefing), in this way a participant can make a decision regarding whether to participate in the study or not (informed consent) (Gravetter & Wallnau, 2016)

The respondents participated in this study at their own will (coercion) their response was free from any influence. The participants of the study were ensured that their personal information such as nationality and university would be kept confidential and

the data was entered anonymously in order to keep the confidentiality of the research participants (confidentiality).

After getting their consent demographic form and scales were given to the participants. Respondent then required to fill up the questionnaire. Each respondent spent about 15 to 20 minutes to complete the questionnaire. After getting the questionnaires the researcher paid thanks to the participants for sharing their views and giving their precious time

3.8 Data Analysis Method

Coorley (1978) defined the goal of “the statistical techniques are to assist in establishing the plausibility of the theoretical model and to estimate the extent to which various explanatory factors seem to be influencing the dependent variable” (p.13). After completing the data collection process, the next part was data analysis. The objective of this research study was to examine the mediating role of acculturation stress and social support on the relationship between ELP and adjustment (AA, SA, and PA). To achieve these objectives, the present study utilized two statistical software tools which are Statistical Package for Social Sciences (SPSS) and Analysis Moment of Structures Software (AMOS). SPSS was used for analysing preliminary data, whereas, AMOS was used for testing the proposed hypothesised model explained in chapter one.

3.9 Pilot Study Data Analysis

Statistical Package for Social Sciences (SPSS), software version 23.0 which is widely accepted and used by researchers in different disciplines including social sciences, business studies, and information systems research (Zikmund, 2003; Field, 2005; Tabachnick & Fidell, 2018) was used to analyse the quantitative data as it allows many different types of analyses, data transformations, and form of output (Levesque, 2005).

SPSS has been used in this study for a number of purposes. First, coding, editing, and checking missing data. Second, analyzing frequencies, mean and standard deviations for this thesis constructs. Third, checking the assumptions of normality, linearity, multicollinearity, and outliers. In doing so, this thesis used the following tests; skewness-kurtosis, bivariate correlation matrix, a Scatter/Dot matrix, box and whisker and normal probability plot, and univariate and multivariate outliers. The next section presents these details.

Data was collected from all the schools of the selected university to obtain a sufficiently large and diverse international student sample. International students who were selected as a participant were required to take language courses based on the university rule for students with English as a Foreign language. The inclusion criteria to be a participant in the present study were those students (1) of a foreign nationality, (2) came to Malaysia to obtain Postgraduate degree and (3) English is a foreign language.

The participants of the pilot study were forty nine percent (n= 127) identified as master students whereas fifty one percent (n= 123) were PhD fellows. Participants ranged in age from 20 to 52 years (M= 29.73, SD= 7.28) as shown in table 3.3. Twenty seven percent (n= 67) were women, and seventy three percent (n=183) were men.

Table 3.3

Response rate according to gender and level of education

Gender		Level of education		Total
Male	Female	Masters	PhD	
183	67	127	123	250

In this pilot study, the reliability of the construct that were used in the questionnaire were assessed using the internal consistency test Cronbach's alpha. This is a test of the consistency of the respondent's answers to all the items in the measure. Cronbach's alpha estimate value above 0.70 is considered as acceptable (Nunally, 1978). According to Sekaran & Bougie (2016), if the value of Cronbach's alpha reliabilities is less than 0.6, they are considered as poor, if the value is in 0.7, they are acceptable, and the reliabilities value above 0.8 are considered good. Therefore, the closer the Cronbach's alpha gets to 1.0 the better is the reliability. Table 3.4 presents the Cronbach's alpha coefficients for all constructs obtained in the pilot study.

Table 3.4.

The Cronbach's alpha coefficients for all constructs in pilot study

Scale	Items	Mean	SD	Cronbach's alpha
Language proficiency	4	3.70	.81	.96
Social support	8	3.99	.49	.84
ASSIS	28	2.84	.76	.95
SACQ	39	3.56	.39	.91

3.10 Main Study Data Analysis

3.10.1 Response Rate

In the present study 750 questionnaires were distributed to five universities in Malaysia out of which 700 were returned. However, among those returned questionnaire, 12 responses were discarded as three of them were completely blank, four respondents had put the same answers on all the Likert scale items and five questionnaires were partially blank answered (i.e. some questions and some parts of demographic questions were left blank). There remaining 688 were used for further data analysis which represented a response rate of 91.7%.

3.10.2 Demographic Characteristics of Participants

The demographics characteristics of the current study respondents are presented in table 3.5 below.

Table 3.5

The demographic characteristics of the current study

Variable	Category	Frequency	Percentage (%)
Gender	Male	450	65
	Female	230	33
	Total	680	98
Education	PhD	291	42
	Masters	390	57
	Total	681	99
Semester	First	195	28.3
	Second	205	29.8
	Third	100	14.5
	Fourth	82	11.9
	Fifth	45	6.5
	Sixth	33	4.8
	Seventh	16	2.3
	Eighth	6	.9
	Ninth	2	.3
	Tenth	1	.1
	Total	685	99.4
Nationality	Algerian	42	6.3
	Chadian	8	1.2
	Chinese	102	14.8

Egyptian	10	1.5
Emirati	4	0.6
Iraqian	68	9.9
Jordanian	106	15.4
Libyan	120	17.4
Palestinian	2	0.3
Saudi	5	0.7
Somalian	63	9.2
Sudanese	27	3.9
Yemenian	125	18.2
Total	683	99.27

Gender

The results of the demographic characteristics of the respondents have revealed that majority of the population were male (67%) as compared to female which were 33%.

Education

Most of the participants in the survey reported the level of education as Masters (57%) as compare to PhD (43%).

Semester

Results of the table 4.3 revealed that majority i.e. 29% of the students were in their second semester of postgraduate studies and the second highest number was third semester (28%) and the lowest number of participants were in tenth semester of their postgraduate studies.

Nationality

Results of the nationality have highlighted that highest number of postgraduate students belong to Yemen and Libya however, the statistics have shown the least number of students were from Palestine.

3.11 Preliminary Data Analysis

To make sure that all the data was entered correctly Statistical Package for Social Sciences (SPSS), version 23.0, was used to screen the data of this research study by following Tabachnick and Fidell (2018) suggestion, which involves 1) checking for accuracy of data input; 2) missing values; 3) assessing normality and outliers; and 4) assumptions testing for multivariate analysis. Each one of these techniques are explained and discussed in the following sections. In addition, SPSS was also applied to perform descriptive statistics such as frequencies, percentages, mean values, and standard deviations. Data was screened to improve the statistical methods in the data analysis.

3.11.1 Accuracy of Data Input

To ensure completeness and consistency of the data, after collecting the data, data editing took place (Tabachnick & Fidell, 2018). In the coding process, this research assigns a number to each questionnaire answered in an SPSS file. After data coding, the present study conducts data accuracy process to make sure that the coding process was done properly. Furthermore, in case of any out of range value, this research double checks the value by going back to the original questionnaire.

The present study also checked for any possible errors by looking for values that fall outside the range of possible values for a variable. For example, if gender of participant was coded as 1=male, 2=female, the researcher made sure that there are not scores other than 1 or 2 for this variable as the scores that fall outside the possible range can distort the statistical analyses (Pallant, 2013). Therefore, to check for errors in data input, the researcher inspected the amount of missing data by descriptive statistic such as frequency distribution for each of the variables. This includes all the individual items that make up the scales. There was no out of range value.

3.11.2 Missing Data

Missing data is a very common problem in all type of survey research because it usually involves a large number of samples (Bryman & Cramer, 2005). Hair et al., (2014) note that missing data causes two main problems: (a) it minimizes the ability of statistical test to imply a relationship in the data set, and (b) it creates biased parameter estimates. The potential effects of missing data depend on the frequency of occurrence, the pattern of missing observations, and the reasons for the missing value (Tabachnick & Fidell, 2018). Hair et al., (2014) point out that if the pattern of missing data is systematic (i.e. non-ignorable or is not missing at random), any technique used to treat this missing data could possibly generate biased results whereas, if the missing data is scattered in a random fashion with no distinct pattern (i.e. missing completely at random = MCAR), any remedy to treat this problem is assumed to yield acceptable results.

Although there are no clear set guidelines regarding what constitutes a large amount of missing data; Kline (2015, p. 75) suggested that missing values should probably constitute less than 10% of the total data. According to Cohen and Cohen (1983), 5% or even 10% of missing data on a particular variable is not large. Olinsky, Chen, & Harlow (2003) point out that if the percentage of cases with missing observations is less than approximately 5%, and the pattern is ignorable, most simple analyses should yield reliable results.

This study followed steps suggested by Byrne (2001) for dealing with incomplete (missing) data, which were: (1) Investigation of the total amount of missing data, (2) Investigation of the pattern of missing data, (3) and finding out appropriate techniques to deal with missing data.

3.11.2.1 The amount of missing data

The amount of missing data was found using descriptive statistic such as frequency distribution.

Table 3.6

The amount of missing data

Variable	Items	Missing values		Valid N
		Count	%	
Language proficiency	LP1	0	0.0	688
	LP2	0	0	688
	LP3	0	0	688

	LP4	0	0	688
Social support	SS 1	0	0	688
	SS 2	0	0	688
	SS 3	0	0	688
	SS 4	0	0	688
	SS 5	0	0	688
	SS 6	0	0	688
	SS 7	0	0	688
	SS 8	0	0	688
Acculturation stress	ASSIS 1	0	0	688
	ASSIS 2	0	0	688
	ASSIS 3	0	0	688
	ASSIS 4	1	0.1	687
	ASSIS 5	0	0	688
	ASSIS 6	0	0	688
	ASSIS 7	2	0.3	686
	ASSIS 8	0	0	688
	ASSIS 9	0	0	688
	ASSIS 10	0	0	688
	ASSIS 11	0	0	688
	ASSIS 12	0	0	688
	ASSIS 13	0	0	688
	ASSIS 14	0	0	688

	ASSIS 15	1	0.1	687
	ASSIS 16	0	0	688
	ASSIS 17	0	0	688
	ASSIS 18	0	0	688
	ASSIS 19	0	0	688
	ASSIS 20	0	0	688
	ASSIS 21	4	0.6	684
	ASSIS 22	0	0	688
	ASSIS 23	0	0	688
	ASSIS 24	0	0	688
	ASSIS 25	0	0	688
	ASSIS 26	0	0	688
	ASSIS 27	0	0	688
	ASSIS 28	0	0	688
Academic adjustment	AA 1	0	0	688
	AA 2	0	0	688
	AA 3	0	0	688
	AA 4	0	0	688
	AA 5	0	0	688
	AA 6	0	0	688
	AA 7	5	0.7	683
	AA 8	0	0	688
	AA 9	0	0	688



UUM
Universiti Utara Malaysia

	AA 10	0	0	688
	AA 11	0	0	688
	AA 12	0	0	688
	AA 13	0	0	688
	AA 14	0	0	688
	AA 15	0	0	688
	AA 16	0	0	688
	AA 17	0	0	688
	AA 18	0	0	688
	AA 19	0	0	688
	AA 20	0	0	688
	AA 21	0	0	688
	AA 22	0	0	688
	AA 23	0	0	688
Social adjustment	SA 1	0	0	688
	SA 2	0	0	688
	SA 3	0	0	688
	SA 4	3	0.4	685
	SA 5	0	0	688
	SA 6	0	0	688
	SA 7	0	0	688
	SA 8	0	0	688
	SA 9	0	0	688



UUM
Universiti Utara Malaysia

	SA 10	0	0	688
	SA 11	0	0	688
	SA 12	1	0.1	687
	SA 13	0	0	688
	SA 14	0	0	688
	SA 15	0	0	688
	SA 16	0	0	688
	SA 17	0	0	688
	SA 18	0	0	688
Psychological adjustment	PA 1	0	0	688
	PA 2	0	0	688
	PA 3	0	0	688
	PA 4	1	0.1	687
	PA 5	0	0	688
	PA 6	0	0	688
	PA 7	0	0	688
	PA 8	0	0	688
	PA 9	0	0	688
	PA 10	0	0	688
	PA 11	0	0	688
	PA 12	1	0.1	687
	PA 13	0	0	688

PA 14	0	0	688
PA 15	0	0	688

3.11.2.2 Investigation of the Pattern of Missing Data

The pattern of missing data can be examined through MVA (Missing Values Analysis) by Roderick J.A. Little's (1988) chi-square statistics which is designed to highlight the patterns of missing data by EM estimation analysis. However, the test is only performed if the variables have at least 5 % of missing data (Tabachnick & Fidell, 2018). As the amount of missing data in the present study was very low therefore, the test was not performed.

3.11.2.3 Dealing with Missing Data

There are many ways to deal with missing data as suggested by (Hair et al., 2010) as shown in the table below. As the presence of missing data was very less therefore, the most appropriate method to deal with this small size missing data was Mean substitution as the mean for the distribution as a whole does not change (Tabachnick & Fidell, 2018). Mean substitution is a popular method where means are calculated from the available data and are used to replace the missing values prior to the main analysis. Hence, the researcher used the mean values in the place of missing data.

Table 3.7

Procedure to deal with missing data

Missing Data	Procedures
≤10%	Ignore
20% to 30%	Replacing missing values with mean or median by SPSS
≥ 50%	Delete

3.11.3 Outliers

Kline (2015) and Hair et al. (2014) described outliers as cases with scores that are distinctively different from rest of the observations in a dataset. As it contains an extreme responses (Byrne, 2016; Ullman & Bentler, 2012) which is a distant value from the rest of the data (Coolican, 2017) causing an unreliable result (Veradi & Crux, 2008).

Identifying outliers is important as they can influence the results such as model fit estimates and parameter estimates (Wichmann & Hill, 2001) and negative variance (Kolenikov & Bollen, 2012). There are two types of outliers i.e. univariate and multivariate outliers. Univariate outlier is the case where an extreme value is on one variable (a univariate outlier) however, a multivariate outlier is a case that has an extreme value on two or more variables (multivariate outlier) (Tabachnick and Fidell, 2018; Kline 2015). The commonly accepted rule of thumb is a scores that is more than three standard deviation away from the mean (Kline, 2015). The univariate outlier can be detected easily by converting all of the scores for a variable to standard scores (Z-score). The standard score of ± 2.5 or beyond is considered as an outlier if the sample

size is small (80 or fewer cases). However, for the larger sample size (80 or more case), a case is an outlier if its standard score is ± 3.0 or beyond (Kline, 2015; Coolican, 2017). In the current study the sample is 688 therefore; standard score of ± 2.5 or beyond is used as a criterion for detecting an outlier. The obtained score on each variable were converted to Z-score. The results revealed that none of the case should be excluded as all the standard values were less than ± 2.5 .

The multivariate outliers were checked by determining the Mahalanobis distance (D2), which is a measure of distance in observation compared with the mean of all observations in standard deviation units (Byrne 2001; Kline, 2015; Hair et al., 2014). Large number of D2 identifies that the case has an extreme value on one or more variables. A statistical significance test such as $p < 0.001$ is recommended to be used with D2 measure (Kline 2015; Hair et al., 2014). Any case with value greater than the upper value of chi-square distribution with 32 degrees of freedom (following the number of measured variables), $\chi^2 (32, 0.001) = 62.49$, was considered as a multivariate outlier (Tabachnick & Fidell, 2018). Mahalanobis distance was measured using SPSS 23 the results of which highlighted that there were twenty nine (29) cases of were detected as outlier which were deleted. Thus, Mahalanobis distance analysis confirmed that present data was normally distributed (Hair et al., 2014).

3.11.4 Multivariate Assumption Testing

3.11.4.1 Normality

Normality is defined as the "shape of the data distribution or an individual metric variable and its correspondence to the normal distribution, which is the benchmark for statistical methods" (Hair et al., 2014; p. 79). Violation of normality can affect the estimation process or the interpretation of results especially in SEM analysis. For instance, it may increase the chi-square value and may possibly cause underestimation of fit indices and standard errors of parameter estimates (Hair et al., 2006).

Normality can be diagnosed through two multivariate indexes i.e. skewness and kurtosis. The skewness represents the symmetry of distribution whereas the kurtosis refers to the measure to the peakedness or flatness of the distribution. In normal distribution, the scores of skewness and kurtosis are zero (Pallant, 2011). Hair et al (2014) point out that skewness scores outside the -1 to +1 range demonstrate substantially skewed distribution. However, West et al. (1995) and Kline (2015) suggested that values of the skew index greater than three (3.0) are indicated as extremely skewed and score of the kurtosis index from about 8.0 to over 20.0 described as extreme kurtosis. However, according to Tabachnick and Fidell (2018), skewness and kurtosis must not be more than + or – 2 standard deviations from the mean; scores above + or -2 must be eliminated. In this study, the researcher set the maximum acceptable limit of observation values up to ± 2 for the skewness and kurtosis.

Table 3.8

Skewness and kurtosis

Variable	N	Mean	SD	Skewness		Kurtosis	
Language proficiency	659	3.22	1.18	-.107	.095	-.345	.190
Acculturation stress	659	4.06	.36	.182	.095	-.215	.190
Social support	659	3.01	.73	-.165	.095	-.481	.190
Academic adjustment	659	3.67	.36	-.051	.095	-.324	.190
Social adjustment	659	3.68	.49	.184	.095	-.337	.190
Psychological adjustment	659	3.50	.66	-.087	.095	-.368	.190

The values for the Skewness and Kurtosis were lower than then ± 2 for both statistics which confirmed that there was no issue of non-normality of the data. Moreover, normality can be checked through graphical methods (Hair et al. 2014; Tabachnick & Fidell, 2018). Graphical methods are easy to interpret whilst numerical methods provide objective ways of determining normality.

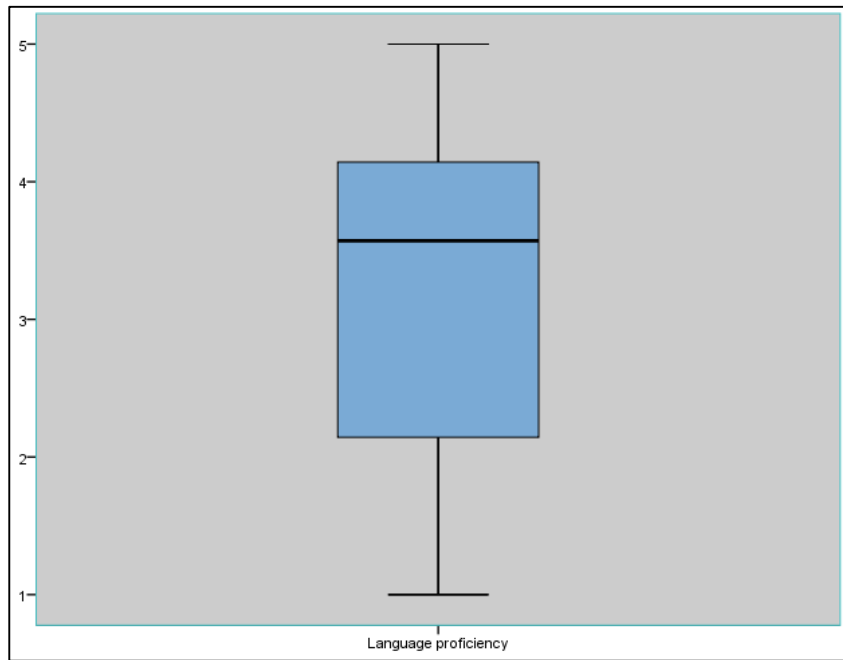


Figure 3.1. Box plot of language proficiency

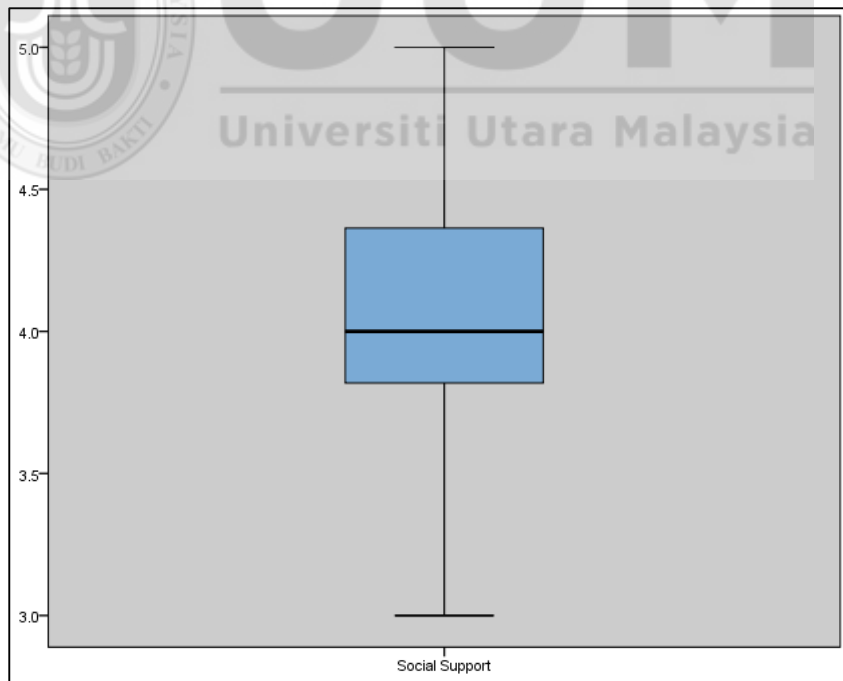


Figure 3.2. Box plot of social support

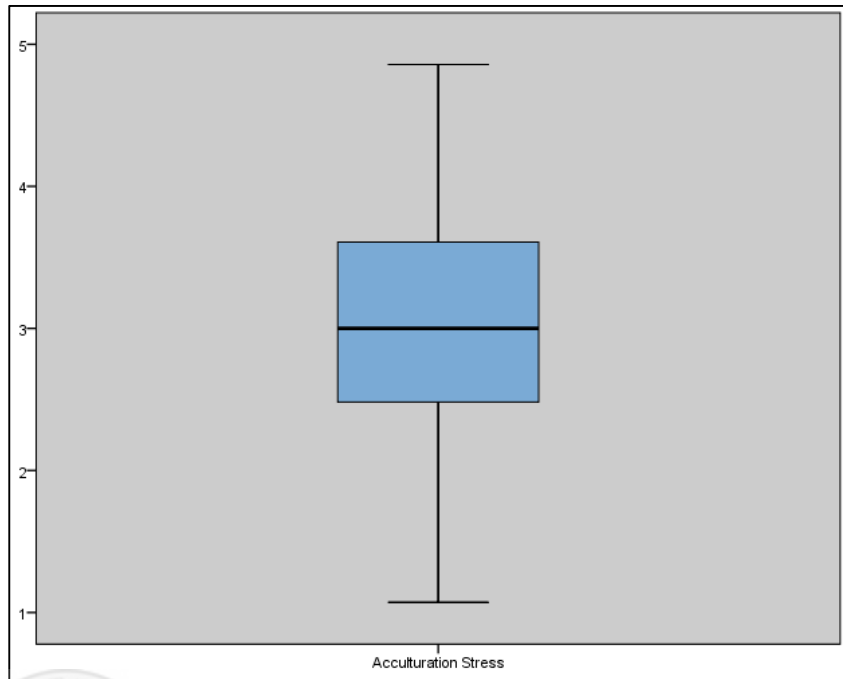


Figure 3.3. Box plot of acculturation stress

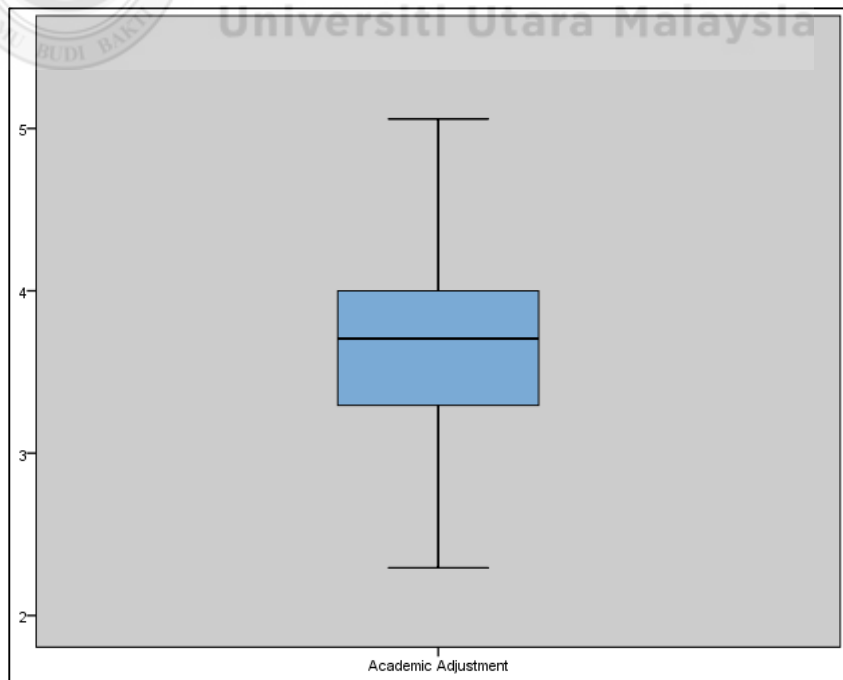


Figure 3.4. Box plot of academic adjustment

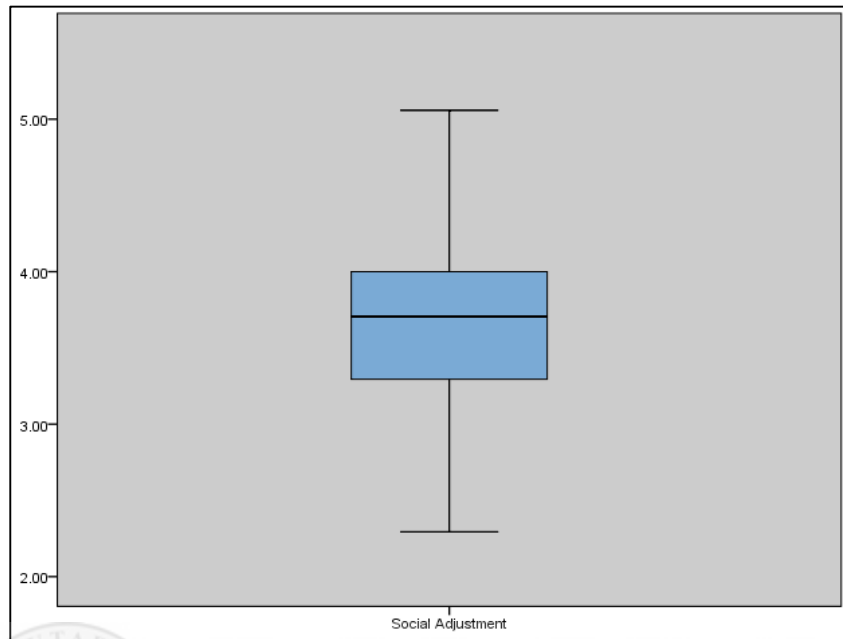


Figure 3.5. Box plot of social adjustment

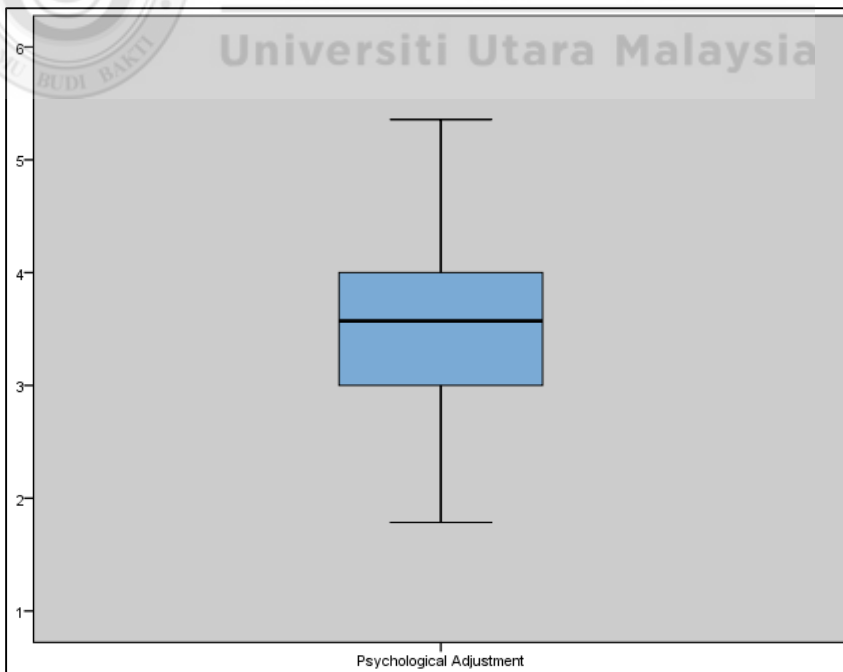


Figure 3.6. Box plot of psychological adjustment

3.11.4.2 Linearity

Linearity means the amount of change between the scores of two variables. The assumption of linearity is that there is a straight-line relationship between two variables. Linearity is important because Pearson's r only captures the linear relationships among variables. Nonlinearity can be diagnosed from bivariate scatterplots between pairs of variables. Linearity between two variables is assessed roughly by inspection of bivariate scatterplots. If both variables are normally distributed and linearly related, the scatterplot is oval-shaped. If one of the variables is not normal, then the scatterplot between this variable and the other is not oval.

Linearity is checked to detect the strength of a relationship using scattered diagram (Gravetter & Wallnau, 2016). The test of linearity was made via scatterplot of residuals against predicted values of each independent variable on dependent variable. Then, normal P-P plot of regression standardized residual plot was also assessed. In addition, normal probability plot of regression standardized residuals for dependent variable also showed that normal distribution was met. The Figure of normal P-P plot is illustrated in Figure 3.7, 3.8, and 3.9

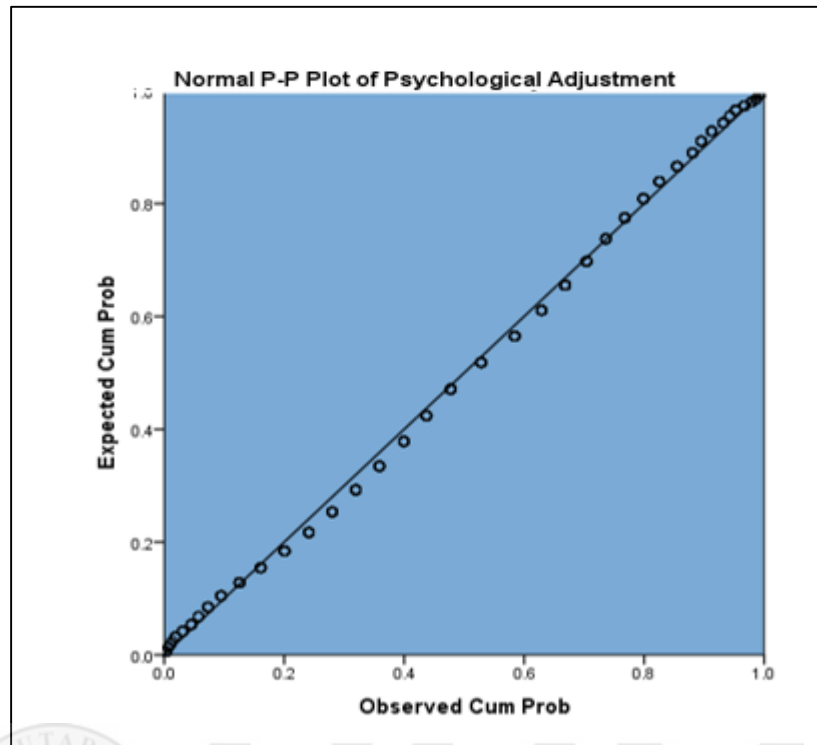


Figure 3.7. Normal probability plot of regression standardized residual of psychological adjustment

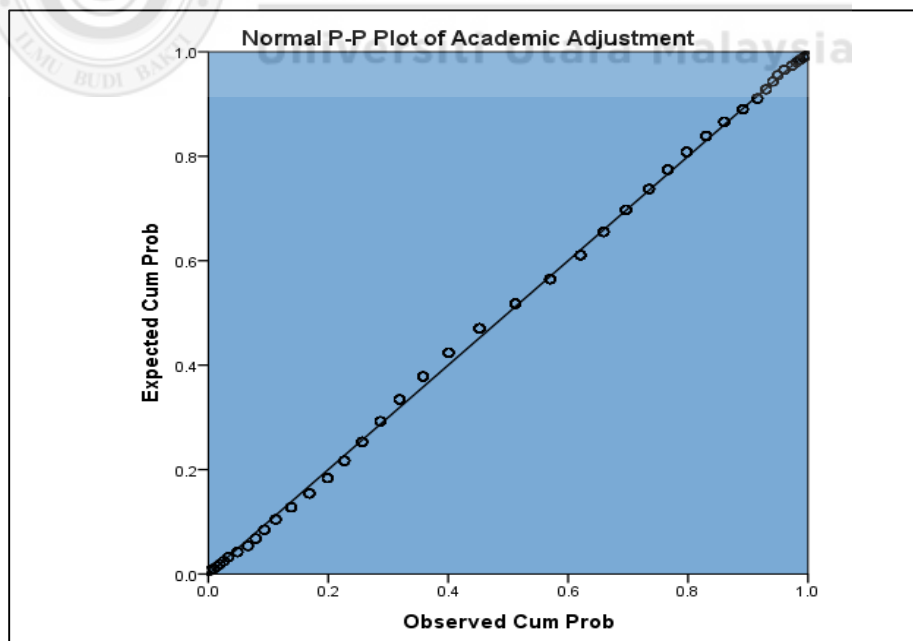


Figure 3.8. Normal probability plot of regression standardized residual of academic adjustment

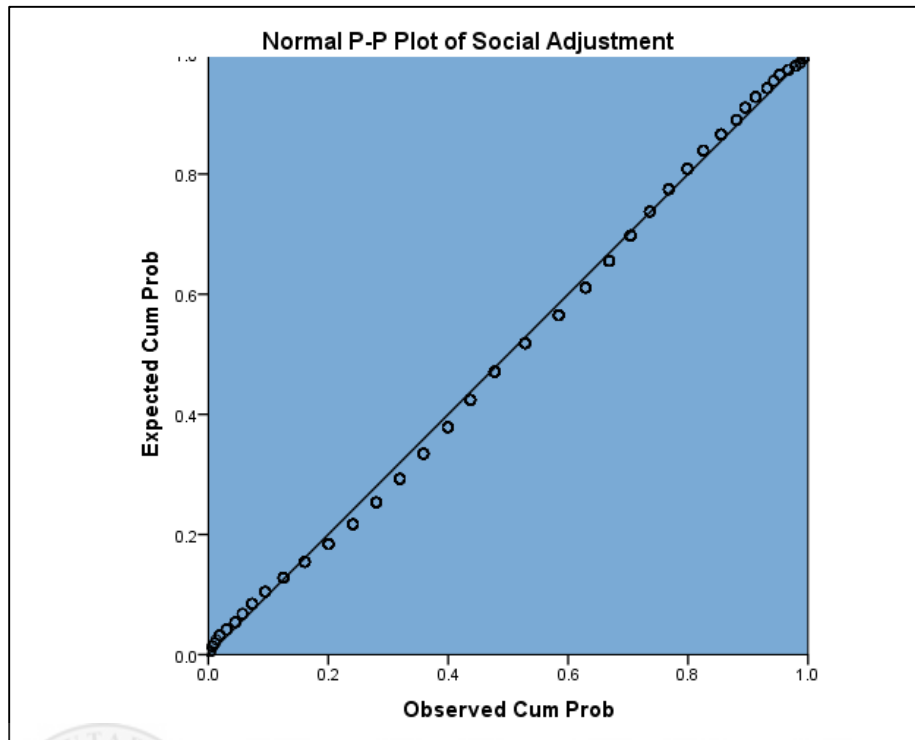


Figure 3.9. Normal probability plot of regression standardized residual of social adjustment

3.11.4.3 Multicollinearity

Prior to testing hypothesized model it is highly recommended to test multicollinearity in independent variables (Hair et al., 2014). Multicollinearity arises when variables are very highly correlated (say, .90 and above). When variables are multicollinear, they contain redundant information and they are not all needed in the same analysis (Tabachnick & Fidell, 2018). The independent variables are not expected to be linearly correlated in structural equation modelling (SEM), as the greater the linear multicollinearity exists, the more difficult the explanation becomes among the relationships. Multicollinearity can be found by looking at the tolerance value and variance influence factor (VIF).

Hair et al (2014) defines the tolerance value as to the amount of variability of selected independent variable not explained by the other independent variables whilst variance influence factor (VIF) is tolerance's inverse. The cut-off points for tolerance value and variance influence factor (VIF) are <0.10 and >10 respectively; advocates multicollinearity exists (Hair et al., 2014).

Table 3.9

Result for test of multicollinearity

Variables	Collinearity Statistics	
	Tolerance	VIF
Language proficiency	.31	1.03
Acculturation stress	.44	1.02
Social support	.32	1.01

Based on the results of the multicollinearity test, the exogenous variable VIF values were below 10 and the tolerance values were above .10 as illustrated in Table 3.9. Based on this, the results signified that there were not multicollinearity problems in the data (Hair et al., 2014).

3.12 Construct Reliability

Cavana, Delahaye, & Sekaran (2001) and Hair et al., (2010) signified the importance of reliability test as it reflects the stability and consistency of a measure in measuring a concept and it provides error-free measurement which is consistent across time and with items in the instrument.

Most researchers agreed on the necessity of performing reliability analysis simultaneously with validity analysis (Cavana et al, 2001; Hair et al, 2014; Gliem & Gliem, 2003). Gliem and Gliem (2003) verified the importance of measuring and reporting internal reliability (Cronbach's alpha coefficient) for any scales in any research especially when utilizing Likert-type formatted scales. Otherwise, it would deliver flawed statistical outcome.

Most common and widely accepted internal consistency reliability was Cronbach's alpha (Cavana et al., 2001). In consistent with the aforementioned statements, all construct variables for this present study were tested on their internal consistency to indicate that individual items of the scale measured the same construct and therefore would be highly correlated (Churchill, 1979; Nunnally, 1978).

Reliability is the extent to which our measures are consistent and free from the errors (Zikmund, 2003). Sekaran (2003) defines the reliability as a measure that indicates the extent to which the measure is without bias and henceforward offers consistent measurement across time and across the various items in the instrument. Besides that, Cavana et al., (2001) pointed that, the reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to access the "goodness" of a measure. The reliability test will be conducted to improve the level of reliability of instrument survey. Coefficient alpha is calculated to measure the reliability of a survey based on internal consistency. If the alpha coefficient is low, it indicates that the test is done too short or the items are very little in common.

Reliability is a method that tests stability and consistency of measuring instruments (Sekaran & Bougie, 2011). The reliability of a scale refers to the degree to which the test is free of random errors and causes the degree of correlation found among two scales (Pallant, 2013). Internal consistency must be measured while testing the reliability of scale (Pallant, 2013). Internal consistency refers to the extent to which all the items of the scale measure the same underlying attributes, which can be performed by computing Cronbach's alpha (Pallant, 2013). Cronbach's alpha is used to assess the internal consistency reliability of pilot test data (Cronbach, 1984).

Moreover, the average correlation indication between the items of scale is provided by Cronbach's coefficient alpha and ranges from 0 to 1 (Pallant, 2011). When correlation among the respective items of the questionnaire is high, Cronbach's alpha is expected to be high as well. Hair et al (2006) summarized that if the value of alpha coefficient is below than 0.6 than it represent that the strength of the association among the instrument is poor, if this value is between 0.6 to 0.7 than it shows moderate strength of association while if the value of alpha coefficient range from 0.7 to 0.8, it represents a good strength of association and a very good association is shown if the alpha coefficient value ranges 0.8 to 0.9, like 0.9 shows the excellent strength of association among the instrument. The internal consistency of variables is illustrated in Table 3.10.

Table 3.10

Internal consistency of variables

Items	Number of items	SD	Cronbach's alpha
Language proficiency	4	4.60	.92
Social support	11	4.02	.72
ASSIS	28	20.56	.94
SACQ	56	18.38	.85

The results also revealed that construct's reliability for all constructs indicated high internal consistency and adequate reliability of the construct. Besides, all other estimation values were above the recommended cut off point indicating strong reliability and high internal consistency in measuring (Hair et al., 2014).

3.13 Ethical Consideration

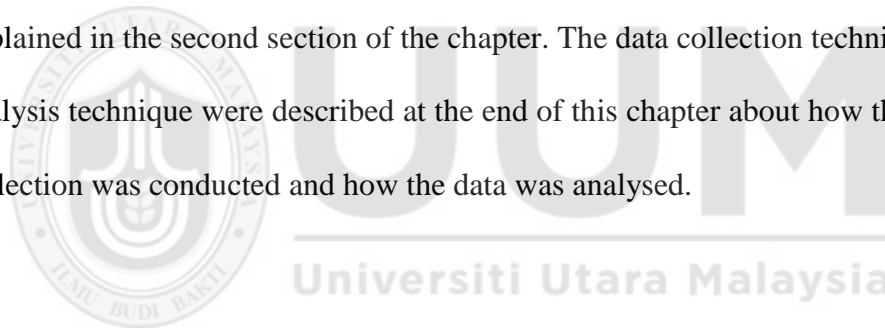
In the research, privacy involves issues regarding the usage of the information received from the participants (Denier and Crandall, 1978) while confidentiality involves the issue of safeguarding the identity of the participants (Cohen, Manion, & Morrison, 2000). For addressing the issue of confidentiality, Kvale (1996) suggested that data that identify participants should be excluded.

In conformity with the ethics requirements, a covering letter was attached with the questionnaire stating the purpose of the study. The names and the address of the researcher, and his university were included in the covering letter to increase respondent's confidence and to ensure respondents to know with whom they were

dealing (Cooper & Schindler, 2001). The respondent's information was kept confidential and they were not described in any way that allows them to be identified. To maintain the confidentiality and privacy of the respondents, only aggregate results were used in reporting results of this study. Participant's personal information has not been identified in any of the study findings.

3.14 Summary

This chapter is overall explaining about how the study was conducted. As the research design is shown at the beginning of the chapter to help the reader know about what types of research design in the study. The population and the sample size were explained in the second section of the chapter. The data collection technique and data analysis technique were described at the end of this chapter about how the study data collection was conducted and how the data was analysed.



CHAPTER FOUR

FINDINGS

4.1 Introduction

This chapter presents the findings of the current study to answer the research questions that were postulated in Chapter 1. The findings of this study are presented in two main sections primary analysis and hypothesis testing.

4.2 Primary Analysis

4.2.1 Factor Analysis

Factor analysis (FA) is a statistical technique applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another. Variables that are correlated with one another but largely independent of other subsets of variables are combined into factors. Factors are thought to reflect underlying processes that have created the correlations among variables (Tabachnick & Fidell, 2018).

FA techniques are used to address the problem of analysing the structure of the correlations among many variables by defining a large set of common underlying dimensions, known as factors. FA takes a large set of variables and summarises or reduces them using a smaller set of variables or components (factors) (Hair et al., 2006).

The main purpose of the FA therefore includes: (a) understanding the structure of a set of variables, (b) constructing a questionnaire to measure any underlying variables, and (c) reducing a data set to a more manageable level (Field, 2006, p.619). Therefore, at first, the researcher identifies dimensions of the structure of the data and then determines the degree to which a test item (variable) is explained by each factor. This is then followed by the primary uses of FA: summarisation and data reduction (Hair et al., 1995). This purpose can be achieved by either exploratory factor analysis or confirmatory factor analysis techniques. However, the exploratory factor analysis technique is used for “take what the data give you”; whereas the confirmatory factor analysis technique involves combining variables together on a factor or the precise set of factors for testing hypotheses (Hair et al., 2006, p.105).

In this research study, the researcher first conducted exploratory factor analysis (EFA) to examine the dimensions of each construct and then confirmatory factor analysis (CFA) was performed for testing and confirming relationships between the observed variables under each hypothesised construct (Zikmund, 2003; Hair et al., 2006).

4.2.1.1 Exploratory Factor Analysis

Parasuraman (1991) defined exploratory factor analysis (EFA) as “a multivariate statistical technique that analyses data on a relatively large set of variables and produces a smaller set of factors, which are liner combinations of the original variables, so that the set of factors captures much information as possible from the data set” (p.757). The EFA has been widely used to select items from a large pool and

group them in a more manageable form as well as to examine the relationships among the variables without priori hypotheses (Hair et al., 2006).

There are two main steps in the EFA: Extraction and Rotation. The process of extraction aims to determine the factors underlying a number of variables (Miller, Acton, Fullerton, & Maltby, 2002). There are various extraction methods available however, the principal component analysis is most commonly used method. The reason for its popularity lies in its reliable assessment of variables without any errors (Luck & Rubin, 1987). The second step of EFA is the rotation, which is applied to present the pattern of loadings in a manner that is easier to interpret. Tabachnick and Fidell (2013) noted two main approaches to rotation, which include orthogonal and oblique rotation methods. The orthogonal rotations assume that extracted factors are independent (uncorrelated) while the oblique rotations assume that the extracted factors are correlated (Tabachnick & Fidell, 2013; Miller et al., 2002; Bryman & Cramer, 2005).

In this research study, the researcher employed the principal components analysis (PCA) and orthogonal model with varimax rotation to perform factor analysis. The reason for using the orthogonal rotation was that the results generated from it have a higher generalisability and replicability power compared with oblique rotation, as well as interpretation of orthogonal rotation factors is less complicated because factors are uncorrelated with each other (Tabachnick & Fidell, 2018).

4.2.1.1.1 Factor Analysis for Language Proficiency

Factor analysis for Language Proficiency scale was run and the Item with absolute loading values of .30 and above (Nunnally, 1978) were considered as significantly contributing towards explaining each language construct. Table 4.1 shows items loadings, Kaiser Meyer Olkin (KMO) value, Bartlett's Test of Sphericity, Eigen values, total variance explained.

Table 4.1

Exploratory Factor Analysis for language proficiency

Items	Factor loadings	Total Eigenvalues
LP1	.88	3.20
LP2	.88	.34
LP3	.90	.25
LP4	.92	.20
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.84	
Bartlett's Test of Sphericity	1987.48	
Df	6	
Total % variance explained	81.00	

Extraction Method: Principal Component Analysis.

*p<.05; Only loadings >.30 were displayed

The assumption for KMO is that the value should be greater than .70 and it is inadequate if the value is less than .50. This test tells one whether or not enough items are predicted by each factor. Bartlett's Test of Sphericity should be significant (less than .05) which means that the variables are correlated highly enough to provide a reasonable basis for factor analysis (Leech, Barrett, & Morgan, 2013). The result of

KMO and Bartlett's Test of Sphericity are presented for language proficiency scale in Table 4.6, which shows that the value of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was .84 and the Bartlett's test of sphericity was ($p < .001$), which revealed the appropriateness of sample data for conducting factor analysis.

Kaiser's criterion of Eigen values greater than one was applied for factors' extraction. When the eigenvalue is less than 1.0, this means that the factor explains less information than a single item would have explained (Leech et al., 2013). Table 4.6 presents results of factors' extraction based on the eigenvalues greater than 1 criterion. The first factor explained 3.20 % of the total variance and other three factors explained the remaining variance in the model.

The component matrix (Table 4.1) presents loadings of each measured item on single factors identified in the EFA model. The loading matrix shows that the measured items have high loadings on their hypothesised constructs and rotated factor matrix cannot be extracted as the items are loaded on single factor.

4.2.1.1.2 Factor Analysis for Social Support

Factor analysis was run on 8-items the results of which are presented in the table 4.2 below:

Table 4.2.

Exploratory Factor Analysis for social support

Items	Factor loadings	
	Factor 1	Factor 2
SS1	0.87	
SS2	0.86	
SS3	0.84	
SS4	0.80	
SS5		0.72
SS6		0.86
SS7		0.88
SS8		0.87
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.76	
Bartlett's Test of Sphericity	621.34	
df	21	
Total % variance explained	65.62	

Extraction Method: Principal Component Analysis.

The result of table 4.2 presents the factor analysis of social support. KMO and Bartlett's Test of Sphericity are presented in Table 4.10, which shows that the value of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was .76 and the Bartlett's test of sphericity was ($p < .001$), which revealed the appropriateness of sample data for conducting factor analysis and a non-identity matrix, respectively (Hair et al., 2006).

4.2.1.1.3 Factor Analysis for Acculturation Stress

Factor analysis was run, and the items were forced to load on six factors based on theoretical assumptions. Indeed, they all loaded on the six factors accordingly with absolute values ranging from the lowest value of .47 to highest value of .78 as shown in table 4.3 below:

Table 4.3

Exploratory Factor Analysis for acculturation stress

Items	Factor loadings					
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
ASSIS7	0.75					
ASSIS9	0.72					
ASSIS5	0.70					
ASSIS8	0.67					
ASSIS6	0.67					
ASSIS4	0.66					
ASSIS16	0.62					
ASSIS10	0.57					
ASSIS17	0.56					
ASSIS15	0.55					
ASSIS11	0.55					
ASSIS12	0.47					
ASSIS19		0.77				
ASSIS23		0.73				

ASSIS20	0.73					
ASSIS21	0.70					
ASSIS22	0.60					
ASSIS25		0.78				
ASSIS27		0.73				
ASSIS26		0.70				
ASSIS24		0.66				
ASSIS1			0.78			
ASSIS2			0.74			
ASSIS3			0.61			
ASSIS14				0.76		
ASSIS13				0.73		
ASSIS18					0.70	
ASSIS28						0.60
Kaiser-Meyer-Olkin	.95					
	10255					
Bartlett's Test of Sphericity	.30					
df	378					
Total Eigenvalues	11.00	2.91	1.58	1.12	1.01	.83
Percentage of variance explained	39.29	10.40	5.67	4.01	3.63	2.99
Total % variance explained	65.99					

Extraction Method: Principal Component Analysis.

* $p < .05$

Table 4.4 presents results of factors' extraction on the basis of the eigenvalues greater than 1 criterion, which resulted in identification of six factors. The first factor explained 39.29 % of the total variance and other five factors explained the remaining variance in the model.

The loading matrix shows that the measured items have high loadings on their hypothesised constructs and the cross loadings between them and other factors are lower than the minimum criteria of .30. This confirms the convergent and divergent reliabilities of the constructs and their measured items.

4.2.1.1.4 Factor Analysis for Academic, Social and Psychological Adjustment

The result of KMO and Bartlett's Test of Sphericity are presented in Table 4.4, which shows that the value of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was .86 and Bartlett's test of sphericity value of 5647.91 as significant at $p < .05$, proving that the correlation matrix was not an identity matrix which revealed the appropriateness of sample data; thus, EFA could be conducted (Hair et al., 2006).

Table 4.4

Exploratory Factor Analysis for academic, social, and psychological adjustment

Items	Factor loading		
	Factor 1	Factor 2	Factor 3
AA13	.59		
AA11	.58		
AA16	.56		
AA10	.50		
AA21	.61		
AA20	.59		
AA19	.57		
AA18	.55		
AA17	.51		
AA23	.48		
AA22	.46		
AA8	.41		
AA1	.74		
AA5	.67		
AA4	.64		
AA3	.56		
AA12	.56		
AA2	.51		
AA7	.47		

AA14	.46	
SA33		.46
SA30		.66
SA27		.58
SA29		.53
SA26		.53
SA32		.52
SA35		.50
SA25		.50
SA39		.46
SA28		.41
SA24		.42
SA31		.40
SA36		.40
PA46		.74
PA47		.73
PA43		.72
PA50		.65
PA48		.64
PA55		.60
PA51		.57
PA45		.56
PA42		.55



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PA54			.48
PA53			.45
PA49			.41
Kaiser-Meyer-Olkin	.86		
Bartlett's Test of Sphericity	5647.91		
df	406		
Total Eigenvalues	10.71	4.46	2.19
Percentage of variance explained	26.04	22.91	10.66
Total % variance explained	65.99		

* $p < .05$; Note: Only loadings $> .30$ were displayed

4.3 Hypothesis Testing

4.3.1 Correlation

According to Cavana et al., (2001) and Field (2006), correlation analysis is intended in a relationship study i.e. to examine the nature, direction and significance of bivariate relationships of constructs used in a research. In the present study Pearson's correlations was used to test the linearity in data (Field, 2006) and to answer the research questions:

1. Is there a significant relationship between ELP and (academic, social, and psychological adjustment)?
2. Is there a significant relationship among ELP, perceived social support, and acculturation stress?

Parallel to research question 1 and 2, The following five hypothesis were postulated:

H₁ There is a significant relationship between ELP and academic adjustment.

H₂: There is a significant relationship between ELP and social adjustment.

H₃: There is a significant relationship between ELP and psychological adjustment.

H₄: There is a significant relationship between ELP and perceived social support.

H₅: There is a significant relationship between ELP and acculturation stress.

Result of the Bivariate Pearson's correlations among all constructs are presented in Table 4.5.

Table 4.5.

Correlations among all study constructs

	1	2	3	4	5	6
1. Language proficiency	1	.72**	-.42**	.51**	.37**	.35**
2. Social support		1	-.19**	.37**	.34**	.26**
3. Acculturation stress			1	-.20**	-.15**	-.19**
4. Academic Adjustment				1	.34**	.15**
5. Social Adjustment					1	.16**
6. Psychological Adjustment						1

** Correlation is significant at point $p < .01$

The results revealed ELP is positively and significantly correlated with academic, social, and psychological adjustment. Moreover, ELP is positively and significantly related to social support whereas, it is negatively associated with acculturation stress (ASSIS).

4.3.2 Structural Equation Modelling

Structural equation modelling (SEM) is a collection of statistical models that seeks to explain relationships among multiple variables. SEM have been used widely in many disciplines for analysis (Byrne, 2010; Hair, Money, Samouel, & Page, 2007; Kline, 2011). SEM, which is a multivariate statistical approach allowing researcher to examine measurement and structural components of a model (Tabachnick & Fidell, 2013) to clarify and explain relationships simultaneously among multiple dependent and independent constructs (Hair et al., 2006).

SEM software package called Analysis of Moment Structures (AMOS) version 23 was used in this research study to explore statistical relationships between the items of each factor and among the factors of independent variable (i.e. ELP), mediating variable (SS, ASSIS) and the dependent variable (i.e., AA, SA, and PA). The present study used SEM reasons for the following reason

1. It offers the validation and test the relationships among constructs and indicators in single model (Hair, 2006).
2. It offers rigorous statistical techniques to deal with complex models (Byrne, 2016; Hair, 2006; Tabachnick & Fidell, 2013)

3. SEM can test causal relationships between constructs with multiple measurement items (Hair et al., 2014).

SEM validates the relationships among constructs and indicators through confirmatory factor analysis (CFA), also known as measurement model, and relationships between constructs are tested using the structural model (Tabachnick, & Fidell, 2018; Byrne, 2010; Hair et al., 2007). The relationships among constructs and indicator (measurement items) are validated by using confirmatory factor analysis (CFA), also known as the measurement model, and relationships between constructs are tested using the structural model (Hair et al., 2006).

A two-step approach was adopted to perform SEM analysis as recommended by Anderson and Gerbing (1988). In the first step, the measurement model was specified using the interrelationships between indicator (observed) and latent (unobserved) factors. For the measurement model, confirmatory factor analysis (CFA) was performed using the SEM software AMOS v.23.0. In the second step, the structural model related to dependent and independent variables was specified in order to test the hypotheses. Results of measurement and structural model are presented as follows.

4.4 The Measurement Model

In a structural equation modeling (SEM) approach, it was suggested that a two-step procedure be adopted (see Anderson & Gerbing, 1988) the analysis of the measurement models through confirmatory factor analysis (CFA), followed by the analysis of the structural model.

CFA is generally applied when there is some background knowledge of the underlying constructs and measurement items (Byrne, 2010; Hair, Money, Samouel, & Page, 2007; Kline, 2011) to confirm a priori hypothesis about the relationship between them. It is recommended to perform after exploratory factor analysis (EFA) to verify and confirm the scales derived from EFA. For the CFA and SEM, a covariance matrix was analysed and a maximum likelihood estimation procedure was used.

In this research, confirmatory factor analysis (CFA) was performed on the measurement model to assess the unidimensionality, reliability, and validity of measures prior to assessing the structural model (Hair et al., 2010). Two broad approaches were used in the CFA to assess the measurement model. First, consideration of the goodness of fit (GOF) criteria indices and second, evaluating the validity and reliability of the measurement model. To evaluate the measurement model a researcher can use goodness of fit (GOF) criteria indices recommended by (Hair, 2006).

4.4.1.1 Validity

Validity is the accuracy of measures (Sekaran, 2000) which is defined validity as “the ability of a scale to measure what it intended to be measured” (p.331). Validity determines the extent to which a construct and indicators are related and reflect the variable they were designed to measure (Hair, 2006). Validity is established when there is a fit between theoretical latent construct and measured items (Neuman, 2013). Validity of a construct can be examined through assessing convergent, discriminant, and nomological validity. Each of which are explained below.

Convergent Validity

It is the extent to which observed variables of a specific construct share high variance in common (Hair et al., 2006). It is assessed through factor loadings, average variance extracted (AVE), and construct reliability (CR) estimation (Hair et al., 2006) which should be 0.7 or higher for factor loadings, greater than 0.5 for AVE, and above 0.7 for reliability estimates to show adequate convergent validity (Hair et al., 2006). In the present study the results revealed adequate convergent validity.

Discriminant validity

Discriminant validity refers to the extent to which a latent construct is dissimilar from other latent constructs (Hair et al., 2006). It is measured by assessing AVE for each construct which is compared with the corresponding squared interconstruct correlations (SIC), and the AVE should be larger than the SIC to determine discriminant validity. The squared interconstruct correlations and AVE were larger in the present study revealing that the latent construct was dissimilar from each other. Hence, higher discriminant validity was achieved.

Nomological validity

Nomological validity refers “the degree to which a construct behaves as it should within a system of related constructs (Bagozzi, 1980)”. Nomological validity is tested by examining whether or not the correlations between the constructs in the measurement model make sense (Hair et al., 2006). This type of validity can be determined by looking at the CFA of latent constructs as if they are related to other

latent constructs in a single model in a way that supports the theoretical framework (Hair et. al. 2006). The CFA of the constructs revealed that the constructs yielded a satisfactory nomological validity.

4.4.2 Hypothesizing CFA Model

The testing of factor structure is based on the analysis of covariance structures. CFA belongs to structural equation modeling (SEM) which is used to convey two important concepts (Byrne, 2005):

- (a) Structural relations to be modeled pictorially to get a clearer conceptualization of the theory under study and
- (b) The causal processes are represented by a series of structural (i.e., regression) equations.

The hypothesized CFA model is specified in two ways: first, as a graphical representation and second, structural equations.

a) Model Specification

The present study specified measurement model as simple model on the basis of guidelines provided by (Byrne, 2005; Kline, 2005) on the characteristics of standard CFA.

The model specification of simple model includes

- 1) Each variable is explained by its factors
- 2) Indicator is a continuous variable with single non-zero loading on the underlying targeted factor, and an error term;

- 3) all the factors are correlated, and
- 4) Measurement error terms are uncorrelated.

i) Graphical Specification of the Model

CFA models are schematically portrayed as path diagrams through the incorporation of four geometric symbols: a circle representing unobserved latent factors, a square representing observed variables, a single headed arrow (\rightarrow) representing the impact of one variable on another, and a double-headed arrow (\leftrightarrow) representing covariance between pairs of variables. Therefore, a CFA model was build using these symbols.

ii) Structural Equation Specification of the Model

For CFA of all present study variables, each observed variable was linked to its related factor by a single headed arrow which points from the factor to observed variable. These arrows represent regression paths which predicts its observed variables. In CFA, these regression paths represent factor loadings. Thus, specification of a hypothesized model focuses on the formulation of equations that represent these structural regression paths.

b) Model Identification

For the purpose of model identification, a value of 1.0 (known as reference indicator) was assigned to one regression path in each set of factors loading paths, of each set of measure which assess the same construct.

4.4.3 Testing a Hypothesized CFA Model

After model identification, the model parameters were estimated using maximum likelihood (ML) estimation as it is fairly unbiased compared when the number of categories in Likert scale are 4 or greater (Kline, 2015) which in the present were five-point Likert scale.

4.4.4 Evaluating Model Fit

To provide a holistic approach several fit indices were tested instead of only relying on a single criterion. Chi-square tests was used however, it is sensitive to sample size which can results in rejection of null hypothesis when data involves a large sample size and failure to reject the null hypothesis when the study involves a small size (Tanaka, 1993). Therefore, it is considered as impractical and unreliable goodness of fit indicator (Byrne, 2005); thus, the inclusion of the chi-square statistics was merely for information purposes.

Furthermore, the present study used several other fit indices such as the comparative index (CFI; Bentler, 1990), standardized root mean residual (SRMR; Hu & Bentler, 1999) and the root mean square error of approximation (RMSEA; Steiger, 1990) which were included with regard to their cut-off values which is values more than .90 for CFI (Bentler, 1995; Byrne, 2005); less than .08 for SRMR (Hu & Bentler, 1999); and less than .08 for RMSEA (Brown & Cudeck, 1993; McCallum, Browne & Suguwara, 1996) indicate that the model is adequately fit. Recommended levels of these fit indices are presented in Table 4.6.

Table 4.6

Goodness of Fit Statistics in SEM

Index	Abbreviation	Type of fit	Recommended criteria	References
chi square	χ^2	Model fit	χ^2 , df, p >0.05	Joreskog and Sorbom (1988)
Root mean square error of approximation	RMSEA	Absolute fit	<0.05 good fit <0.08 acceptable fit	Byrne (2001)
Comparative fit index	CFI	Incremental Fit	>0.90	Hair et al. (2006)

4.4.4.1 Measurement Model 1: Language Proficiency

Figure 4.1 depicts the initial hypothesised measurement model. These factors were measured using number of items (indicators). In total, 65 items were used which were derived from the EFA. For instance, language proficiency was measured by 4 items code named as LP1, LP 2, LP 3, and LP4. Details of all constructs and their measurement items along with their code names are given in EFA tables above.

The measurement model was evaluated by using the maximum likelihood (ML) estimation techniques provided by the AMOS 23. The results revealed that chi square statistics χ^2 (9.73, df= 3), CMIN/DF= 3.24 was significant at p<0.05 indicating that fit of data to the model was good. Other fit indices i.e. CFI, and RMSEA results revealed that the value of CFI=.97, and RMSEA=.05 for N=659, p< .001.

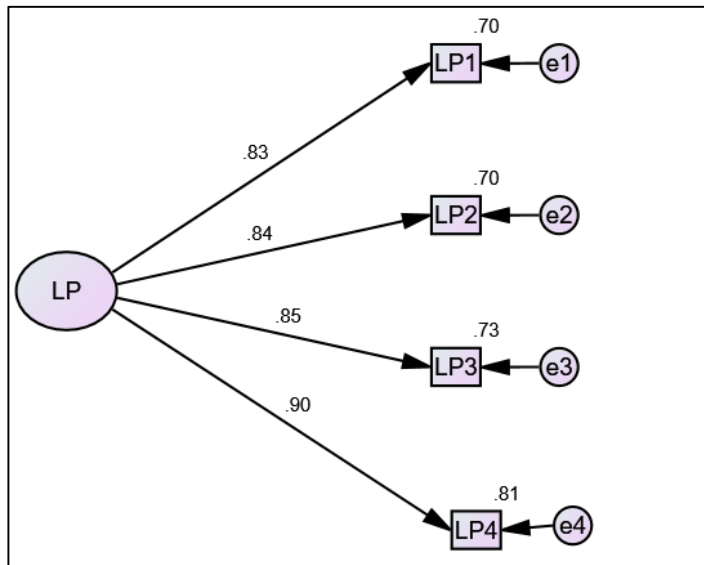


Figure 4.1 Language proficiency measurement model

4.4.4.2 Measurement Model 2: Social Support

For the measurement model of Perceived Social Support 8 items were subjected to confirmatory factor analysis via AMOS 23. The results for the measurement model are shown in Figure 4.2. Overall, the model was found to be well-fitting with the values of fit indices χ^2 (68.73, df= 19), CMIN/DF= 3.61, $p < .001$, CFI=.93, and RMSEA=.06

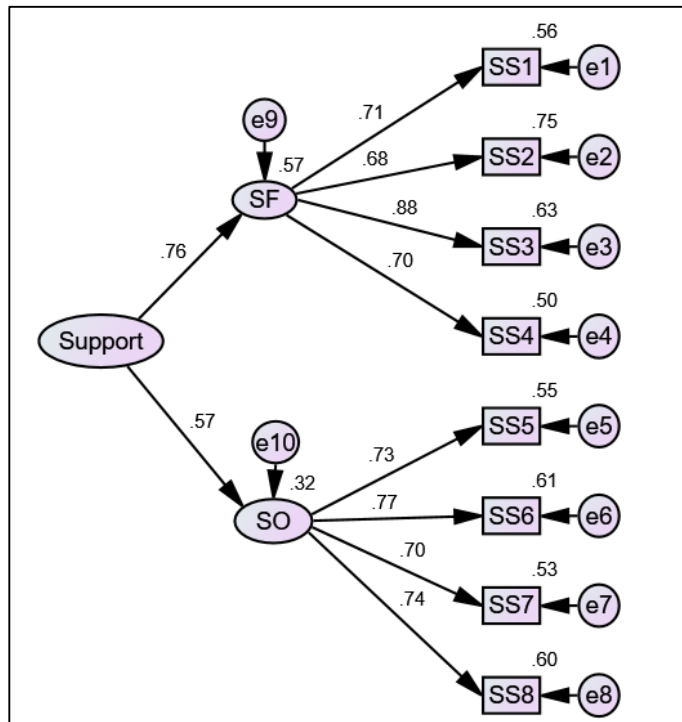


Figure 4.2. Social Support measurement model

4.4.4.3 Measurement Model 3: Acculturation Stress

All items were submitted to a confirmatory factor analysis to test measurement model of acculturation stress. The fit indexes (comparative fit index: CFI, standardized root mean residual: SRMR, root mean square error of approximation: RMSEA and chi-square/degree of freedom: χ^2/df), which were observed for the previous models were examined for this measurement model to test its fitness to the data collected in this study.

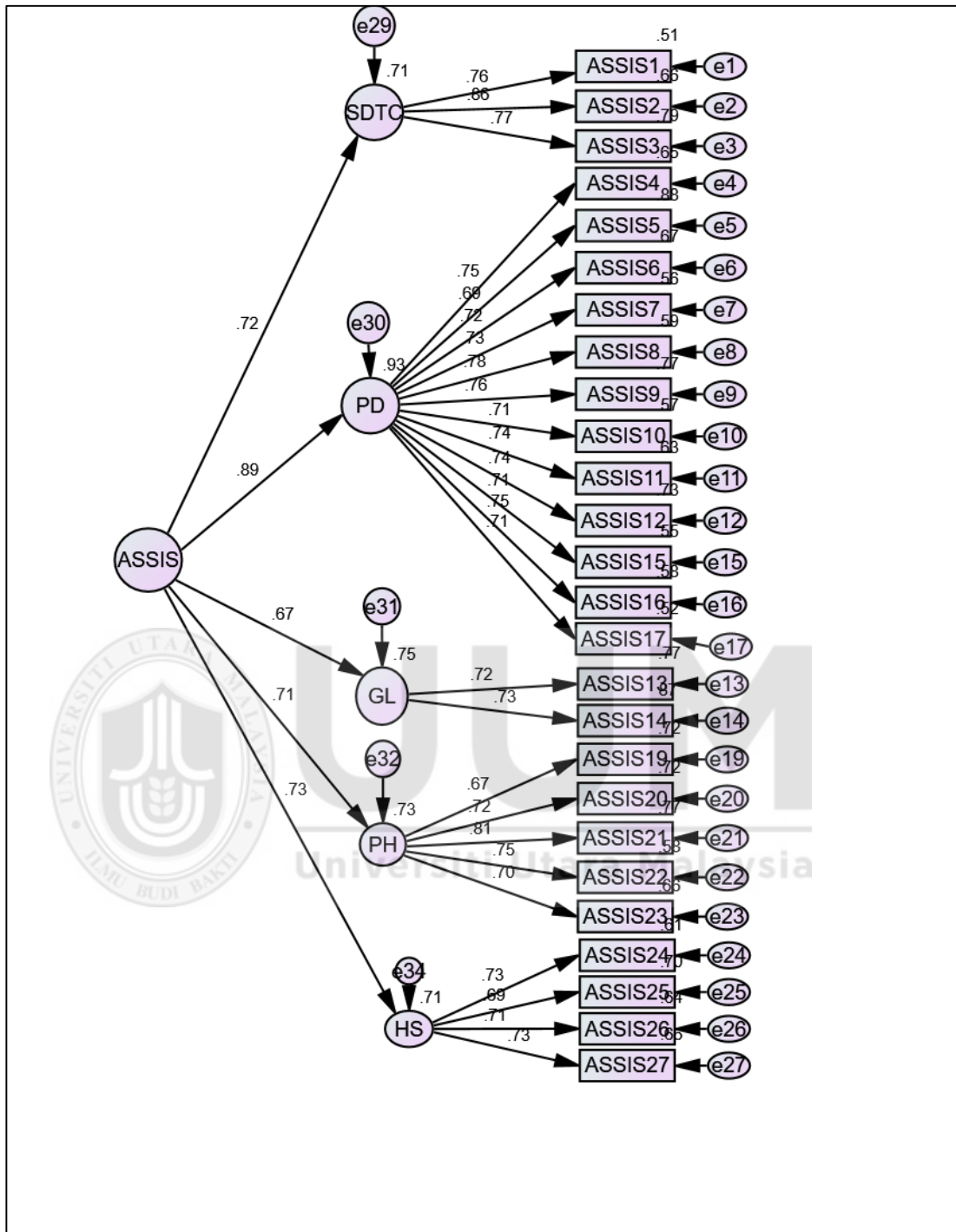


Figure 4.3. Acculturation Stress measurement model

Good-fitting model was established with χ^2 (976.46, df= 264), CMIN/DF=3.69, $p < .001$, CFI=.92, and RMSEA=.06. These values indicated that convergent validity was evident for the instrument used.

4.4.4.4 Measurement Model 4: Adjustment Scale

All items were submitted to a CFA to test measurement model of adjustment scale as shown in the figure below. Items were uniquely loaded on appropriate factors and factors were allowed to correlate. Results yielded satisfactory fit indices $\chi^2 = 757.33$, $df = 283$, $CMIN/DF = 2.71$, $N = 659$, $p < .001$, $CFI = .91$, and $RMSEA = .05$.

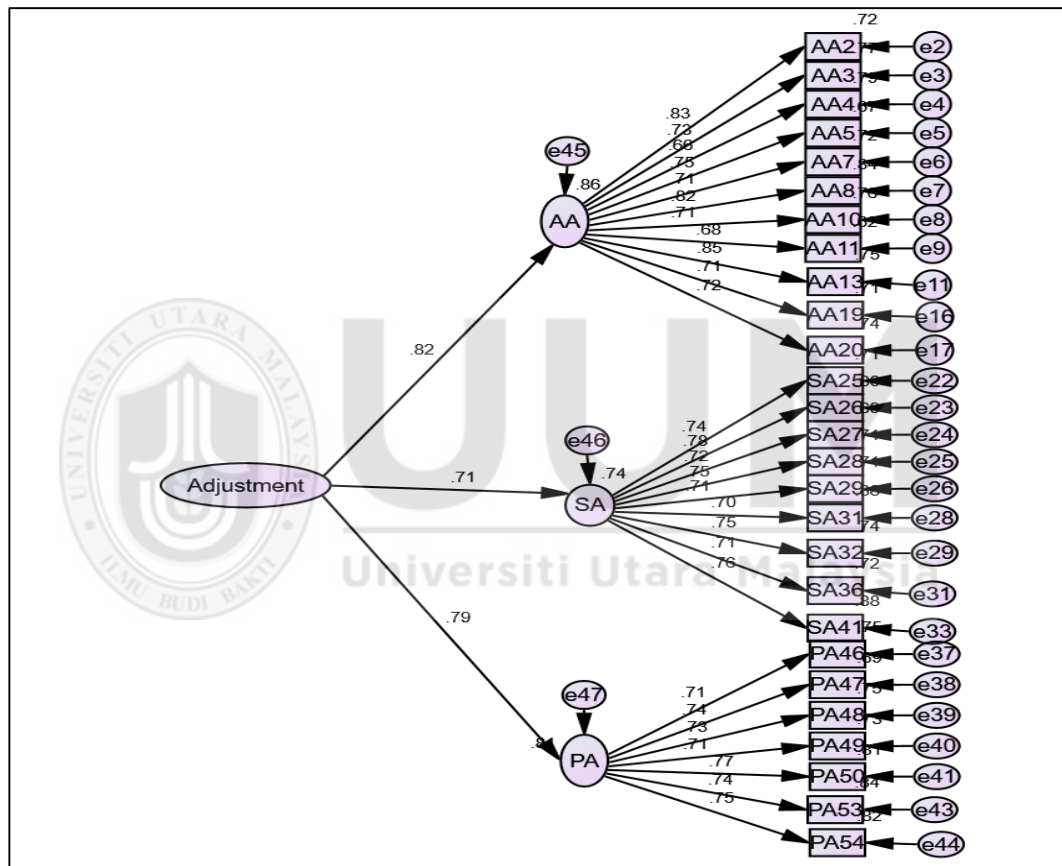


Figure 4.4 Adjustment scale measurement model

4.4.4.5 Overall Measurement Model

Before proceeding to structural model an overall measurement model was run which consist of all constructs (language proficiency, acculturation stress, social support, and academic, social and psychological adjustment) involved in this study.

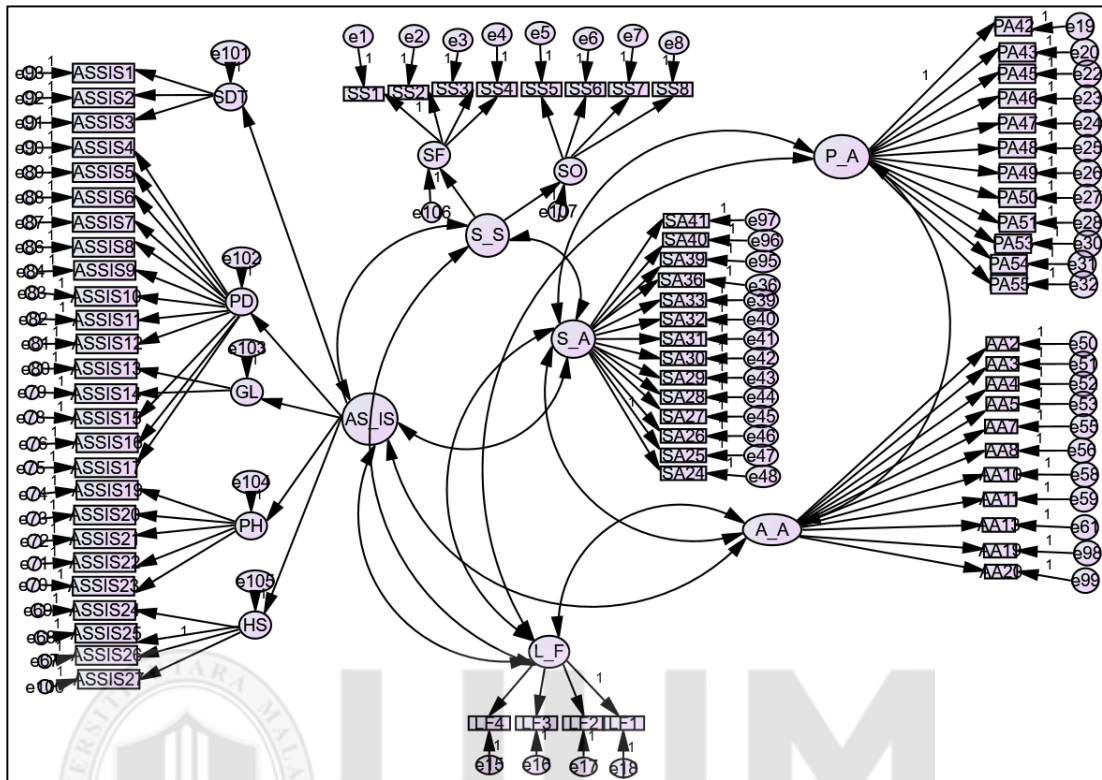


Figure 4.5. Overall measurement model

CFA was run for assessing the measurement model fit. The results of the model revealed that goodness of fit indices ($\chi^2=2591.01$, $df= 1322$, $\chi^2/df= 1.96$) was significant at $p<0.05$ indicating that fit of data to the model was good. Other fit indices i.e. CFI, and RMSEA results revealed that the value of CFI= 0.91, and RMSEA= 0.03. All these measures surpassed the minimum recommended values.

These goodness of fit statistics, therefore, confirmed that the model adequately fitted the data. Besides, other estimation criteria show that model fit the data adequately well, such that, critical ratios values were above 1.96. In summary, the results confirmed that model was fit to the data, indicating no further refinement in the model

was required. Thus, the unidimensionality of the model / data was established (Byrne 2001; Hair et al. 2006).

4.5 Assessment of Validity of Constructs

This section presents results of the validity of the constructs used in this study. Construct's validity can be examined by assessing convergent validity, discriminant validity and nomological validity.

4.5.1 Average variance extracted

Average variance extracted was computed by this researcher using a formula suggested by (Fornell & Larcker, 1981; Hair et al., 2006),

Convergent and discriminant validity

Factor loadings of construct, average variance extracted (AVE), and construct reliability (CR) estimation were used by the researcher to assess the convergent validity and discriminant validity of each of the constructs. The discriminant validity was assessed by the average variance extracted for each construct compared with the corresponding squared inter-construct correlation (SIC), and the AVE estimate larger than SIC estimates and $AVE > 0.5$ were used to assess the convergent validity. Results are presented in Table 4.7

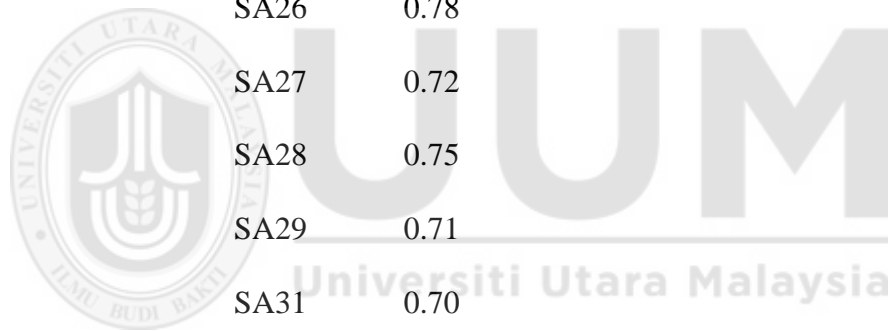
Table 4.7

Item loadings, AVE, CR and Cronbach's alpha

Scale	Item	Convergent Validity		CR	Cronbach's alpha
		Loadings	AVE		
Language proficiency	LP1	0.877	0.740	0.919	.95
	LP2	0.919			
	LP3	0.789			
	LP4	0.852			
Social Support	SS1	0.77	0.63	0.931	.72
	SS2	0.82			
	SS3	0.79			
	SS4	0.78			
	SS5	0.83			
	SS6	0.73			
	SS7	0.78			
	SS8	0.85			
Acculturation stress	ASSIS1	0.76	0.54	0.96	.72
	ASSIS2	0.86			
	ASSIS3	0.77			
	ASSIS4	0.75			
	ASSIS5	0.69			
	ASSIS6	0.72			

	ASSIS7	0.73			
	ASSIS8	0.78			
	ASSIS9	0.76			
	ASSIS10	0.71			
	ASSIS11	0.74			
	ASSIS12	0.74			
	ASSIS13	0.72			
	ASSIS14	0.73			
	ASSIS15	0.71			
	ASSIS16	0.75			
	ASSIS17	0.71			
	ASSIS19	0.67			
	ASSIS20	0.72			
	ASSIS21	0.81			
	ASSIS22	0.75			
	ASSIS23	0.70			
	ASSIS24	0.73			
	ASSIS25	0.69			
	ASSIS26	0.71			
	ASSIS27	0.73			
Academic	AA2	0.83	0.546	0.92	.77
adjustment	AA3	0.73			
	AA4	0.66			

	AA5	0.75			
	AA7	0.71			
	AA8	0.82			
	AA10	0.71			
	AA11	0.68			
	AA13	0.79			
	AA19	0.71			
	AA20	0.72			
Social Adjustment	SA25	0.74	0.54	0.92	.80
	SA26	0.78			
	SA27	0.72			
	SA28	0.75			
	SA29	0.71			
	SA31	0.70			
	SA32	0.75			
	SA36	0.71			
	SA41	0.76			
Psychological adjustment	PA46	0.71	0.54	0.89	.85
	PA47	0.74			
	PA48	0.73			
	PA49	0.71			
	PA50	0.77			



PA53	0.74
PA54	0.75

Results revealed that all the standardised factor loadings (standard regression weights) were above the minimum cut off point (>0.7), the critical ratios were below 1 and the average variance extracted was greater than 0.05. The results thus demonstrated a high level of convergent validity of the latent constructs used in the model.

Moreover, the AVE estimates of all the constructs were larger than their cut-off scores which demonstrated a high level of discriminant validity of the constructs. In addition, this indicated that the measured items have more in common with the latent construct they were associated with than other latent constructs; thus, providing strong support for the discriminant validity.

4.6 The Structural Equational Model Testing

This section presents results of the thirteen hypotheses testing that were used to test the relationships between the latent constructs. The latent constructs used in the proposed theoretical model (as described in chapter 1) were classified in three main categories: exogenous, endogenous, and mediating constructs. Exogenous construct language proficiency and endogenous constructs were academic, social, and psychological adjustment while mediating constructs were social support and acculturation stress. SEM was used to answer the following research questions.

Research question 3: Does perceived social support mediate the relationship between ELP and adjustment (academic, social, and psychological)?

Research question 4: Does acculturation stress mediate the relationship between ELP and adjustment (academic, social, and psychological)?

To answer these research questions following research hypothesis were proposed:

H₆: Perceived social support mediates the relationship between ELP and academic adjustment.

H₇: Perceived social support mediates the relationship between ELP and social adjustment.

H₈: Perceived social support mediates the relationship between ELP and psychological adjustment

H₉: Acculturation stress mediates the relationship between ELP and academic adjustment.

H₁₀: Acculturation stress mediates the relationship between ELP and social adjustment

H₁₁: Acculturation stress mediates the relationship between ELP and psychological adjustment.



Goodness of fit indices and other parameters estimates were examined to evaluate the hypothesized structural model. The results of the model testing and estimation for all parameters are shown in the figure below:

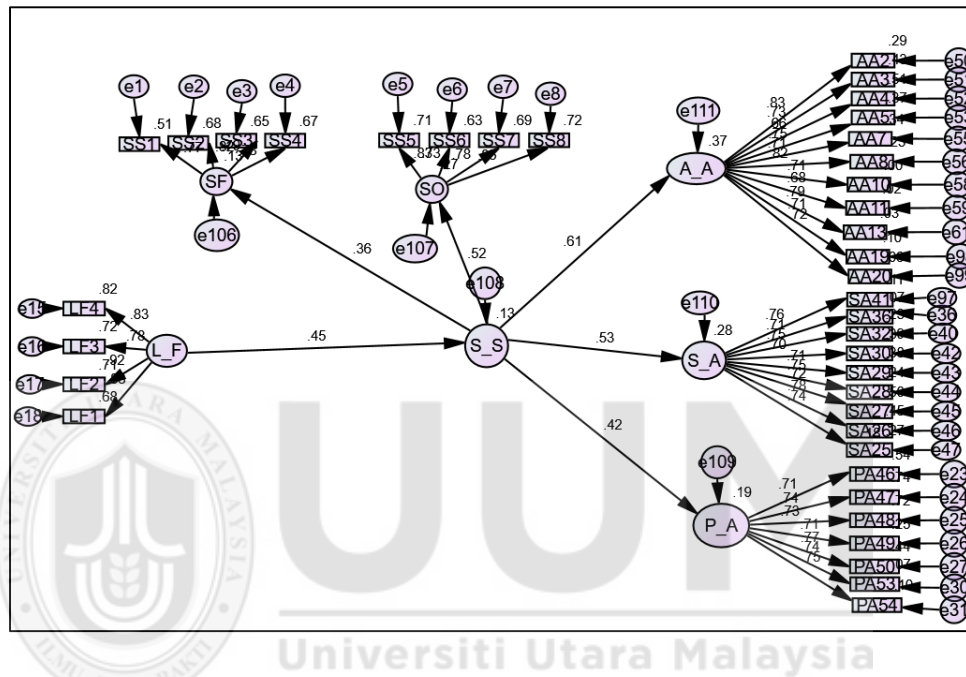


Figure 4.6 Graphic portrayal of the hypothesized Structure model: Mediating role of social support between the relationship of ELP and AA, SA, and PA

Note: All standardized coefficients reported are significant at *** $p < .001$

Findings revealed good fit to the data, $\chi^2/df = (1307.32/582) = 2.24$, CFI = .91, and RMSEA = .04. The standardized coefficient shows that ELP had significant positive influence on social support ($\beta = .45$, $p < .001$) which in turn, significantly relates to academic adjustment ($\beta = .61$, $p < .001$), social adjustment ($\beta = .53$, $p < .001$) and psychological adjustment ($\beta = .42$, $p < .001$). In other words social supports acts as a mediating factor for the relationship between ELP and adjustment (AA, SA, and, PA).

Therefore, hypothesis 6, 7, and 8 are supported. Altogether, the predictor explained 37 % of the variance of academic adjustment, 28 % of social adjustment and 19 % of psychological adjustment.

In order to test hypothesis number 9, 10, and, 11 (as mentioned above) path coefficient estimates and GoF indices were used to indicate the significance of the hypothesized model that was proposed to test the mediating role of acculturation stress on the relationship between ELP and adjustment (AA, SA, and PA).

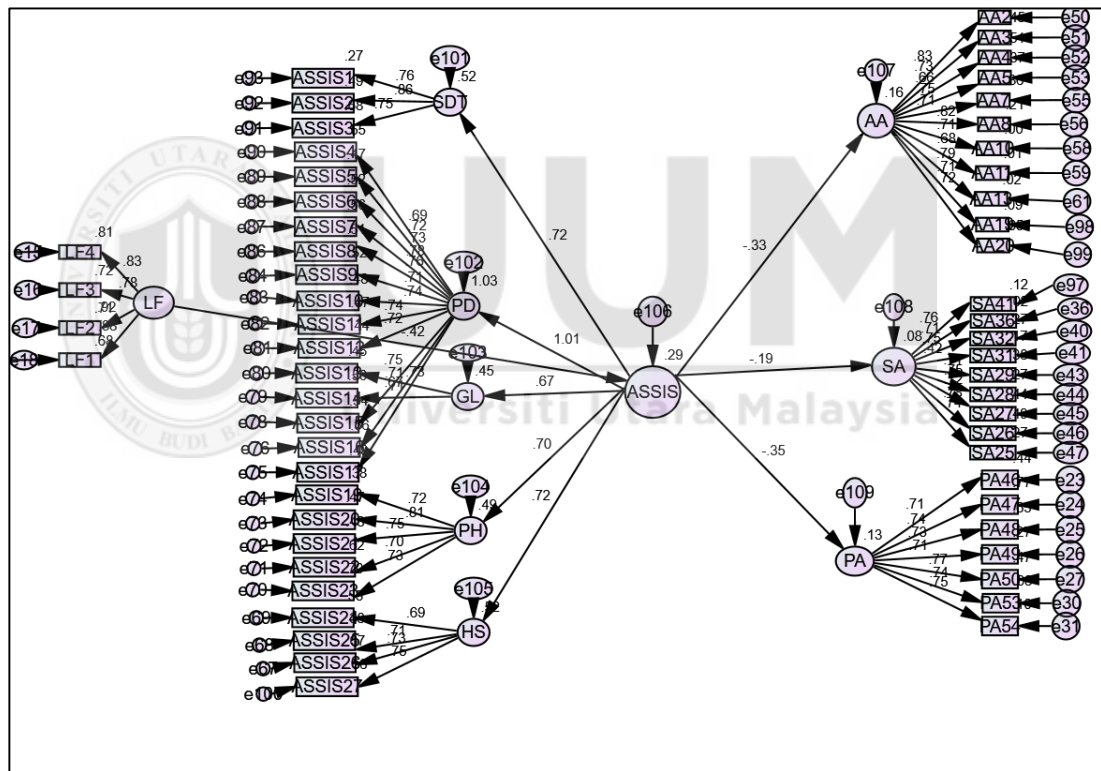


Figure 4.7 Graphic portrayal of the hypothesized Structure model: Mediating role of acculturation stress between the relationship of ELP and AA, SA, and PA

Model yielded a satisfactory fit to the data $\chi^2/df = (2259.85/921)=2.45$; CFI=.91; and RMSEA=.04. Language proficiency had significant negative influence on acculturation stress ($\beta = -.42, p < .001$) which, in turn, was negatively related to

academic adjustment ($\beta = -.33$, $p < .001$), social ($\beta = -.19$, $p < .001$) and psychological adjustment ($\beta = -.35$, $p < .001$). In other words acculturation stress mediates the relationship between AA, SA, and PA. Therefore, hypothesis 9, 10, 11 are supported. Altogether, the predictor explained 16 % of the variance of academic adjustment, 8 % of social adjustment and 13 % of psychological adjustment.

4.7 Summary

This chapter presented the results of this research study. Several statistical procedures were applied to screen the data to deal with missing values, outliers, and normality issues. This screening was important before performing structural equation modelling (SEM) because SEM is very sensitive to such issues. Results suggested that data were normally distributed. Structural equation modelling (SEM) using AMOS version 23.0 was chosen to test the measurement and structural model in this study. The SEM analysis was performed in two stages. In the first stage, confirmatory factor analysis (CFA) was employed to assess the fit of measurement model. After dropping these problematic items, CFA was performed again for the measurement model. The results of the model revealed that goodness of fit indices was improved and the revised model demonstrated a better fit to the data.

Thereafter, structural model was assessed to test the hypothesised relationships between latent constructs. Both the goodness of fit indices and parameter estimates coefficients were examined to check whether the hypothesised structural model fitted the data and to test the hypotheses. The fit indices indicated that the hypothesised structural model provided the good fit to the data.

CHAPTER FIVE

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the results. In doing so, it begins with a review of the findings to direct the discussion and compares them with those in the literature. The chapter also includes the implications of the findings, limitations of the study, and suggestions for future studies.

5.2 Overview of Research

Millions of students travel every year to pursue higher education. These international students contribute to cultural diversity on campus as they bring along a wide range of knowledge and skills, thus contributing to the intellectual capital of the host country. Their stay is mutually beneficial as they bring various assets to the host country in return for higher education (Smith & Khawaja, 2011). However, the academic, social, and psychological adjustment of international students may not be easy because of the cultural differences (Glass & Westmont, 2014). International students frequently report factors such as language barriers (Meng et al., 2018), academic styles (Misra et al., 2000), separation from home (Hendrickson et al., 2011), poor social integration, and problems in daily life tasks (Yeh & Inose, 2003) hinder their process of adjustment, leading to stress and anxiety and affecting their adjustment (Meng et al., 2018; Yan, 2017).

Globally universities are focusing on student's adjustment as they are striving to recruit new international students, retain existing students, and improve the university ranking and attract more students (Kwek & Choon, 2010; Padlee & Yakoop, 2010). As these students plays a vital role in the economic growth of the host country, it is important to attract international students (Becket & Brookes, 2008). As such, many countries have declared their plan to attract new international students. For example, China has set a target to recruit 500,000 international students (Luo, 2017).

Conventionally, international students enrolled in English speaking countries such as the UK, Australia, Canada, and the USA. However, the enrolment has shifted from English- speaking countries to non-English speaking countries such as China, Malaysia, India, Japan, Singapore, South Korea, and Taiwan (Luo, 2017). Malaysia has been successful in attracting a large group of international students by offering low tuition fees and quality education (Ahmad & Buchanan, 2017). At present, there are 122,000 international students (Study Malaysia, 2017). However, the difference between the students' expectations and the reality of their Malaysian experience renders the students highly prone to the deleterious effects of acculturative stress which can influence their academic, social, and psychological adjustment (Lowinger et al., 2014; Martirosyan et al., 2015). For example, in Malaysia, several factors may contribute to international students' stress, such as difficulties in understanding lecturers' accent because of the local dialectal variation and slang as a range of English accents exist in Malaysia because of its multi-lingual population (Wan et al., 2013). Accumulation of these challenges can cast a negative impact on international students'

adjustment (Lillyman & Bennett, 2014; Lu, Dear, Johnston, Wootton, & Titov, 2014; Pan, 2015; Wider, Mustapha, Halik, & Bahari, 2017).

To deal with stress due to cross-cultural contact (Berry, Phinney, Sam, & Vedder, 2006) an individual needs to use a positive coping mechanism (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lee & Ciftci, 2014). Social support as it has been found in the past literature to overcome academic, social, and psychological stress (Adelman, 1988; Rui & Wang, 2015; Van Gorp, Boroş, Bracke, & Stevens, 2017). Social support is also indicative of a buffering factor to cope with the deleterious effect of acculturative stress as it lowers the susceptibility to psychological illness (Finch & Vega, 2003) which in turns enhance adjustment (Lee, Koeske, & Sales, 2004; Olivas & Li, 2006).

Even though Perceived English language proficiency has emerged as one of the main antecedents in predicting international students' adjustment in the previous literature, there remains an absence of a robust study that explains the role of Perceived English language proficiency in predicting academic, social, and psychological adjustment of international students in the Malaysian context. Likewise, the literature on international students' adjustment which noticeably highlights the relationship between Perceived English language proficiency and social support (Carhill, et al. 2008) and acculturation stress (Hamamura & Laird, 2014), which, in turn, predicts academic, social and psychological adjustment also remain less explored in international students contexts. Therefore, the present study proposed a model to examine whether social support and acculturation stress mediate the association

between Perceived English language proficiency and students' academic, social, and psychological adjustment.

Before discussing the findings, a brief review of the research questions and the findings is presented.

Research Question 1: Is there a significant relationship between Perceived English Language Proficiency and academic, social, and psychological adjustment?

In total three hypotheses were proposed for RQ1:

H₁: There is a significant relationship between Perceived English language proficiency and academic adjustment.

H₂: There is a significant relationship between Perceived English language proficiency and social adjustment.

H₃: There is a significant relationship between Perceived English language proficiency and psychological adjustment.

Pearson's correlation analysis revealed that the relationship between Perceived English language proficiency and academic adjustment ($r = .51$), language proficiency and social adjustment ($r = .37$), and language proficiency and psychological adjustment ($r = .35$) was significant at $p < .001$. Hence, the three hypotheses were accepted.

Research Question 2: Is there a significant relationship among Perceived English language proficiency, perceived social support, and acculturation stress?

To test the proposed relationship two hypotheses were postulated:

H₄: There is a significant relationship between Perceived English language proficiency and perceived social support.

H₅: There is a significant relationship between Perceived English language proficiency and acculturation stress.

The results of Pearson's correlation analysis revealed statistically significant relationships among Perceived English language proficiency and social support ($r = .72$) and acculturation stress ($r = -.42$) at $p < .001$. Hence, the two hypotheses were accepted.

Research Question 3: Does perceived social support mediate the relationship between Perceived English language proficiency and adjustment (academic, social, and psychological)?

Hypothesis 6 to hypothesis 8 were proposed to test if social support mediates the relationship between academic, social, and psychological adjustment.

Structural equation modelling analysis revealed that the model adequately fit the data collected. The results further revealed that Perceived English language

proficiency significantly contributed to student's adjustment (AA, SA, and PA) mediated by social support (refer to Figure 4.10).

Research question 4: Does acculturation stress mediate the relationship between Perceived English language proficiency and adjustment (academic, social, and psychological)?

The present study assessed the structural model to test the research question 4, which postulated acculturation stress as a mediating variable in the relationship between Perceived English language proficiency and adjustment (academic, social, and psychological) (refer to figure 4.11). Data collected yielded a satisfactory fit to the model, and it was found that acculturation stress mediated the relationship between Perceived English language proficiency and adjustment (academic, social, and psychological).

5.3 Discussion

The chapter now will discuss the findings of the present study based on the constructs beginning with Perceived English language proficiency, social support, acculturation stress, and adjustment (academic, social, psychological). The present study aimed to test the Perceived English language proficiency and the mediating role of social support and acculturation stress in the adjustment (academic, social, psychological) of international students. Therefore, in discussing the findings, the focus will be addressing the hypothesis as mentioned in chapter 1.

5.3.1 Discussion of Main Effect Hypothesis

The main hypothesis effect dealt with the direct relationship among Perceived English language proficiency (ELP), Acculturation Stress (AS), Social Support (SS), Academic Adjustment (AA), Social Adjustment (SA), Psychological Adjustment (PA) and the relationship between AS, AA, SA, PA and the relationship between SS, AA, SA, PA.

5.3.1.1 There is a Significant Relationship Between Perceived English Language Proficiency and Academic Adjustment (H₁)

The present study proposed a significant relationship between Perceived English language proficiency and academic adjustment. In examining the hypothesis, the results of correlation suggest a significant positive relationship between Perceived English language proficiency and academic adjustment ($r = .51$, $p < 0.01$) which indicates that a high level of English language will lead to a better academic adjustment. Therefore, this result supported the hypothesized relationship as postulated in H₁.

Evidence of the past studies also suggests that a strong language proficiency plays a central role in academic success (Martirosyan et al., 2015) and a lack of English language proficiency is considered one of the greatest issues that hinder the academic adjustment of international students. For example, limited listening proficiency affects the ability of students to comprehend classroom teaching. As students are enrolled from a different cultural background, they could find it difficult to comprehend the classroom lectures (Gilakjani & Sabouri, 2016). Furthermore, past studies have

reported that international student's limited listening proficiency leads to difficulty in understanding a professor's expectations (Smith & Khawaja, 2011; Wu & Hammond, 2011) and communicating with their professors (Brown & Holloway, 2008; Ching, Renes, McMurrow, Simpson, & Strange, 2017) which affect them academically.

In general, students with poor linguistic abilities find it difficult to express their thoughts and opinions academically in a coherent manner and they lag behind in classroom discussion which leaves them frustrated (Kuo, 2011), hesitant, less active in classroom participation (Macedo, Dendrinis, & Gounari, 2015), academic writing, and oral miscommunication (Footé, 2010; Hennebry, Lo, & Macaro, 2012). Since a student's performance is evaluated through written assignments and examination, poor English language proficiency will lead to academic stress, and it is a hindrance in the academic setting of international students (Wu, Garza, & Guzman, 2015).

Unfamiliar accents also cause serious problems as the accent of a native speaker is different from that of a non-native (Buck, 2001; Gilakjani & Sabouri, 2016). Malaysian universities employ scholars from around the world who bring along a variety of English language accents (Kaur et al., 2017). Compounding to the problem of the lack of English language proficiency, the students now would have to adjust to different English language accents of local and international instructors, creating more confusion (Smith & Khawaja, 2011; Young, 2017). As they have unclear and incomplete understanding of the instructions, they are likely to remain at the periphery in classroom discussions, making it a challenge for international students' to academically adjust in Malaysia (Footé, 2010; Hennebry et al., 2012).

Furthermore, low level of English language proficiency makes it difficult for students to put thoughts into words (Abdullah, Bakar, & Mahbob, 2012). In contrast, students with good English language proficiency had more confidence in participating in class discussions (Teoh, Abdullah, Roslan, & Daud, 2013).

English language proficiency has a huge impact on student academic adjustment. Therefore, if students are proficient in the English language, they report higher adjustment. All in all, the findings support the present study hypothesis and highlight the role of English language proficiency in the academic adjustment of international students in the Malaysian context.

5.3.1.2 There is a Significant Relationship Between Perceived English Language Proficiency and Social Adjustment (H₂)

The current research proposed a significant relationship between English language proficiency and social adjustment. The results of Pearson correlation revealed a significant positive relationship between English language proficiency and social adjustment ($r = .37, p < 0.01$) which indicates that higher level of English language proficiency would leads to better social adjustment. These results are consistent with previous studies (Mustaffa & Ilias, 2013; Noels, Clément, & Gaudet, 2004; Sawir, Marginson, Forbes-Mewett, Nyland, & Ramia, 2012; Trice & Yoo, 2007; Yang, Noels, & Saumure, 2006). For example, Zhang and Goodson (2011) found that English language proficiency significantly predicted the social adjustment of international students.

High level of English language proficiency helps international students to interact with students from other nations (Lee & Pistole, 2014), forming new friends (Chavajay, 2013), receiving emotional support (Mesidor & Sly, 2016) from other international students, and building social networking (Lin, Peng, Kim, Kim, & LaRose, 2012), hence, enhance their social adjustment.

International students' English language proficiency skills help them to have effective communication with other nations; hence, their enhanced ability to understand English positively predicts their social adjustment. The role of the English language has been emphasized in the study of Yang, Noels, and Saumure (2006) where they found that students who were confident in English language were able to adjust socially well.

Individuals with better English language proficiency can form more social relationships as they are more confident and salient to social interactions as compared to those with fewer English language proficiency skills since the latter will feel unsure and hesitant due to fear of miscommunication, affecting their social engagement (Ying, 2002). Similarly, Trice (2007) stressed the importance of the English language since weak English language proficiency was found to be a reason why international students isolated themselves from local students and faculty members.

Furthermore, Constantine, Donnelly, and Myers (2002) claimed that a low level of English language proficiency could hinder students from fitting well with the university environment (campus life), and they are likely to be prone to loneliness, depression, and stress. Student quality of relationships affects their university social adjustment.

Consistent results have been found in the present study where student's relationship with host nations, co and multi-nationals assisted international student's social adjustment. Thus, English language proficiency acted as a tool to assist international students in interacting with Malaysian students and helping the former to be actively involved in social events (Sam, Md Zain, Jamil, Souriyavongsa, & Quyen, 2013) and understand culture, values and norms (Mahmud et al., 2010). These interactions can be developed by doing activities such as having meals together, collaborating in classwork, and playing sports with Malaysian students. Previous research showed that these activities result in better social adjustment (Wang, Wei, & Chen, 2015). Perceived language competence promotes eagerness to communicate (Ibrahim et al., 2013), whereas limited English language proficiency limits international students' friendship and network.

English language proficiency is an important skill which enables international students to understand the cultural norms, values, and university rules and regulations, which in turn leads to better social adjustment. Furthermore, by interacting with the locals, international students will develop mutual respect, understanding, and an opportunity to learn different Malaysian communication patterns first-hand such as polite usage (direct or indirect expression of opinions), gaze and bodily contact, and rule (punctuality) which will reduce misunderstandings that occur due to the differences in the culture (Zhang & Goodson, 2011). These findings support the hypothesis that English language proficiency is directly related to the social adjustment of international students in Malaysia as well.

5.3.1.3 There is a Significant Relationship Between English Language Proficiency and Psychological Adjustment (H₃)

The present study proposed a significant relationship between English language proficiency and psychological adjustment. Pearson correlation revealed a significant positive relationship between English language proficiency and psychological adjustment ($r = .35, p < 0.01$). These results are consistent with previous studies that the researchers found that international students faced the pressure of transition process as they experienced stress and loneliness not only in terms of a lack of social interactions and social networks, but also familiar culture and linguistics (McClure, 2007; Sawir et al., 2012; Zhao & Wildemeersch, 2008). Dealing with new cultural norms and values and coping with academic demands put international students in a stressful situation, and they face a serious threat to their psychological adjustment (Sherry, Thomas, & Chui, 2010; Smith & Khawaja, 2011). Furthermore, poor English language proficiency exacerbates their stress levels, making them feel isolated and anxious (Meng et al., 2018; Yan, 2017).

The literature on international students' psychological adjustment frequently reported English language proficiency (Meng et al., 2018) as a major contributing factor that inhibits their adjustment as they encounter cultural identity confusion (Andre & De Araujo, 2011), strained interpersonal relationships (Glass, 2014), health problems (Li et al., 2017), feeling of isolation (Wang & Hannes, 2014), homesickness (Poyrazli & Grahame, 2007), and low self-esteem (Kim & Kim, 2013), which in turn affecting their psychological adjustment (Yeh & Inose, 2003).

There seems to be a consensus that international students are a high-risk group who have more psychological problems (Ramos et al., 2016). Psychological distress and mental health problems were found common among international university students (Adlaf, Gliksman, Demers, & Newton-Taylor, 2001). For example, Furr, Westefeld, McConnell, and Jenkins (2001) surveyed 1,455 college and university students in the USA. They found more than 50 percent of students had depressive symptoms soon after the commencement of their studies. Previous studies suggested high rates of psychological maladjustment among university students all over the world (Hirai, Frazier, & Syed, 2015; Larcombe et al., 2016; Wei, Liao, Heppner, Chao, & Ku, 2012). Therefore, most international students seeking counseling services in the USA ranked anxiety and depression as the first problem they faced as a foreigner (McCarthy, Fouladi, Juncker, & Matheny, 2006).

Sam, Tetteh, and Amponsah (2015) summed up the situation in their statement that international students are likely to experience more problems than students in general and have limited access to resources because of the lack of English language proficiency. Such negative experiences may contribute to the students' poor psychological adjustment, leading to the pressure of leaving the country and persistent thought on poor decision-making ability (Toyokawa & Toyokawa, 2002).

International students who come from different social, cultural and educational backgrounds to Malaysia to pursue higher education face challenges. Psychological adjustment can only be achieved when international students integrate socially (Cerezo & Chang, 2013) with Malaysian students to help will help the former to develop cultural familiarity. In this way, the international students will develop a

positive outlook of the Malaysian society, and they will feel more connected with the Malaysians. Hence, the feeling of alienation will be reduced (Berry et al., 2015; Graves, 2015). The findings of this study are consistent with those of Shafaei and Razak (2016) as English language proficiency was significantly and positively related to the psychological adjustment of international postgraduate students. English language proficiency enhances confidence in the English language which results in a lower level of stress and anxiety in postgraduate students in Malaysia. All in all, the results supported the proposed relationship.

5.3.1.4 There is a Significant Relationship Between English Language Proficiency and Social Support (H4)

This study postulated that English language proficiency and social support are significantly related. The results showed a significant positive relationship ($r = .72$, $p < 0.01$) which indicates high level of ELP will leads to higher level of perceived social support. International students experience anxiety because of cross-cultural challenges. One way to cope with these challenges is social support which can help them minimize their anxiety, resulting in successful adjustment (Cheng, 2013). However, if the international students have a low level of English language proficiency, they will not be able to communicate in social situations (Trice, 2007) nor comprehend academic content (Carhill et al., 2008), making them stressed and emotionally isolated and distressed (Myers-Walls et al., 2011). The English language assists international students in communicating with host nationals, other students, and university staff as they learn cultural-specific skills to help them fit in the Malaysian environment (Shafaei, Nejati, & Abd Razak, 2018). Previous studies showed that

possessing English language proficiency helps individuals better understand the host country's cultural norms and values and communicate with host nationals (Vedder, Boekaerts, & Seegers, 2005).

Burgeoning literature indicates that poor English language proficiency impedes their successful interaction with local and other international students (Andrade, 2009; Parks & Raymond, 2004), making it difficult for international students to make friends (Hechanova-Alampay et al., 2002; Parks & Raymond, 2004; Schutz & Richards, 2003), interact socially and have conversations (Zhang & Goodson, 2011). Hence, they are likely to feel lonely (Wang, Andre, & Greenwood, 2015), homesick (Rajapaksa & Dundes, 2002), and socially isolated (Young, Sercombe, Sachdev, Naeb, & Schartner, 2013), hence, affecting their adjustment process (Hechanova-Alampay et al., 2002).

The English language plays a significant role in organizing and making sense of human relationships when international students can communicate with it to enable them to participate in social events (Glass, Gómez, & Urzua, 2014). According to Yusoff (2011), social support facilitates the adjustment process of international students. The benefits of having social support are important for international students' adjustment because having friends from Malaysia enable international students to adapt well (Yusoff, 2011) culturally. In an earlier study, Church (1982) revealed that co-national friends provided a sense of belonging and social, and emotional support during the process of adjustment. When international students travel to Malaysia they lose their support from their families; therefore, the support from Malaysian students can help them develop new cross-cultural friendships (Yusoff, 2011), hence, enabling

them to cope with adjustment difficulties. Hence, the results support the proposed relationship.

5.3.1.5 There is a Significant Relationship Between English Language Proficiency and Acculturation Stress (H₅)

This study postulated that English language proficiency and acculturation stress are significantly related. The results demonstrated a significant negative relationship ($r = -.42, p < 0.01$) that revealed that high level of the language proficiency would lead to low level of acculturation stress. International students frequently report the English language as a source of a stressor for the successful adjustment in a new culture (Meng et al., 2018; Poyrazli, Arbona, Bullington, & Pisecco, 2001; Yeh & Inose, 2003), which in turn contributes to stress and anxiety (Ra, 2016). Moreover, leaving behind home, family and close friends (Hendrickson et al., 2011) and dealing with the demands of these new environments exacerbate their stress levels and negatively affect their interpersonal relationship (Dao et al. 2007), causing homesickness (Hendrickson et al., 2011), physical health problems (Myers-Walls et al. 2011), poor social integration, problems in daily life tasks (Yeh & Inose, 2003a), low self-esteem (Sawir et al. 2012), poor adjustment and emotional health, and eventual drop out (Toyokawa & Toyokawa, 2002). Thus, high English language proficiency is the predictor of low acculturation stress (Lueck & Wilson, 2011).

Linguistic challenges are potential barriers that lead to a high level of acculturation stress (Yeh & Inose, 2003). Because international students may not form close relationships with local and other international students (Wang & Mallinckrodt, 2006),

they are likely to experience acculturative stress (Smith & Khawaja, 2011). Moreover, studies have highlighted that higher when international students have a high level of English language proficiency, they are less likely to be embarrassed (Brown, 2008), self-consciousness about own accent (Sam et al., 2015), and are more comfortable speaking and participating in classroom discussions (Wu et al., 2015b). Thus, they can interact confidently such as asking for help, ordering food, meeting new people, etc. Therefore, higher levels of English language proficiency would result in a lower level of acculturation stress (Mori, 2000).

Cross-cultural adaptation theory (Kim, 2001) can help explain the relationships among the factors that influence international students' adjustment in Malaysia. Cross-cultural adaptation theory explains the phenomenon of transformation a person experiences when he or she relocates to a new and culturally unfamiliar environment. In this situation, an international student struggles for an internal balance by learning Malaysian cultural communication practices. He or she will actively participate in interpersonal communication processes with the local students, and hence, will try to be competent in the Malaysian communication system (Hamad & Lee, 2013). The struggle to find internal stability is known as a cross-cultural adaptation (Kim 2001). As a result of successful adaptation, which is a fusion of an old and new identity, a new perspective is formed which makes an individual more open where he or she can accept individual differences (Kim, 2006, 2008).

Furthermore, cross-cultural adaptation theory (French, Caplan, and Harrison 1982) suggests that the balance between a person and the environment would lead to psychological well-being (Shafaei et al., 2018b), high performance, satisfaction, and

low stress while dissatisfaction would cause low-performance and high stress (Kulik, Oldham, & Hackman, 1987).

5.3.2 Discussion of Mediating Effect Hypothesis

To assess the significance of the indirect effects, the present study computed bias-corrected bootstrap confidence intervals in AMOS 23.0 at a 95% confidence interval.

5.3.2.1 Perceived Social Support Mediates the Relationship Between Perceived English Language Proficiency And Academic Adjustment (H₆)

A full mediation model specifying English language proficiency as the indirect predictor of academic adjustment, with this relation being mediated by social support. The results revealed that English language proficiency was positively related to social support ($\beta = .45, p < .001$) which in turn, positively associated with academic adjustment ($\beta = .61, p < .001$) thus, indicating that social support enhance the relationship between English language proficiency and academic adjustments. The finding is in line with previous research that demonstrated that English language proficiency was related to social support (Cohen & Wills, 1985) which, in turn, associated with academic adjustment (Lidy & Kahn, 2006; Negy, 2003; Rui & Wang, 2015; Van Gorp et al., 2017).

Academic adjustment is student satisfaction and ability to perform well in university life. When an international student travels abroad for further studies, he or she faces situational and environmental changes in the new campus life. To cope with the new academic demands, an international student needs to use a positive coping mechanism

such as social support (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lee & Ciftci, 2014). Social support has been found to be a significant predictor of academic adjustment (Adelman, 1988; Friedlander, Reid, Shupak, & Cribbie, 2007; Lidy & Kahn, 2006; Negy, 2003; Rui & Wang, 2015; Van Gorp et al., 2017). Social support refers to the level of support an individual perceives to receive from people in their network such as friends or peer groups, which enhance his or her functioning or buffer the individual from adverse outcomes of transition (Dao et al., 2007).

Social support can be achieved within and outside the academic environment by sharing accommodation (Rienties & Nolan, 2014), being member of a study association (Rienties, Nanclares, Hommes, & Veermans, 2014), joining sports club (Rienties et al. 2012), informal interaction with faculty, personal tutorial (Rienties et al. 2012), social network (Wilcox, Winn & Fyvie- Gault. 2005), and students' support services (Poyrazli & Lopez, 2007). These activities act as a coping mechanism as they provide the international students with the resources available to cope with the stress, hence, enhancing their academic adjustment (Rienties et al., 2012).

Social support is an effective way of reducing academic stress. However, poor English language proficiency can inhibit students from seeking help (Wei et al., 2007). For example, Peacock and Harrison (2009, p. 494) found that British (host) students perceived international students as a threat because the latter could bring the marks of the group down through their lack of language ability, lack of knowledge of the United Kingdom or understanding of British pedagogy. Hence, poor language hindered international students from interacting with host nationals.

Culture learning theory explains that an individuals' language proficiency can lead to cultural knowledge, learning skills, and interaction with host nationals which in turn leads to a better adjustment in a new environment. Hence, to enhance interaction and learn cultural skills, an individual is required to utilise language as an effective tool (Argyle 1969). Individuals' competence and proficiency will facilitate their communication because they would be able to understand the host culture, norms, and values. The quality and quantity of individuals' interaction with host nationals (Malaysians) and other international students depend on the international students' English language proficiency (Ward, 2004), which in turns will lead to successful academic adjustment (Kim, 1988, 2006, 2008). These studies are consistent with the present study; hence, the proposed hypothesis was accepted.

5.3.2.2 Perceived Social Support Mediates the Relationship Between Perceived English Language Proficiency and Social Adjustment (H₇)

The result of mediation model revealed that Perceived English language proficiency was positively related to social support ($\beta = .45, p < .001$) which in turn, positively associated with social adjustment ($\beta = .53, p < .001$). Social adjustment is the ability of an international student to fit in the host country's environment. In the present study, the results revealed that language played a significant role in determining support from society as it enabled the student to interact with host nationals. English language proficiency of international students enables international students to connect by internalizing experiences of interpersonal closeness with family, friends, acquaintances, and society (Zhang & Goodson, 2011). It allows them to feel comfortable and confident in the social context, making them less likely to experience

mental health problems (Zhang & Goodson, 2011). The social connectedness will motivate them to learn the Malaysian culture and appropriate social skills, hence facilitating their social adjustment. These findings are consistent with previous studies that found that the adjustment of international students to the new language, culture, educational settings, and social norms facilitated successful social adjustment (Wang & Hannes, 2014). However, in the absence of English language proficiency, international students may find it challenging to establish a new social relationship which, as the findings suggest, negatively affect their social relationships hence, poor social adjustment (Sherry et al., 2010; Smith & Khawaja, 2011).

When international students arrive in a new country, they must form new social networks (co-nationals, host-nationals, multi-nationals), which could serve as a source of social adjustment (Bochner, McLeod, & Lin, 1977). Co-national friends (one's own country) allow international students to express their ethnic and cultural values. Secondly, host-national friends (from the country where the individual is studying) facilitate academic and professional aspirations. Lastly, multi-national friends (from other countries) provide company for recreational activities (Bochner et al., 1977). Kim's (2008) cross-cultural adaptation suggests that host social communication, i.e., interaction with host nationals, help international students to develop host communication competence, especially in classrooms (Hendrickson, 2018, p. 2). Therefore, these sorts of interactions help international postgraduate students in Malaysia to learn about the host culture which in turn help them to adjust socially well.

The empirical evidence found is consistent with the results of previous research that revealed that social support such as peers, social support network, and relationship with faculty significantly influenced students' social adjustment (Ra, 2016). English language proficiency has been found as a predictor of social support as it helps international students to form friendship networks (Sam, 2001), enabling them to create a deeper cultural understanding, goodwill, and understanding with members of the host country and other international students (Bennett & Hammer, 2011; Stewart & Bennett, 2011).

Friendship is extremely important as it satisfies personal and emotional needs (Hendrickson et al., 2011). Moreover, it falls under Maslow's third level hierarchy of needs, which is fulfilling the need for love and belonging (Zalenski & Raspa, 2006) which he postulates goes beyond geographical, racial, social, gender, and religious boundaries (Zalenski & Raspa, 2006) as it plays an integral role for developing communication competence (Kim, 2001; Kim & McKay-Semmler, 2013) which leads to success and satisfaction in the lives of the people (Morrison, 2002; Nicolaou & Birley, 2003).

Moreover, it is commonly known that students with poor English language proficiency are unable to establish a relationship with peers and lecturers, resulting in loneliness and homesickness because they feel their social needs as international students are ignored. Thus, language plays a role in allowing postgraduate students in Malaysia to learn about the culture of Malaysia and share their culture with the host nationals.

Confidence in language is also known as language competence, which leads to a lower level of anxiety (Clément, Noels, & Deneault, 2001) and plays an important role in transmitting culture (Krauss & Chiu, 1998). Theoretically, perceived English language competence results in a willingness to communicate (Dörnyei, 2003; MacIntyre, Dörnyei, Clément, & Noels, 1998) which will help postgraduate students in Malaysia to adjust socially. Through communication with Malaysian students, international students will learn more about the Malaysian culture, which in turn will lead to self-confidence and self-assurance as they know how to communicate appropriately and effectively (Hotta & Ting-Toomey, 2013a). According to Kim (2005) “Periods of stress pass as strangers work out new ways of handling new problems, owing to the creative forces of self-reflexivity of human mentation. Stress, adaptation, and growth thus highlight the core of the changes individuals undergo over time” (p. 384). Hence, an individual’s English language proficiency will help him or her to get socially involved which in turn would help adjust socially in the new culture (Bobowik, Basabe, & Wlodarczyk, 2017; Furnham & Shiekh, 1993). All in all, the result supported the proposed hypothesis.

5.3.2.3 Perceived Social Support Mediates the Relationship Between Perceived English Language Proficiency And Psychological Adjustment (H₈)

This study revealed that English language proficiency was positively related to social support ($\beta = .45, p < .001$) which in turn, positively associated with psychological adjustment ($\beta = .42, p < .001$). The finding is in line with previous studies that found that students with strong social ties felt less lonely, psychologically distress, and homesick, hence, better psychological adjustment (Yusoff, 2012). Hence, a higher

level of English language proficiency predicted the higher level of social support (Cotterell, 2013) which, in turn, positively predicted psychological adjustment of international students. For example, emotional support behaviors such as listening, demonstrating warmth, and empathy supports individuals' affective well-being (Wei et al. 2011) and facilitates academic, behavioral, and emotional adjustment (Zhou, Jindal-Snape, Topping, & Todman, 2008). Therefore, these kinds of support help individuals reduce stress, hence, better adjustment (Brisset et al., 2010; Sümer, Poyrazli, & Grahame, 2008).

Social support can be gained through various sources such as one's colleagues or supervisor and in the form of informational (offering advice), emotional (listening and showing sympathy), instrumental (tangible assistance) support (House, 1981) which enhances international student's health and well-being (Khalid, Gilbert, & Huq, 2011; Wang & Hannes, 2014). Social support is an important protective factor (Tao et al., 2000); the availability of these resources help in the transition to university (Friedlander et al., 2007). Emotional support can help stressed individuals to change the meaning they have to a stressful situation to an opportunity to interact with other international students and learn from them (Akinkugbe, 2013; Lee & Padilla, 2014; Zhou, Jindal-Snape, Topping, & Todman, 2008). Moreover, advice and encouragement may also increase active problem solving and information seeking which will assist students to deal with various stressors and enhance stability and mood (Yang, Zhang, & Sheldon, 2018), therefore, facilitating psychological adjustment. Previous studies found that international students' students often built friendships with

multi-nationals as they shared a similar experience (Rienties & Nolan, 2014), motivating them to learn from other cultures (Hendrickson et al., 2011) and achieving satisfaction and connectivity (Hendrickson et al., 2011; Regan & DeWitt, 2015).

The stress and coping framework considers social support an important predictor of psychological adjustment during cross-cultural transitions (Brisset et al., 2010; O'Reilly, Ryan, & Hickey, 2010). Since international students miss their home, families, and friends, English language proficiency will enable them to overcome the feeling of homesickness as they will make friends and actively participate in classroom discussions. As a result, their self-esteem will be enhanced, allowing them to psychologically adjust (Jandt, 2017) in Malaysia (Shafaei & Abd Razak, 2016). Hence, the proposed hypothesis was supported.

5.3.2.4 Acculturation Stress Mediates the Relationship Between Perceived English Language Proficiency And Academic Adjustment (H₉)

This study revealed that English language proficiency was negatively related to acculturation stress ($\beta = -.42, p < .001$) which in turn, negatively associated with academic adjustment ($\beta = -.33, p < .001$). Evidence from past studies also suggests that that lower level of English proficiency is a significant predictor of acculturative stress among international students (Dao et al., 2007), which consequently causes mal-adjustment. When international students (Glass & Westmont, 2014) travels abroad they face challenges such as language barriers (Meng et al., 2018), different academic styles (Misra et al., 2000), problems in daily life tasks (Yeh & Inose, 2003a), meeting deadlines, course requirements, time management issues, and adjustment to the campus environment (Misra et al., 2000; Robotham & Julian, 2006; Zahra & Riaz,

2017) that inhibit their adjustment. As a result, they are likely to experience stress and anxiety (Misra & Castillo, 2004; Misra et al., 2003) which impact on their acculturation (Meng et al., 2018; Yan, 2017). Acculturation is the students' ability to respond or cope with life events that are rooted in cross-cultural contact (Berry et al., 2006). Furthermore, failing to adjust to the challenges can be detrimental to various aspects of university life such as poor academic results, psychological and physical health, and dropout (Martirosyan, Hwang, & Wanjohi, 2015).

Findings from previous studies reported that international students faced various academic challenges such as struggling to meet the assignment deadlines (Misra et al., 2000), feeling tired due to workload (Robotham & Julian, 2006; Young, 2017), having to read many textbooks reducing their time to relax, making friends, or engaging in outdoor activities (Akhtar, 2012; Warwick, 2006). Furthermore, international students with linguistic challenges hinder them from discussing with their advisors and professors (Singh, Zain, & Jamil, 2011), and participating in classroom discussion (Wang, 2003), affecting their academic adjustment.

The lack of English language proficiency skills not only restrict academic participation and achievement but also contribute to classroom anxiety and stress as well as affecting self-efficacy beliefs in a deleterious way. For example, due to the lack of English language proficiency skills, a student may simply pretend to understand the class and participate superficially, consequently giving the impression of being academically inefficient and ill-prepared to professor (Dao et al., 2007). A lack of English language proficiency also inhibits meaningful communication with peers,

lecturers, and other members of the community (Lowinger et al. 2014). Therefore, limited English language proficiency affects their academic adjustment.

In the context of the present study, the difference between the students' expectations and the reality of their Malaysian experience renders the students highly prone to the deleterious effects of acculturative stress which can influence their academic adjustment (Lowinger et al., 2014; Martirosyan et al., 2015). For example, in Malaysia, several factors contribute to international students' stress, such as difficulties in understanding lecturers' accent due to local dialectal variations and slangs because Malaysia is a multi-ethnic country (Wan et al., 2013). Accumulation of these challenges has a negative impact on international students' academic adjustment (Lillyman & Bennett, 2014; Lu et al., 2014; Pan, 2015).

5.3.2.5 Acculturation Stress Mediates the Relationship Between Perceived English Language Proficiency and Social Adjustment (H₁₀)

This study revealed that English language proficiency was negatively related to acculturation stress ($\beta = -.42, p < .001$) which in turn, negatively associated with social adjustment ($\beta = -.19, p < .001$). Evidence from the past revealed similar results; limited English language proficiency compounded by acculturation stress would lead to a feeling of marginality (Berry et al. 2006), hence leading to poor social adjustment. This deficiency also functions as a barrier in day-to-day dealing such as ordering food, finding a suitable accommodation or other social interaction in the host country (Hechanova-Alampay et al., 2002), leaving international students feeling isolated, lonely, and stressed. Culture Learning Theory (CLT) (Michael, 1969) is focused on

behavioral component whereby international students acquire cultural-specific skills such as language competency to establish quality interaction with host national in cross-cultural encounters. By interacting effectively with the people around them, students can seek understanding of the host culture, establish a social network, minimize cultural distance, and find a new identity for themselves.

In the internationalization policy outlined by MOHE (2011), one of the outcomes expected was to increase positive experiences of international students. From the aspect of challenges of social integration and community engagement, the policy stressed the importance of integrating the Malaysian community and the international students where the former must be able to adapt and accept the international students as part of the community, allowing a full integration and the delivery of a positive Malaysian hospitality (MOHE, 2011). Additionally, there is a concern voiced in this policy that Malaysians may find it difficult to embrace international students as part of the community. However, the results of the survey carried out by Lee (2009) of the University of Nottingham in Malaysia found that 31.4% of international students found the process of making friends difficult while only 15.4% of the host-national students experienced the same difficulty (Choo & Singh, 2013). Furthermore, in the study of Pawanteh (2000) on international students from Sudan, Indonesia, and Jordan studying in Malaysia reported that they perceived Malay host students were generally unfriendly toward them. Therefore, international students chose to live near to other foreign nationals as they felt more connected within their own enclaves where they could re-establish their own cultural rituals and habits of everyday living and

continued to experience some home culture's rootedness, customs, and food habits (Hotta & Ting-Toomey, 2013, p. 553).

The possible reason for the lack of social interaction was their low level of English language proficiency which affects students' social adjustment negatively as students were neither able to communicate in social situations (Sherry et al. 2010) nor they were able to establish peer support group (Carhill et al., 2008). This, in turn, contributes to stress and leave students emotionally isolated and distressed (Myers-Walls et al., 2011; Sherry et al., 2010). Acculturation stress compounded by their low level of English exacerbates their stress levels which in turn inhibits students' social adjustment (Paltridge et al. 2014; Wei et al. 2008).

According to social identification theory, cognition plays an important role in determining the attitude of international students towards home and host country; therefore, their identification with their home culture or host culture is important since it is related to cross-cultural adaptation (Turner & Oakes, 1986). When international students do not mingle with host nations and instead maintain their ethnic identity, they are likely to face some form of conflict with the locals; however, when international students group with local students, they are likely to adjust socially (Hernandez, 2009; Shafaei & Razak, 2018). Particularly, when international students find studying abroad an opportunity to learn, they are more likely to interact with Malaysians to learn culture-specific skills, thus facilitating their social adjustment. Besides, when they are proficient in English, they can communicate with the local, understand their culture, and will actively participate in the social network. Such

activities will help international students to overcome their stress and anxiety. All in all, the result supported the present study hypothesis.

5.3.2.6 Acculturation Stress Mediates the Relationship Between Perceived English Language Proficiency and Psychological Adjustment (H₁₁)

English language proficiency negatively was found to be related to acculturation stress ($\beta = -.42, p < .001$) which in turn, negatively associated with psychological adjustment ($\beta = -.33, p < .001$). These results are consistent with previous that found that international students with poor English language proficiency faced more psychological symptoms due to a high level of stress, which led to anxiety (Sam et al., 2015), homesickness (Poyrazli & Grahame, 2007; Thomas & Sumathi, 2016), low self-esteem (Kim & Kim, 2013; Liao & Wei, 2014), cultural identity confusion (Andre & De Araujo, 2011), strained interpersonal relationship (Glass, 2014), health problems (Li et al., 2017), and feeling of isolation (Wang & Hannes, 2014), which affected their psychological adjustment. Contrastingly, students who successfully achieved psychological adjustment demonstrated improved academic results (Rienties et al. 2012), enhanced motivation (Hechanova-Alampay et al. 2002), improved well-being and general satisfaction (Mori, 2000), improved feeling of belongingness and connectedness (Glass & Westmont, 2014), less anxiety and stress (Kuo & Roysircar, 2006) and enhanced self-esteem (Sawir et al., 2008).

English language proficiency is an important factor to assist students in communicating effectively, learning culture-specific skills, and understanding Malaysian norms and values. Hence, it enhances international students' psychological adjustment because their self-confidence in language competency reduces anxiety.

Social Identification Theory (Tajfel & Turner, 1979) focuses on individual cultural identification and relationship between host and co-nationals as they are main element in the new environment (van Bakel, van Oudenhoven, & Gerritsen, 2017). When an international student is actively engaged in the host culture, he or she will be able to overcome his or her anxieties and stress, enabling him or her to adjust psychologically (Dunkel-Schetter, Folkman, & Lazarus, 1987; Lee & Ciftci, 2014).

When international postgraduate students in Malaysian universities manage to balance their personal characteristics with the environment (i.e. cross-cultural adaptation) they can achieve psychological adjustment (Kulik et al., 1987). Achieving psychological adjustment leads to well-being which results in happiness (Lambert, Passmore, & Joshanloo, 2018), personal growth (Adam, Obodaru, Lu, Maddux, & Galinsky, 2018), environmental mastery (Shafaei et al., 2018b), self-acceptance (Keyes, Shmotkin, & Ryff, 2002), positive relationships with others, and self-esteem and autonomy (Ryff, 2008). Hence, the findings supported the proposed hypothesis.

5.4 Implications

The present study was performed to fill in the gap in the existing literature among postgraduate students in Malaysia. The findings of the present study have several implications explained below.

5.4.1 Theoretical Implications

The proposed theoretical framework in this study presented a model in the area of cross-cultural adaptation which was empirically tested in the context of international

postgraduate students in Malaysia. While the proposed model is consistent with the leading models developed by Berry (1997, 2006), Ward et al., (2001), Safdar et al., (2003), and Arends-Toth and van de Vijver (2006), it has extended them with a specific focus on the nexus of antecedents-outcomes in the context of international postgraduate students. Moreover, this study offers a research model with a specific focus on international students which was highlighted by Smith and Khawaja (2011) as a gap in the cross-cultural adaptation studies since the existing models mainly focus on migrants and refugees.

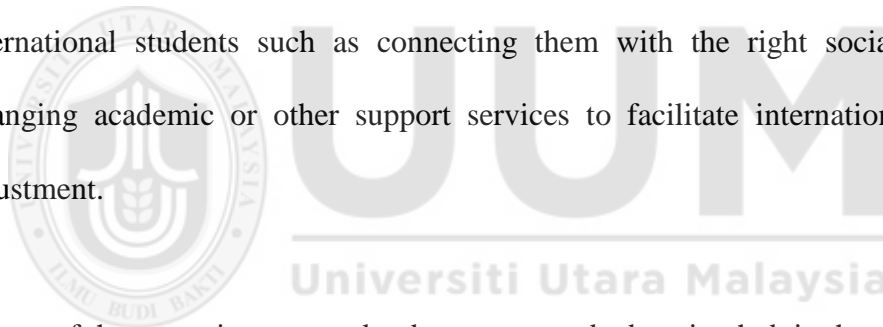
Additionally, the current study contributes to the literature in identifying and empirically examining the factors that influence international postgraduate students' adjustment with affective, behavioral, and cognitive components. Furthermore, based on the strong theoretical foundation and empirical support, this study suggests that the existing models in the literature should be expanded to consider the nexus of antecedents-outcomes in the context of international students rather than focusing on antecedents of cross-cultural adaptation (e.g., Brisset et al., 2010; Jibeen & Khalid 2010; Li & Gasser, 2005; Ward & Masgoret, 2006; Tonsing, 2013; Yeh & Inose, 2002; Yusliza, 2010). By paying attention to both cross-cultural adjustment antecedents and outcomes, not only international postgraduate students can flourish in the host society but also the host society can benefit from higher education internationalization. This way of looking at cross-cultural adaptation process allows for a comprehensive understanding of the issues of international postgraduate students' cross-cultural adjustment in a new environment and also opens up new horizons in this area which have the potentials to be explored.

5.4.2 Managerial/Practical Implications

One of the greatest implications of this study is providing managerial and practical insights for the Malaysian Ministry of Education, university administrators and academics, and education policymakers to manage the changes in order for the needs of international postgraduate students in Malaysian public universities are met. University personnel and departments who deal with international students, including academic advisors, university counseling center professionals, and the office of international programs staff who may find themselves in the position of mentoring, counseling, and advising international students, this study benefits them in that it provides insight into the acculturation stress international students in Malaysia are likely to face, especially those with poor or low English proficiency skills. Secondly, the study also highlights the support these people need to give to help international students adjust well in a different environment.

The literature in SLT explicitly proposes that the idea of creating practical guidelines to train international students in behavioral social skills (see, Zhou, Jindal-Snape, Topping, & Todman, 2008). Hence, universities can provide intervention programs and awareness programs on coping skills and intercultural communication competencies for international students to enhance their strengths in terms of resilience, optimism, the ability to welcome challenges, and the skills to face difficulties and cope while increasing their ability to alleviate acculturative stress and adjust well. Furthermore, besides attaining proficiency in English language skills, students must be encouraged to develop cultural knowledge and intercultural competency to adapt to the new surroundings.

The results of this study also indicate that if international students are provided with opportunities to interact with Malaysian students, they could academically, socially, and psychologically adjust. Hence, providing international students with sufficient social support through student clubs, social networks and organizations to connect local and international students for academic and social support would facilitate international students' adjustment. Additionally, establishing study groups, personal tutorials supported by faculty members and facilitating easy access to professors for seeking academic guidance would help students adjust better. A university could set up effective on-campus student services to provide a variety of support for international students such as connecting them with the right social groups or arranging academic or other support services to facilitate international students' adjustment.



As one of the countries emerged to be a renowned education hub in the region (Tham and Kam 2008), it is vital for Malaysia to prioritize international postgraduate students' cross-cultural adaptation since it leads to perceived psychological well-being, academic satisfaction as well as positive word of mouth. Instead of investing a huge amount of money on marketing to attract more international students, identifying the needs of international students and addressing those needs could lead to enhanced psychological well-being and academic satisfaction, which could increase international students' willingness to recommend Malaysian educational institutions to others. Such word-of-mouth can act as a better marketing and promotional tool for

educational institutions, as positive word of mouth has been regarded as a more reliable source of information for prospective customers (Cheng et al. 2013a).

To reduce the adjustment issues, the universities can simplify the rules in a language understandable for the international postgraduate students. For example, most of the Malaysian public universities use Bahasa Malaysia language for the signage in the campus as well as several official forms. However, by writing them in both English language and Bahasa Malaysia, the complexity and confusion of the international postgraduate students would be minimized. To communicate effectively with the academic and non-academic staff, international postgraduate students need to possess enough ELP to decrease difficulty in interaction. Hence, they need to fulfil university's ELP requirement before enrolling in any program. Additionally, by educating and familiarizing both international postgraduate students as well as Malaysian people about the verbal and non-verbal communication rules and etiquettes, complexity is to design programs or workshops compulsory for international students and teach the priorities of university and communication rules in an effective way upon their registration. This can ensure that necessary information is communication with international students by the educational institutions.

Furthermore, to provide host language training, institutions need to develop and continually update student support policies and implement teaching practices that espouse new and multiple channels of academic learning and social support for international students. There is a need to provide professional development programs for university teachers and staff to develop the institutions' capacity to integrate

international students and build academic and social confidence in culturally mixed campuses and particularly in classes. Such programs could aim to (a) increase understanding of acculturative stress and coping, (b) improve knowledge of inclusive teaching and learning practices that recognize cultural diversity in preferred learning and communication styles, and (c) model best practices in using existing cultural diversity among students to develop intercultural interaction skills in the formal and informal curriculum.

5.4.3 Methodological Implications

The present study used a quantitative research method which accounts for rigorous procedures in adopting questionnaire, choosing sample, data gathering, data analysis, and interpreting the results. Since the majority of the past studies in the Malaysian context had utilised qualitative research designs (Mahmud et al., 2010; Naeeni et al., 2015; Sam et al., 2013), therefore, the present study employed quantitative research design. Furthermore, the present study utilized social support and acculturation stress as mediators which was unlike previous cross-cultural studies.

5.5 Limitation

Despite the useful and beneficial findings of this study, it does have several limitations.

5.5.1 Sample

The current study gathered the data from postgraduate students; undergraduate students and private universities were not included. Moreover, teachers were not included.

5.5.2 Research Design

The data was collected at one point so longitudinal relations were not addressed. In other words, the research design was cross-sectional; therefore, causal directions could not be determined.

5.5.3 Empirical

The present study did not incorporate certain acculturation stressors (financial concerns), adjustment attitude, perceived stereotypes, and perceived complexity; hence, the effects of these stressors on students' adjustment were under-researched.

5.5.4 Methodological

The present study did not account for various groups present in the postgraduate sample such as Asian, Africans, and Middle Eastern.

5.6 Recommendation for future studies

The current study provided valuable insights about the antecedents and mediators of international postgraduate students' academic, social, and psychological adjustment in Malaysia. Despite its novel insights and contributions, this study has some limitations that offer new directions for future studies.

5.6.1 Sample

Future studies are recommended to gather data from undergraduate students as well as teachers to provide a wider perspective from different educational levels as well as institutions.

5.6.2 Research design

It is recommended that future studies should adopt pre-test and post-test methodology to determine whether the acculturation symptoms of international students were pre-existing issues or outcomes of the transition.

5.6.3 Empirical

The present study recommends future research to be conducted to explore various factors related to social involvement at the university and its effect on student's adjustment.

5.6.4 Methodological

Future studies can examine multi-group analysis considering students from various cultural backgrounds to find out the similarities and differences causing an adjustment

5.7 Summary

The present study highlighted the gap in the existing literature about the role of language proficiency in the adjustment (academic, social, and psychological) in Malaysian public universities. To explain postgraduate student adjustment, the present study proposed a model based on SCT, SIT, and CLT, which was tested using structural equational modeling. It was proposed that acculturation stress and social support mediate the relationship between language proficiency and academic, social, and psychological adjustment. The findings confirmed the proposed hypothesis. The findings of the present study have several practical implications for university personnel and departments such as staff member of the office of international

programs that deals with international students. It is likely that international students in Malaysia experience acculturation stress compounded with the inability to deal with academic requirements and daily intercultural living, especially among those with poor or low English proficiency skills. However, social support was found as a key predictor of the outcome variables. Social support through student clubs, social networks and organizations to connect local and international students for academic and social support would facilitate international students' adjustment.



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Appendix A

Instrument



Dear respondent,

I am Sana. A postgraduate student of PhD in educational psychology from school of education and modern languages (SEML). I am conducting a research on the acculturation stress, help seeking and adjustment of international students in UUM. The information obtained is crucial for the researcher, to complete the research paper. All information given is confidential and will be kept as secret. Thus, all the given answers will be kept as secret and be used only for academic purpose.

Your cooperation is appreciated.

Thank you.

Demographic information profile

Tick the appropriate option

Age		
Gender	Male	Female
Level of education	Masters	PhD
Semester		
Nationality		

Instructions: Please rate your responses for questions below:

	Statement	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	I can understand people when they speak with me in English					
2	I can express my ideas in English					
3	I can read English text.					
4	I can write about different about different topics in English.					

	Statement	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	My friends really try to help me.					
2	I can depend on my friends in the time of difficulty					
3	I have friends with whom I can share my joys and sorrows.					
4	I can talk about my problems with my friends.					
5	There are people who are around when I am in need					

6	The international students center on campus is available when I need it.					
7	I can talk about my problems with members in international students' organization.					
8	I trust university would offer me help when I need it.					

Sr no	Statement	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	I feel homesick in this university					
2	I feel uncomfortable in eating Malaysian food					
3	I am treated differently in social situations at university					
4	People in Malaysia criticize my culture.					
5	I feel nervous to communicate in English					
6	I feel sad living in unfamiliar university surroundings.					
7	I fear for my personal safety in Malaysia as I belong to different culture.					
8	I do not feel comfortable in participating in social activities.					
9	People in Malaysia are biased toward me.					
10	I feel guilty to leave my family and friends back in my country					
11	Many opportunities are denied to me in this university					
12	I feel angry that my people from my country are considered inferior here					

13	A lot of stress has been put on me after coming to Malaysia					
14	I feel that I receive unequal treatment in this university.					
15	People in this Malaysian university shows hatred toward me through their actions.					
16	I feel low because of my cultural background					
17	People don't appreciate my cultural values in this university.					
18	In Malaysia, I miss my people and my country.					
19	I feel uncomfortable adjusting to Malaysian culture					
20	I feel that my country people are discriminated in Malaysian university					
21	I feel that my status in this university is low due to my culture background. or nationality.					
22	In this university I am treated differently because of my race or nationality					
23	I feel insecure in this university .					
24	I don't feel a sense of belonging in this university					
25	I feel some people don't associate with me because of my nationality					
26	People in this university show hatred toward me through words.					
27	I feel guilty that I am living a different					

	lifestyle in this university.					
28	I feel sad leaving my relatives behind in my country					

Sr no	Statement	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	I have clear academic goals					
2	I consider university degree important					
3	I enjoy my academic work					
4	My most interests are related to my course work and research.					
5	I keep myself up-to-date with latest academic work					
6	I work as hard as I can for my studies.					
7	I am motivated to study at university in Malaysia					
8	I meet my supervisor regularly					
9	I attend my classes regularly					
10	I find my postgraduate studies difficult					
11	I am not doing well in my postgraduate studies.					
12	I am satisfied with my academic performance					
13	I do not feel smart enough for my academic work					
14	I do not use study time efficiently					
15	I enjoy writing papers for my courses and thesis					

16	I have trouble concentrating when studying					
17	I don't have problem with my academic work.					
18	I am satisfied with variety of research areas offered in this university					
19	I am satisfied with quality of supervision					
20	I am satisfied with the study program offered at this university					
21	I am satisfied with my supervisors					
22	I am satisfied with my course instructors (lecturers and professors)					
23	I am satisfied with academic environment of this university					
24	I am involved in university social activities					
25	I am adjusting well to university					
26	I have a lot of close friends					
27	I have good social skills					
28	I am satisfied with my social participation in university					
29	I am satisfied with my social life in this university					
30	I meet people and make friends					
31	I have an informal contact with my supervisor					
32	I get along well with my study mates at university					

33	I am having difficulty feeling comfortable with other people in university					
34	I do not mix well with students of opposite gender					
35	I have good friends to talk about my problems					
36	I miss home					
37	I feel lonely at the university					
38	I would rather be home than attending this university					
39	I am happy about my decision to attend this university					
40	I enjoy living close to the university					



UUM
Universiti Utara Malaysia

Appendix B

Permission letters

