



The Effect of Demographic Factors on Academic Adjustment among Freshmen in Malaysia

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ABSTRACT:- The transition to university is one of the ecological transition in which an individual experience a change in the environment due to the shift of role, location, or both. Looking at the importance of demographic factors to the academic adjustment, the current study aimed to investigate the predictive factor of demographic characteristics of gender, ethnicity, pre-university academic preparation, parental educational level, perceived adult status, and Grade Point Average (GPA) on academic adjustment among freshman in Malaysia. Data were gathered from one of the public universities in East Malaysia namely, Sabah. The findings show that only gender, ethnicity, and perceived adult status show a significant predictor on academic adjustment. Specifically, female students have higher academic achievement than male students; Chinese students have a higher academic achievement than Sabahan Native students; and emerging adult students have a higher academic achievement than self-perceived adult students. Theoretical and practical implications towards academic adjustment literature are further discussed.

Keywords:- Academic adjustment, demographic, freshmen, perceived adult status, gender

I. INTRODUCTION

The enrolment of undergraduates in Malaysia is gradually increased yearly [1]. Based on the statistic report presented by Ministry of Higher Education, Malaysia, the total enrolment of undergraduates in the Public universities was increased from 70,481 in 2003 to 178,418 in 2013 with the increment of 39.5 per cent. In order to ensure that Malaysia are able to compete with the global trend, Malaysian Ministry of Education (MOE) in the year 2013 has implemented a Malaysia Education Blueprint 2015-2025 (Higher Education) or MEB (HE). The outlining of the plan involved several leading Malaysian thinkers with more than hundred stakeholder groups with various interests and individual whom concern with the transformation. Through the outcome of the consultation, the government has identified ten shifts which are needed to enhance the core aspiration of the Malaysian education system to the following tier.

Among the current achievement of MEB (HE) is the rapid improvement in the research aspect, with 70 per cent increase of publication in five research universities since 2003 until 2012. In addition, the ranking of five research universities which are Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Teknologi Malaysia (UTM), Universiti Sains Malaysia (USM), and Universiti Putra Malaysia (UPM) is currently in the top 100 universities in Asia region.

Generally, the ten shifts address key performance issues in the educational system, such as quality, efficiency, and global trends that are interrupting the education landscape. Specifically, there are two aspirations in the MEN (HE) which are student aspiration and system aspiration. The first four shifts are related to the outcome for key stakeholders in the higher education system; whereas the other six shifts are focusing on enablers for the higher education ecosystem. Although the transformation of higher education system in Malaysia shows a long term implementation, it was anticipated to bring significant impacts and changes in the foreseeable future. Thereby, the Malaysian government calls on such deities towards the young, especially the university students to be able to ready themselves for the transformation in the higher education system. The higher education transformation by the government through the MEN (HE) has caused a rising of awareness and needs towards various roles of stakeholders, in an effort to ensure the university students are capable of

preparing themselves towards a variety of challenges and demands. As such, the implication regarding the increasing number of students in the university is significant to be studied due to the fact that more and more young people will encounter challenges in adjusting to the university as a consequence of the added number of students [2].

Past research has been widely conducted to examine the predictive factors of academic adjustment [3]. [4] divided the predictor variables into three major groups which are academic, social/environmental, and personality. The academic factors include aptitude and ability [5], study skills [6], and self-efficacy [7], and attribution [8]. Meanwhile, social/environmental factors include life stress [9] and social support [11], campus environment [12], family variables [13], and academic environment. For personality factors, it includes personality measures, locus of control [14], self-esteem [15]; emotional intelligence [16] and trait anxiety [17]. Taking into account the current situation of higher education transformation in Malaysia, one important question is raised, “how the first year students can adjust well academically during transition to university?”

II. RESEARCH MODEL AND HYPOTHESES

2.1 Academic Adjustment

Adjustment is defined as psychological processes through which an individual managed or coped with the demands and challenges such as stress, tension, conflicts, and needs of everyday life [18]. Research on adjustment is various and covered several topics. [19] stated that there are four main topics in the adjustment concept. Firstly, interpersonal is related to individual adjustment in the social relationship such as individual perception towards other people, interpersonal communication, in-group behaviour, friendship, and intimate relationship; secondly, developmental transition is related to individual adjustment towards changing demands during development of age such as gender, sexuality, adult development phase, and career transition; thirdly, dynamic of adjustment is related to general issues such as personality effect towards adjustment pattern, stress effect towards someone, and coping strategy used in facing stress; and fourthly, mental and physical health is related with adjustment process effect towards individual psychological and physical well-being. In the current study, adjustment is referred to the second concept – developmental transition to university.

In order to study student’s adjustment in the university, [20] suggested using multiple indicators at the same time. Specifically, most research used [21] theoretical taxonomy in the adjustment to university literatures. Baker & Siryk proposed that adjustment to university is characterized into four areas which are academic adjustment, social adjustment, personal-emotion adjustment, and institutional attachment. But in this research, the researcher is only interested to study the academic adjustment. As asserted by [21], academic adjustment is the degree to which students are able to adapt with the academic demands by looking at their attitudes towards the course, engaging with material, and the efforts in studying.

The transition to university is one of the ecological transition in which an individual experience a change in the environment due to the shift of role, location, or both [22][23]. Typically, the ecological transition represents an expected sudden change of location or roles. Looking at the importance of demographic factors to the academic adjustment, the current study aimed to investigate the predictive factor of demographic characteristic on academic adjustment among freshman in Malaysia.

2.2 Demographic Characteristics

Researchers asserted the importance of another factor which is the demographic as the predictive factor of academic adjustment [24]. Contradictly, in a meta-analytic review of the adjustment to college literature by [24] showed that demographic characteristics are a weak factor of academic adjustment. [25] stated the need for additional research in identifying how demographic changes influence college adjustment. Many researches have been conducted that college performance or educational attainment are influenced by various demographic factors such as gender, ethnicity, socioeconomic status, and birth order [26]. In association of ethnicity and adjustment, much of the study has been done among minority ethnic. Students with minority ethnic background are generally face more difficulty in adjusting to university compared to student with non-minority background [27][28]. Moreover, [29] also reported that ethnicity is a significant predictor of academic performance.

Gender is also a powerful construct in predicting educational attainment other than ethnicity [30][31]. Although past studies have shown that gender is an inconsistent predictor of academic outcome [32][33]. For example, [34] reported that adjustment to the university can be predicted by gender, but [35] reported contrarily. Nevertheless, in the recent literatures, findings show that female tended to outperform male students. As reported by [36], more female students graduated, compared to male student. Furthermore, female students tended to score higher for academic adjustment [37][38]. Parental education level is also relevant to be studied

as the predictor of academic outcome [39]. Low levels of education of parents are also contributed to poor adjustment, low GPAs, and dropped out among students in the university [40]. Students with more educated parents tend to have a higher GPA among freshmen [34]. However, some researchers reported that parental education is a significant predictor for college adjustment for female student, but not for male students (e.g., [41]).

Pre-university academic preparation is also highly useful for determining college success [33][42]. For example, high school academic achievement is the best predictor of GPA during the first year in the university [43] In Malaysia, pre-university academic preparation are based on four entries which are Matriculation, Malaysian High School Certification (STPM), Diploma, and Fundamental Study in Science (ASASI *Sains*) [44]. Past studies have reported mix findings between pre-university academic preparation and academic outcome. Some studies reported that STPM students scored higher in Linear Algebra compared to others pre-university background (e.g., [44][45]), but some studies did not find the difference between pre-university performance and academic performance (e.g., [46]). Other than pre-university academic preparation constructs, first semester GPA is also served as the best predictor of academic outcome [42][47][48].

The current research also aimed to investigate a new factor emerged in emerging adulthood literature which is self-perceived adult. Based on emerging adulthood literature, [49] affirmed that there is a minority group aged 18-25 whom perceived that they are already achieving adulthood. Past findings showed that self-perceived adult have different characteristics compared to their emerging adult peers. Self-perceived adults less involve in risky behaviours such as drunk driving and substance use, less depressed, low sensation-seeking, more independent, more successful in academic, and tend to be in a long-term relationship [50][51][52][53][54]. Nevertheless, [52] asserted that only a little research has been conducted into understanding how self-perceived adult is differed than the emerging adults and further investigation is warranted. Figure 1 shows the theoretical framework of this study. Thus, based along the given explanation, this study hypothesized that:

- H1: Female students will have higher academic adjustment than male students.
- H2: Academic adjustment will differ based on ethnicity.
- H3: STPM students will have higher academic adjustment than Matriculation students.
- H4: Students with higher father educational level will have higher academic adjustment than students with lower father educational level.
- H5: Students with higher mother educational level will have higher academic adjustment than students with lower mother educational level.
- H6: Self-perceived adult students will have higher academic adjustment than emerging adult students.
- H7: Academic adjustment will differ based on GPAs.

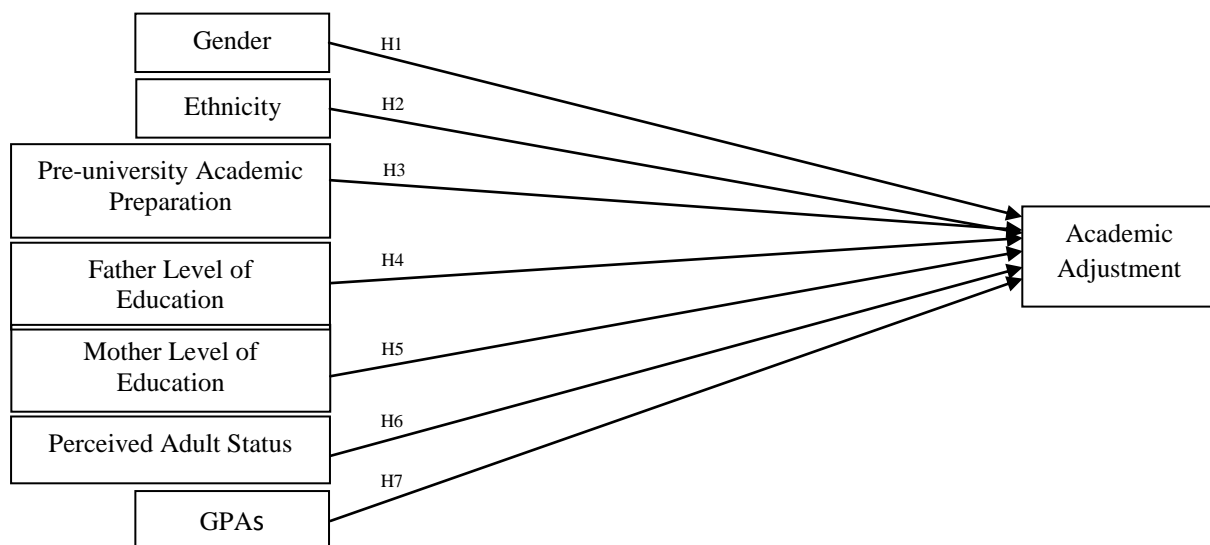


Fig 1. Theoretical framework

III. METHOD

3.1 Participants

The current study was conducted in one of the public universities in East Malaysia among the first year students. A total of 700 questionnaires were distributed. A total of 568 questionnaires were returned, however, only 326 questionnaires were usable, whereas 242 questionnaires were excluded. As such, the response rate is 46.6 per cent. Of the total participants, the majority are female with 216 respondents (66.3 per cent), whereas male with 110 respondents (33.7 per cent). For educational level, the majority were from *Sijil Tinggi Persekolahan Malaysia* (STPM) or Malaysian Higher School Certificate with 243 respondents (74.5 per cent), whereas 83 respondents (25.5 per cent) were from Matriculation. Meanwhile, for ethnicity, majority is Native Sabahan with 169 respondents (51.8 per cent); followed by Malay with 81 respondents (24.8 per cent); and Chinese with 76 (23.3 per cent). For respondent's father educational level, the majority is high school level with 241 respondents (73.9 per cent), whereas less than high school level with 85 respondents (26.1 per cent). Meanwhile, for respondent's mother educational level, the majority is high school level with 221 respondents (67.8 per cent), whereas less than high school level with 105 respondents (32.2 per cent). The majority of the respondents were from Humanities with 217 respondents (66.6 per cent), whereas 109 respondents (33.4 per cent) are from the sciences. Next is the perceived adult status, the majority of the respondents are categorised as emerging adults with 237 respondents (72.7 per cent), whereas 89 respondents (27.3 per cent) are categorised as self-perceived adult. Lastly, for CGPA, the majority were at the level of good (3.00-3.49) with 158 respondents (48.5 per cent); followed by medium (2.50-2.99) with 133 (40.8 per cent); and excellent with 35 (10.7 per cent).

3.2 Research Design

This study involved a cross-sectional research using questionnaires for data collection. Particularly, this study sought to examine the predictive factor of demography (gender, educational level, ethnicity, parent's educational level, perceived adult status, and CGPA) towards academic adjustment among first year students.

3.3 Measures

The measure of demographic factors was developed by the authors from the published literatures. Meanwhile, the academic adjustment measure was derived from [55]. Concerning demographic factors, categorization of the groups was done by using dummy variables. As for gender, dummy coded was created to demonstrate the male and female with female as the reference group. For educational level, dummy coded was created to demonstrate STPM and Matriculation with STPM as the reference group. Meanwhile, ethnicity was dummy coded to demonstrate three different groups (Native Sabahan, Malay, and Chinese) with Native Sabahan as the reference group. Next, mother's educational level was dummy coded to represent two groups (less than high school, high school) with high school as the reference group. The same dummy coded was replicated for father's educational level with high school as the reference group. For perceived adult status, two different groups were created (self-perceived adult and emerging adult) by using dummy coded with self-perceived adult as the reference group. Lastly, CGPA was categorized into three groups after dummy coded: 2.50-2.99 (Good), 3.00-3.49 (Medium), and 3.50-4.00 (Excellent) with 3.00-3.49 (medium) as the reference group.

3.4 Procedure

Respondents were recruited using convenience sampling in one of the public universities in East Malaysia, particularly Sabah. First year students were identified from the lecturers, tutors, and lab demonstrators. Before distributing the questionnaires, the respondents were firstly briefed about the purpose of study and time allocated to complete the questionnaire. After data collection was completed, the raw data were inserted into the IBM Statistical Package for the Social Sciences (SPSS) Version 21.0. In order to analyse the research hypotheses, a variance-based structural equation modelling (SEM) – SmartPLS version 2.0 was used. The analysis consisted of two-step, firstly the evaluation of measurement model was carried out, followed by evaluation of structural model. Figure 1 demonstrates the overall research model.

IV. RESULTS

4.1 Measurement Model Assessment

In this study, only variables that have multi-item scales underwent reliability and validity assessment, namely, academic adjustment. Convergent validity was assessed by examining the factor loadings, average variance extracted (AVE), and composite reliability (CR) [56]. A threshold value of factor loadings and AVE more than 0.5, and CR more than 0.7 are considered to be acceptable. Based on Table 1, factor loadings, AVE, and CR are all above the threshold values, therefore, it can be concluded that the convergent validity has been adequately met.

Table 1 Measurement Model Results

Construct	Item	Convergent Validity		
		Factor Loadings	AVE	CR
Academic Adjustment	AKA17	0.718	0.516	0.865
	AKA19	0.787		
	AKA21	0.692		
	AKA23	0.692		
	AKA24	0.716		
	AKA7	0.703		

Note: AKA1, AKA2, AKA3, AKA4, AKA5, AKA6, AKA8, AKA9, AKA10, AKA11, AKA12, AKA13, AKA14, AKA15, AKA16, AKA18, AKA20, and AKA22 were deleted due to low loadings

The discriminant validity was assessed by using [57] criterion. To assess the discriminant validity, the square root of the AVE is compared to the correlations of the other constructs. The discriminant validity is achieved when the AVE extracted is greater than its correlations with all the other constructs [57]. Based on Table 2, the square roots of AVE are higher compared to the squared correlations, thus it can be concluded that discriminant validity is established.

Table 2 Discriminant Validity Results

		1	2	3	4	5	6	7	8	9	10
1.	(Good) 2.50-2.99	<i>I</i>									
2.	(Excellent) 3.50-4.00	-0.336	<i>I</i>								
3.	Academic Adjustment	-0.010	-0.104	<i>0.718</i>							
4.	Chinese	0.119	0.324	-0.291	<i>I</i>						
5.	Female	-0.035	-0.067	0.175	-0.113	<i>I</i>					
6.	Less than High School (Father)	-0.017	-0.025	-0.044	-0.014	0.069	<i>I</i>				
7.	Less than High School (Mother)	-0.012	-0.027	0.076	-0.101	-0.008	0.443	<i>I</i>			
8.	Malay	-0.046	-0.154	0.060	-0.317	0.035	-0.018	-0.077	<i>I</i>		
9.	Matriculation	-0.003	0.002	0.065	-0.306	-0.015	-0.155	-0.056	0.088	<i>I</i>	
10.	Self-perceived Adult	-0.095	0.101	-0.102	-0.020	0.174	0.035	-0.034	-0.094	0.105	<i>I</i>

Notes: (i) Diagonal represents the square roots of AVE, while the other entries represent squared correlations.
(ii) Reference group: Gender - Male; CGPA - Medium; Ethnicity - Native Sabahan; Father Educational Level - High School; Mother Educational Level - High School; Educational Level - STPM; Perceived Adult Status - Emerging Adult.

4.2 Structural Model Assessment

In order to examine the hypothesized relationships in the research model, structural model assessment was conducted. By following [58], this study used the bootstrapping method in 500 resample to determine the significant path coefficients. According to [59], structural model assessment involves with R², beta, t-values, predictive relevance (Q²), and effect size (f²) evaluation.

The results of structural model are presented in the Table 3. Female (β = 0.176, p < 0.01), Chinese (β = -0.292, p < 0.01), and self-perceived adult (β = -0.135, p < 0.05) were found to be significantly related to academic adjustment explaining 13.5% of the variance in academic adjustment. Thus H1, H2a, and H6 are supported. The R² value was above 0.13 indicated a substantial model as suggested by [60].

As argued by [61], it is essential to report both substantive significance (*effect size*) and statistical significance (*p value*). Although a p value can show the existence of effect, but p value cannot reveal the effect size. Therefore, effect size can be determined by examining the changes in the R² value [58]. This can be done by omitting a specific exogenous construct from the model and the changes of R² value are examined. This is to determine the potential substantive impact of the particular exogenous construct has on the endogenous construct.

[59] guideline was followed in order to assess the effect size magnitude. A small, medium, and large effect has a magnitude of 0.02, 0.15, and 0.35 respectively. Based on Table 3, all f^2 values had a small effect size. Thus, it can be concluded that all significant relationships demonstrate a substantive impact.

Next, the blindfolding procedure was conducted to assess the predictive relevance (Q^2) of the research model. [58] suggested that a model shows a predictive relevance when the Q^2 value of the endogenous construct is above 0. Based on Table 3, the Q^2 value is 0.058, thus demonstrated an acceptable predictive relevance.

Table 3 Hypotheses Testing Results

Path	Hypotheses	Beta	S.E	t-value	Results	R ²	f ²	Q ²
Female → Academic Adjustment	H1	0.176	0.052	3.381**	Supported	0.135	0.035	0.058
Chinese → Academic Adjustment	H2a	-0.292	0.073	4.024**	Supported		0.068	
Malay → Academic Adjustment	H2b	-0.043	0.059	0.722	Not Supported			
Matriculation → Academic Adjustment	H3	-0.013	0.061	0.220	Not Supported			
Less than High School (Father) → Academic Adjustment	H4	-0.094	0.059	1.600	Not Supported			
Less than High School (Mother) → Academic Adjustment	H5	0.081	0.055	1.469	Not Supported			
Self-perceived Adult → Academic Adjustment	H6	-0.135	0.064	2.097*	Supported		0.020	
(Good) 2.50-2.99 → Academic Adjustment	H7a	0.021	0.062	0.331	Not Supported			
(Medium) 3.50-4.00 → Academic Adjustment	H7b	0.017	0.082	0.202	Not Supported			

Notes: *p<0.05; **p<0.01 (1-tailed)

V. DISCUSSION

The current study aimed to extend the literatures on university adjustment, particularly academic adjustment, by investigating the predictive factors of demographic characteristics on academic adjustment among freshmen in Malaysia. Specifically, this study has identified the relationships between gender, ethnicity, pre-university academic preparation, parental educational level, perceived adulthood status, and GPAs towards academic adjustment. Past studies have suggested that individual differences could influence the academic adjustment among freshman [34]. Thus, the effect of demographic characteristics on academic adjustment is important to be studied.

As for gender, it was found that female students have a higher academic adjustment compared to male students. Therefore, H1 is supported. The current findings corroborated some of the past literatures which reported that female students tend to outperform male students in academic outcome [37][38]. As for ethnicity, Chinese students have a higher academic adjustment compared to Sabahan native students, thus H2a is supported. Whereas H2b is rejected due to no significant difference between Sabahan Native students and Malay students. Thus, the finding of this study is in line with [29] which postulated that academic outcome is significantly different between ethnicity. As for pre-college academic preparation, there is no significant difference between STPM students and Matriculation students on academic adjustment, thus rejecting H3. The current finding is in accordance with [62].

Meanwhile, for parental educational level, there is no significance difference between less than high school level and high school level on academic adjustment for both father and mother. Thus, H4 and H5 is rejected. The current finding is inconsistent with [40]. As for perceived adulthood status, it is found that emerging adult students have a higher academic adjustment than self-perceived adult students, thus rejecting H6. The current finding is inconsistent with [52]. Although it was hypothesized that students with self-perceived adult status have higher academic adjustment than emerging adult students, the current finding shows contradiction. It is found that students with emerging adult status have higher academic achievement compared to students with self-perceived adult status. [63] stated that emerging adulthood well-being is increasing due to

the admission to higher education. During this period, the university offers a wide opportunity in “identity investment” in which emerging adults could benefit from interpersonal, social, education, career source, social network, as well as learning to be professional and life strategies for future life [64]. Therefore, researchers assumed that due to the active engagement in identity exploration among emerging adult students, this can be the reason why their academic adjustment is higher than the self-perceived adult students.

Lastly, as for first semester GPA, there is no significant difference between high achievement, medium achievement, and good achievement on academic adjustment. Thus, rejecting H7. The current finding is inconsistent with past literatures (*see* [42][46][47]). The theoretical model of the study demonstrates that the demographic characteristics factor explained about 13.5 per cent of the variance in academic adjustment which shows a moderate effect [59].

5.1 Implications, Limitations, and Suggestions

Theoretically, the findings of this research can be benefited for academicians and adding to the university adjustment literatures, especially in the Malaysian context. Although only two main hypotheses were supported, whereas five hypotheses were not supported, this study contributes to a different theoretical implication. In addition, this study supported [24] argument on the importance of demographic characteristic as the predictor of academic adjustment. This study also has empirically proven that gender, ethnicity, and perceived adult status served as the predictor of academic adjustment among Malaysian freshman. As for practical implication, the findings of this study suggest that demographic characteristics are partially influenced the academic adjustment among freshman. Lecturers, academic advisors, counsellors, and campus administrators could be benefiting from the results of the study as a guideline for encouraging academic adjustment. For example, counselling and specific transition program can be conducted for male students, Malay and Sabahan Native, and students with self-perceived adult status to promote the academic adjustment.

Although the research design is chosen based on the suitability of the research objectives and crucial elements in this study, there are unavoidable limitations that should be acknowledged. First, the generalization must be cautiously interpreted due to the targeted population only derived from one public university in East Malaysia. When interpretation is made, it is important to consider the culture of Malaysia as a whole. Secondly, the current study depends on the cross-sectional data, therefore this study assumed that the research nature is not allowed to examine the long term effect of demographic characteristics towards academic adjustment. Hence, further research can replicate this study in the future or extending the research theoretical by adding more demographic characteristic constructs such as current living conditions (e.g., staying with parents and not staying with parents) and residential area (e.g., urban and rural). Other than that, examining the academic adjustment among students in different year of study is also warranted.

VI. CONCLUSION

The main objective of the current study was to investigate the effect of demographic characteristics on academic adjustment. It was hypothesized that gender, ethnicity, parental education level, perceived adult status, GPA, and pre-university academic preparation served as predictors of academic adjustment among freshman. However, the research findings showed that only gender, ethnicity, and perceived adult status are significant predictors. The researchers hope that the findings of this research could provide distinction in adjustment literature especially among freshman in Malaysia.

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