Cultural influences on pharmacy student engagement in a global university

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Abstract

Background: Global universities are universities with international branch campuses. There has been an increase in the number of global universities operating in various countries. Local students who study in branch campuses of global universities in their home country may find it challenging to adapt to the culture of these institutions.

Aims: The aim of this study is to explore how the students' pre-university education background can impact on their first year experiences at a global university.

Methods: The authors explored acculturation levels of three groups of first year pharmacy students of different pre-university education background, who studied at a global university in Malaysia. Impact of acculturation on student engagement, sensation seeking and psychological determinants such as depression, anxiety and stress were also investigated.

Results: The language acculturation was significantly different among the examined groups. The overall acculturation was significantly correlated with cognitive and psychological engagement. Students with lower acculturation scores had significantly higher scores in thrill and adventure seeking, and depression.

Conclusions: Overall, the findings of this study provide practical implications for mental health and university-wide initiatives in improving the psychological well-being of pharmacy students.

Keywords: *Cross Cultural Studies, Global Education, Multicultural Education, Pharmacy, Undergraduate Students*

Introduction

Global universities are universities with global perspectives and footprints that aim to increase the accessibility of education. The term 'global' or 'globalisation' refers to world systems that are distinct from the nation-state, crossing its boundaries, and sometimes but not always displacing it (Marginson, 2002). Globalisation has caused a drastic shift to the function and character of higher education (Çelik & Gömleksiz, 2000). The general mission of these universities is to provide convenient and equal access to education without being restricted by the national boundaries. These universities usually provide education either via online distance learning or traditional classroom learning by setting up physical off-shore campuses across the regions or continents. Over the last decade, there have been an increasing number of global universities in many parts of the world due to high demand for quality education.

Global universities are popular among the local students because these universities are internationally recognised and reputable in providing high quality education. The students are now able to study at the branch campuses of these universities in their home country without having to go overseas. This can also be translated into financial savings because the tuition fees are usually much lower compared to studying at the main campus of global universities, which is usually located overseas, partly because students do not need to pay additional international student fees. In addition to that, students will also encounter lower living expenses comparing to those who opt to study overseas. Overall, these global universities enable students to access high quality education at a much lower cost compared to going overseas to pursue their degree, which is a great advantage.

Acculturation is the process of change that occurs over a long period of time, either at an individual or at a group level, following contact between cultures (Berry, 2005). At the group level, acculturation usually involves changes in social structures and cultural practices. At the individual level, it involves changes in a person's psychological behaviours and physical well-being. For instance, exposure to a different culture by working or study abroad can result in acculturation such as acquisition or improved learning of a second language.

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However, acculturation does not necessarily replace the original culture entirely. Due to ethnic diversity, Malaysia has opted to practice linguistic segregation in individual public schools (Tan, 2005). The particular schools are labelled as Malay-, Chinese-, or Tamil-medium schools based on the language used as the medium of instruction. Although the English language is taught as a subject in public schools, there are no solely English-medium public schools in Malaysia. While some students may be proficient in the language of instruction of their university, their sensitivity toward the culture of the university in terms of how teaching and learning occurs may show serious deficits. For example, Asian students are accustomed to a passive learning style from a young age (Tran, 2013). The Western educational institutions tend to employ a student-centred approach, in which students are expected to be independent learners and have active participation in their own learning, as part of their academic culture (Ryan & Louie, 2007). Thus, student adjustment to the cultures of learning in global universities of western origin may be challenging. However, students originating from backgrounds that are culturally mismatched to global universities may face additional challenges in classroom engagement and academic performance.

In recent years, branch campuses of global universities operating in various countries, particularly the South East Asia region, are sprouting (Altbach, 2015). The impact of globalisation on higher education provides new emerging opportunities for research and education (Altbach, Reisberg & Rumbley, 2009). For some acculturation scholars, the trend is treated as an assault to local culture and autonomy. In fact, it has been reported that global practices and ideologies without developing the local unique systems and honouring the rich traditions, cultures, and scholarships of East Asia may easily lead to re-entering the process of colonisation (Mok, 2007). In addition to an increase in the opportunities present for studying abroad that this change creates, many students are choosing to receive their education outside of their home country (Jackson, 2008). To effectively teach a population that is growing more diverse, intercultural competence should thus be a focus. An understanding and sensitivity to different cultures is also becoming increasingly important in training health practitioners (Altshuler, Sussman & Kachur, 2003). Therefore, transmitting ideas that transcend cultures among allied health students such as those who enrolled in pharmacy programmes are important**,** and if not done correctly may later negatively influence their coping capability in university life and professional practice. Furthermore, intercultural competence may inevitably improve the rate of mental health help-seeking behaviour among culturally and linguistically diverse groups (David, 2010).

The impact of acculturation on student engagement is poorly understood. Student engagement is an important goal for education as it leads to greater academic achievement and social development (Marks, 2000). The Student Engagement Instrument (SEI) is a student self-report survey designed to measure cognitive and psychological engagement (Appleton *et al*., 2006). The SEI was initially developed using computerised databases from a review of the relevant literatures. The SEI contains dimensions which include engagement, belonging, school identification, self-regulation, academic engagement, behavioural engagement, cognitive engagement, and psychological engagement. The SEI was initially piloted among 31 ethnically diverse eighth grade students and then it was employed on a large sample of 1,931 ninth grade students (Appleton *et al*., 2006). The study also found that the six factor model of SEI has the best model fit compared to other models when examined using confirmatory factor analyses. The SEI has also been piloted with undergraduate college students with slight modification to the instrument (Grier-Reed *et al*., 2012)

It has been reported that acculturation has significant predictive effects on mental health problems (Yeh, 2003). The degree of stress that is associated with acculturation processes might exacerbate risk for mental health issues (Hwang & Ting, 2008). Research studies have evidenced that psychological and personality determinants such as sensation seeking and impulsivity have been linked with risk-taking behaviours and indirectly impact on the mental health status of young adults (Charnigo *et al*., 2012). Mental health indicators such as depression, anxiety and stress are risk factors for risky behaviours such as unprotected sex, drug addiction and gambling disorder, which are temptations commonly experienced by young adults in universities (Shead, Derevensky & Gupta, 2010). It has been documented that interventions that focus on reducing known risk factors such as stress and anxiety are helpful in improving academic performance (Flinchbaugh *et al*., 2012).

This study was conducted on a branch campus of a global university in Malaysia. Most university students in Malaysia have either studied in a public, a private or an international school for their pre-university education. International schools are schools in Malaysia that offer foreign education to local or expatriate communities. This project was aimed to explore the effect of global university on engagement of the first year pharmacy undergraduate students who were from three distinct pre-university schooling systems, namely the public, the private and the international schools. As there is limited literature involving these three pre-university schooling systems, especially in Malaysia, this study will shed light on the situation and experiences of students in Malaysia. Different pre-university schooling systems in Malaysia may have impacted on the levels of acculturation of local students at global universities. The authors examined the impact of acculturation on student engagement, specifically on the cognitive and psychological aspects. It was hypothesised that students with higher levels of acculturation are more likely to be engaged at global universities. Influences of acculturation and engagement on sensation seeking and other psychological factors such as depression, anxiety and stress were also investigated.

Methods

Participants

All first-year pharmacy students enrolled in the global university, above 18 years of age who have experienced schooling at either a public, a private or an international school were invited to participate in the study. Students were invited to participate through the indication of their interest by responding to a link advertised on research flyers posted around the university campus. To improve recruitment, the authors also had a researcher introduce and explain the nature and purpose of the project to students after classes. Students were subsequently provided with the questionnaire link and asked to complete the questionnaire online during their own free time.

Instruments

Four self-report questionnaires were utilised in this study: Acculturation scale (Chung, Kim & Abreu, 2004), Student Engagement Instrument (SEI) (Appleton *et al*., 2006), Brief Sensation Seeking Scale (BSSS) (Hoyle *et al*., 2002), and Depression, Anxiety and Stress Scale - 21 Items (DASS-21) (Henry & Crawford, 2005).

Acculturation scale

In this study, the authors adopted the Asian American Multidimensional Acculturation Scale (AAMAS) to measure acculturation and adaptation of students in the university (Chung, Kim & Abreu, 2004). Out of the four AAMAS factors, only two acculturation factors that are relevant to student or academic settings were examined, namely cultural identity and language adaptation. There were six items for measuring cultural identity and four items for language acculturation. Items were scored using a 6-point Likert-type scale, ranging from 1 = not very much to 6 = very much. Higher scores indicated higher levels of acculturation.

Student Engagement Instrument

In this study, the authors employed the six-factor model of SEI to examine the following: (i) teacher-student relationships; (ii) peer support for learning; (iii) family support for learning; (iv) control and relevance of school work; (v) future aspirations and goals; and (vi) extrinsic motivation. Factors (i), (ii) and (iii) were used to access psychological engagement. The remaining three factors were part of the cognitive engagement. There were a total of 35 items in the six-factor model of SEI. Nineteen items were intended to examine psychological engagement from the perspective of the student. The remaining items of the instrument were used to measure cognitive engagement. In this study, in order to adapt the SEI for Year 1 university students, some wordings on the instrument were altered. For example, the words "school" and "teachers" were replaced with the words "university" and "lecturers", respectively across the instrument. All items were scored via a 4-point Likert-type rating (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). All items were coded and two reversed items were recoded. Higher scores reflected higher levels of engagement.

Brief Sensation Seeking Scale (BSSS)

The BSSS was initially developed by adapting items from the full version of the Sensation Seeking Scale - Form V (SSS-V) (Hoyle *et al*., 2002). Sensation seeking is a personality trait characterised by the urge to search for experiences and feelings. This scale is made up of eight items. Four of these items were examined in this study, namely experience seeking, boredom susceptibility, thrill and adventure seeking and disinhibition. Responses are indicated on a 5-point Likert-type scales (1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree.

Depression, Anxiety and Stress Scale - 21 Items (DASS-21)

The DASS-21 (the short version of the Depression, Anxiety and Stress Scale) is a set of three self-report sub-scales designed to measure the emotional states of depression, anxiety and stress (Henry & Crawford, 2005). Each of the three sub-scales contains seven items. All items are scored via a four point severity scale (0 = did not apply to me at all, 1 = applied to me to some degree, or some of the time, 2 = applied to me to a considerable degree, or a good part of the time, and 3 = applied to me very much, or most of the time). Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. Higher scores indicate higher levels of depression, anxiety or stress.

Design and Procedure

Interested participants were asked to complete a short online questionnaire. The completion time was around 20 minutes. The questionnaire sought information on which type of schooling system they went through (independent variable) and factors relating to their adjustment to university life and current engagement in class. Dependent variables such as levels of acculturation, cognitive and psychological engagement, sensation seeking, depression, anxiety and perceived stress levels were measured using the four instruments as described in preceding paragraphs. Demographics were assessed as possible covariates. There was no physical or psychological stress, inconvenience or discomfort anticipated in the completion of the questionnaire beyond the experience of everyday life. Participants were asked to contact the principal researcher or the local research officer if they reported any discomfort from having answered the questions, to enable referral to student counselling services. The survey was anonymous to protect the privacy of the participants involved. All data reported were in a de-identified form.

Statistical analysis

IBM SPSS Statistics (version 22) software was used for data entry and analysis. The authors employed the non-parametric Kruskal Wallis test to statistically analyse whether there was any difference in the score distribution among students who experienced different schooling system (public, private or international). Pairwise comparisons were performed when more than two variables were present. The single p-values from pairwise comparisons were compared to the critical value of Kruskal Wallis and reported as "adjusted p-values". Data were expressed as median and interquartile range (IQR). The Spearman's correlation test was employed to analyse the correlation between variables. In this study, any p-values less than 0.05 were reported as statistically significant. For pairwise comparisons, only values with "adjusted $p < 0.05$" were considered statistical significant. Percent change (%) reported in this study is referred to "median percent change". The data distribution and key statistical values were displayed with box plots as indicated in Figures 1 to 7. In brief, the box is determined by the 25th and 75th percentiles, whereas the whiskers are determined by the 5th and 95th percentiles. The thick line within the box is the median score values.

Results

A total of 121 individuals participated in this study, representing a response rate of 73.6%. Nearly three quarters of the participants were female, and most were of Chinese ethnicity. Average age of the participants was 19.8 years with a range between 18 to 26 years. Seventy-six participants (62.9%) had previously studied in Malaysian public schools before entering the university, 31 participants (25.7%) had studied in Malaysian private schools and 14 participants had studied (11.4%) in international schools. The demographics of participants are listed in Table I.

In this study, the relationship between schooling systems and acculturation was examined. Although the scores for total acculturation and cultural identity acculturation were not significantly different among the students from public, private and international schools in Malaysia, language acculturation scores were significantly different ($p = 0.021$) among the examined groups (Figure 1). Pairwise comparisons showed that the score for language acculturation was significant higher (adjusted $p = 0.018$) for students from international schools (median = 23.5, IQR = 23.0 - 24.0) as compared to Malaysian public schools (median = 20.0, IQR = 17.0 – 21.0). The language acculturation score was also significantly higher ($p = 0.034$) for students who had taken foreign syllabus (median = 23.0, IQR = 21.0 – 24.0) as compared to those who had taken Malaysian syllabus in school (median = 20.0, IQR, 17.0 – 21.0) (Figure 2).

**Table I: Demographics of participants**

Variable	n = 121	%
Pre-university schooling system		
Public school	76	62.9
Private school	31	25.7
International school	14	11.4
Gender		
Male	28	23.1
Female	93	76.9
Syllabus studied in school		
Malaysian syllabus	100	82.6
Others	21	17.4
Nationality		
Malaysian	107	88.4
Others	14	11.6
Ethnicity		
Malay	7	5.8
Chinese	93	76.9
Indian	4	3.3
Others	17	14
Duration of residency in Malaysia		
≤ 5 years	10	8.3
6-10 years	0	0
11-15 years	4	3.3
>15 years	107	88.4
Work while studying in university		
Yes	10	8.3
No	111	91.7

**Figure 1: Distribution of language acculturation scores of students from three different schooling systems**
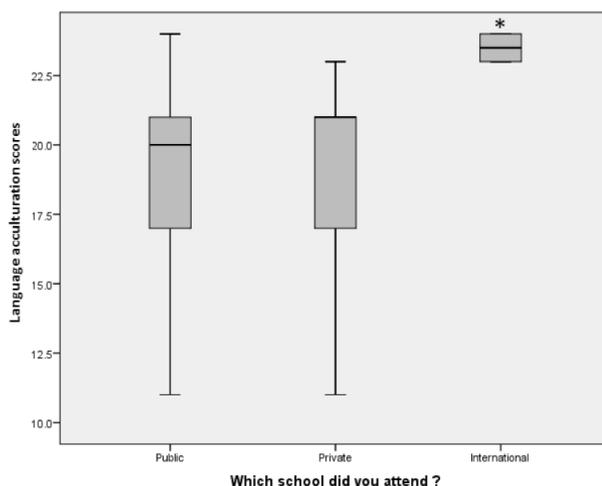
*denotes statistical significance at $p < 0.05$.

Figure 2: Distribution of language acculturation scores of students who had taken Malaysians syllabus and non-Malaysian syllabus in school
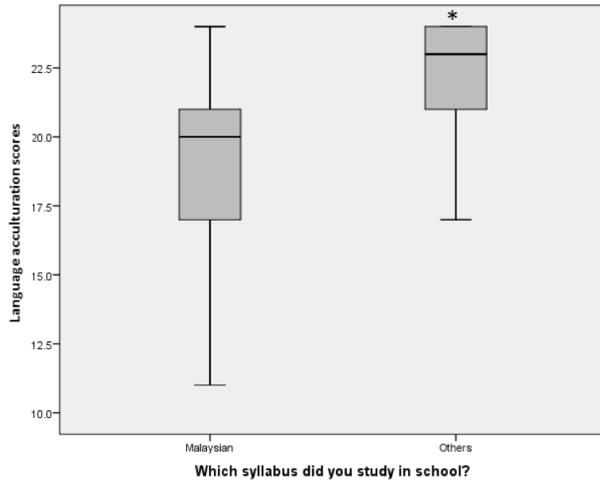
*denotes statistical significance at *p* < 0.05

Figure 3: Distribution of language acculturation scores between Malaysian students and students from other nationalities
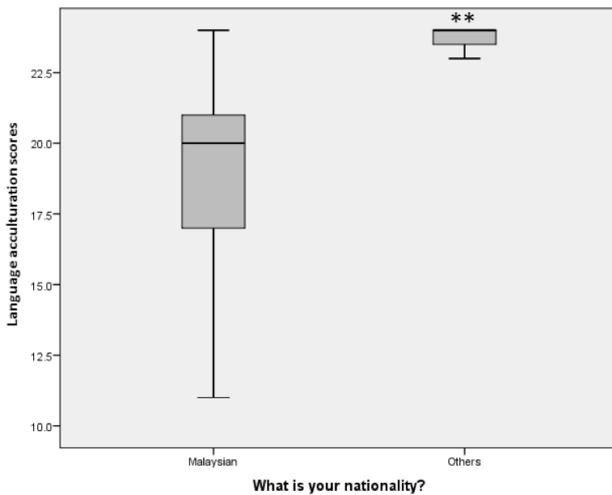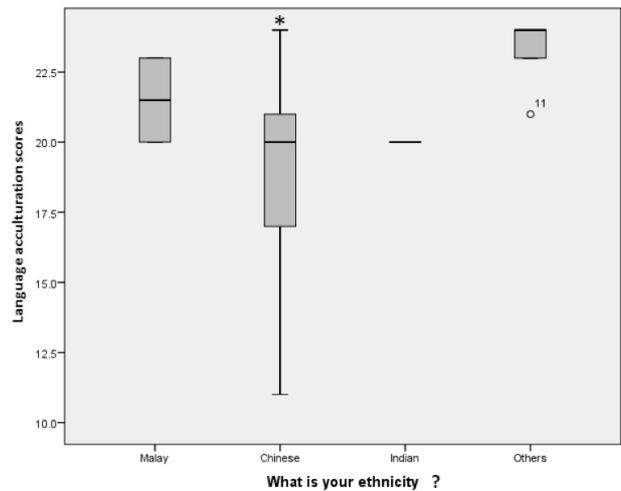

**denotes statistical significance at *p* < 0.01

The language acculturation score was significantly lower (*p* = 0.003) for Malaysian students (median = 20.0, IQR = 17.0 - 21.0) when compared to other nationalities (median = 24.0, IQR = 23.5 – 24.0) (Figure 3). In addition, the language acculturation score was significantly lower (adjusted *p* = 0.015) for Chinese ethnic (median = 20.0, IQR = 17.0 – 21.0) when compared to students who identified themselves as "others" (median = 24.0, IQR = 23.0 – 24.0) (Figure 4). Moreover, the score for language acculturation was significantly lower (*p* = 0.035) for local students (median

= 20.0, 17.0 – 21.0) as compared to those who live in Malaysia for less than five years (median = 24.0, IQR = 23.5 – 24.0) (Figure 5). Interestingly, the authors also found that students who work during their studies had significantly lower (*p* = 0.036) cultural identity acculturation score (median = 21.0, IQR = 18.5 – 21.5) when compared to those who do not work (median = 25.5, IQR = 22.5 – 27.0) (Figure 6). The total acculturation score is also slightly higher for those students from international schools (Figure 7).

Figure 4: Distribution of language acculturation scores of students from different ethnic groups
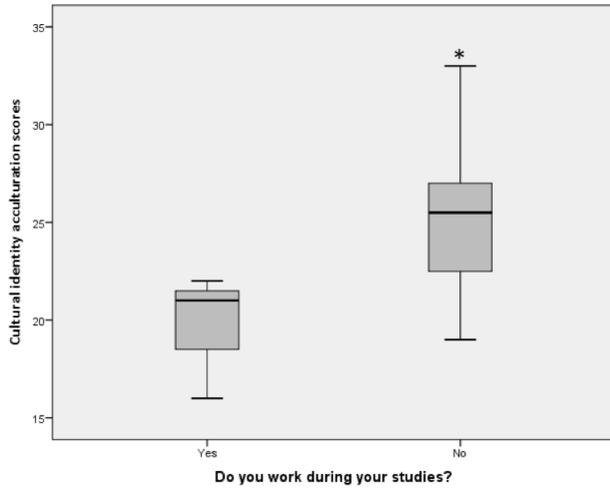

*denotes statistical significance at *p* < 0.05

Figure 5: Distribution of language acculturation scores of students based on their duration of stay in Malaysia
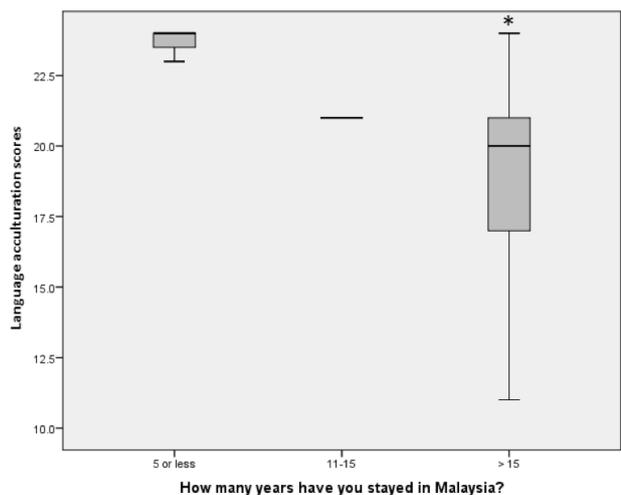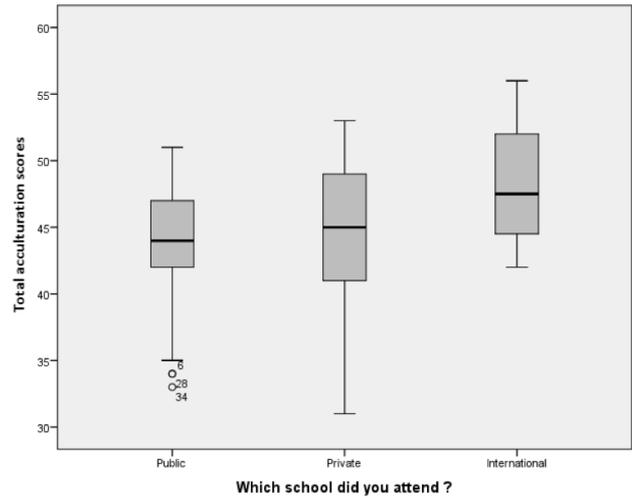

*denotes statistical significance at *p* < 0.05

Figure 6: Distribution of cultural identity acculturation scores of students who work during their university studies versus those who do not work

Figure 7: Distribution of total acculturation scores of students from different schooling systems.

*denotes statistical significance at *p* < 0.05

Table II: Statistical correlation between variables using Spearman's correlation analysis

		Cognitive and Psychological Engagement	Cognitive Engagement	Psychological Engagement	Psychological Engagement (Teacher Student Relationships)	Psychological Engagement (Peer Support for Learning)	Psychological Engagement (Family Support for Learning)	BSSS (Total Score)	BSSS (Experience Seeking)	BSSS (Boredom Susceptibility)	BSSS (Trill and Adventure Seeking)	BSSS (Disinhibition)	DASS-21 (Total Score)	DASS-21 (Depression)	DASS-21 (Anxiety)	DASS-21 (Stress)
Acculturation (Total Score)	Correlation Coefficient	.438**	.177	.579**	.542**	.469**	.343*	-.214	.127	.150	-.364*	-.418*	-.411*	-.436**	-.370*	-.372*
	Sig. (2-tailed)	.008	.310	.000	.001	.005	.044	.216	.468	.389	.032	.012	.014	.009	.029	.028
Acculturation (Cultural Identity)	Correlation Coefficient	.444**	.273	.550**	.348*	.456**	.449**	-.205	.088	.174	-.402*	-.264	-.205	-.217	-.175	-.201
	Sig. (2-tailed)	.008	.112	.001	.040	.006	.007	.237	.616	.318	.017	.125	.237	.210	.315	.246
Acculturation (Language)	Correlation Coefficient	.240	-.007	.347*	.556**	.161	.125	-.182	.101	.011	-.167	-.401*	-.419*	-.454**	-.390*	-.382*
	Sig. (2-tailed)	.165	.970	.041	.001	.356	.474	.295	.566	.951	.339	.017	.012	.006	.021	.023
Cognitive and Psychological Engagement	Correlation Coefficient	1.000	.857**	.920**	.709**	.785**	.758**	-.262	.050	-.030	-.394*	-.385*	-.086	-.191	-.015	-.080
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.128	.777	.865	.019	.022	.622	.271	.931	.647
Cognitive Engagement	Correlation Coefficient	.857**	1.000	.614**	.512**	.527**	.490**	-.072	.031	-.003	-.208	-.160	.128	.003	.198	.124
	Sig. (2-tailed)	.000		.000	.002	.001	.003	.681	.858	.988	.229	.359	.464	.988	.255	.477
Psychological Engagement	Correlation Coefficient	.920**	.614**	1.000	.719**	.832**	.863**	-.374*	.022	-.024	-.493**	-.488**	-.202	-.289	-.135	-.193
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.027	.901	.892	.003	.003	.245	.092	.438	.266
Psychological Engagement (Family Support for Learning)	Correlation Coefficient	.758**	.490**	.863**	.405*	.671**	1.000	-.431**	-.013	-.139	-.483**	-.484**	-.010	-.101	.013	.006
	Sig. (2-tailed)	.000	.003	.000	.016	.000		.010	.940	.427	.003	.003	.953	.565	.942	.972

The correlation between variables in this study is shown in Table II. The overall acculturation was significantly correlated with cognitive and psychological engagement (Spearman's correlation, ρ = 0.438; *p* = 0.008). Students with higher language acculturation had significantly higher overall psychological engagement (Spearman's correlation, ρ = 0.347; *p* = 0.041) and better teacher-student relationship (Spearman's correlation, ρ = 0.556; *p* = 0.001). Furthermore, students with higher psychological engagement had a significantly higher cognitive engagement (Spearman's correlation, ρ = 0.614; p = 0.0001) and lower sensation seeking attitude (Spearman's correlation, ρ = -0.347; *p* = 0.027). Students who have better family support for their studies had significantly lower thrill and adventure seeking (Spearman's correlation, ρ = -0.483; *p* = 0.003), disinhibition (Spearman's correlation, ρ = -0.484; *p* = 0.003), and overall sensation seeking (Spearman's correlation, ρ = -0.431; *p* = 0.01). Participants with lower acculturation scores had significantly higher thrill and adventure seeking (Spearman's correlation, ρ = -0.364; *p* = 0.032), and disinhibition (Spearman's correlation, ρ = -0.418; *p* = 0.012). In addition, these participants also had significantly higher depression (Spearman's correlation, ρ = -0.436; *p* = 0.009), anxiety (Spearman's correlation, ρ = -0.370; *p* = 0.029) and stress (Spearman's correlation, ρ = -0.372; *p* = 0.028). These negative emotional symptoms were positively correlated between each other. However, those negative emotional symptoms were not significantly correlated with sensation seeking.

Discussion

This research study on the effect of the global university system on student engagement empirically investigated the relationship between variables such as acculturation, cognitive and psychological engagement, and psychological determinants of sensation seeking and negative emotions. Results obtained from the sample did reveal a significant relationship between language acculturation and schooling systems from which the first year students originated. The authors examined English language acculturation in students because English is the medium of instruction used in global universities. Students from international schools and those who had taken a foreign syllabus had higher language acculturation. The popular foreign pre-university programmes attended by Malaysians are English-based programmes such as American Degree Transfer Program, Australian Matriculation, Cambridge GCE A-Level, International Baccalaureate Diploma Programme, Ontario Secondary School Diploma and South Australian Matriculation.

The authors also found that local students and particularly the Chinese ethnic group have lower language acculturation in the university. There is an urgent need to improve the language acculturation in this group as it has been shown that there is a direct correlation between low language acculturation scores and poor academic performance (Salamonson *et al.*, 2008). However, non-significant relationship between schooling systems and acculturation, particularly on the cultural identity aspect, may be due to the increased globalisation of urban communities that could mitigate the relationship between acculturation and the schooling systems (Berry, 2008; Jerolmack, 2012).

Although there was no significant relationship between total sensation seeking scores and acculturation, students who reported higher scores on thrill and adventure seeking, and disinhibition on the sensation seeking sub scales showed lower acculturation adaptation scores. These results provide support for past research on at-risk behaviours and protective factors among young adults (Titzmann, Raabe & Silbereisen, 2008). The recommendations for practical implications would be to create awareness among mental health service providers on the relationship between students' acculturation (*i.e.*, adjustment) at universities and higher sensation seeking for thrill and adventure, and disinhibition of at-risk behaviours such as unprotected sex or substance use. Mental health service providers could then target by engaging at-risk students through screening procedures and prevention programmes, which could prevent associated comorbidities (Mihalopoulos *et al.*, 2011).

The authors found that students who had higher acculturation evidenced lower self-reported depression, anxiety and stress. In other words, the more adjusted they are to common culture, students showed lower depression and stress in daily life. These results are consistent with past research on acculturation and associated mental health issues among migrants (Oppedal, Røysamb & Heyerdahl, 2005; Parker *et al.*,

2005). Therefore, the authors recommend that targeted interventions for coping with sadness and stress coupled with cultural training programmes could be beneficial at the university level to assist both local and foreign students in adapting to life in a new cultural environment in the global university.

The study also found that there is a positive relationship between acculturation and cognitive and psychological engagement. In other words, students who reported higher acculturation adaptation reported higher cognitive and psychological engagement. Dimensions of the engagement scale include belonging, identification with educational institutions, self-regulation, and engagement on all dimensions (*i.e.*, academic, behavioural, cognitive and psychological) (Appleton *et al.*, 2006). Following up on the results obtained, the authors recommend that universities create awareness and opportunities for students to engage with activities that allow cohorts to be involved academically and behaviourally. For example, introduction of small group activities and project-based learning may help students to be more engaged with the learning. Such initiatives would improve students' acculturation adjustment, which would then positively impact on other psychological determinants discussed in this study. These results are in support of activities such as peer-assisted learning programmes, student club activities, interest groups and sports programmes organised by universities. However, it is important to note that no matter how well a student engagement strategy has been implemented by a university, the strategy may work differently with students from a different culture. Conclusions drawn from this study have important practical implications for universities and mental health initiatives. The findings can also help to improve the psychological well-being of pharmacy students and thus may have a significant impact on their professional practice in the future.

The authors recognise some potential limitations of this study that warrant further discussion. Firstly, as with most self-reported surveys, the results of this study may be biased. Response bias is common in research studies where self-reported data are used (Rosenman, Tennekoon & Hill, 2011). Secondly, the study only recruited participants from a campus of a global university and thus the results may not be applicable to the general student population. As such, future studies should attempt to replicate the findings using a national probabilistic sample, as well as recruit samples from other countries. Last but not least, it would be interesting to explore if the similar trends are also relevant to students studying in non-global universities.

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