

INTERNATIONAL STUDENTS' CROSS-CULTURAL ADJUSTMENT: DETERMINING PREDICTORS OF CULTURAL INTELLIGENCE

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Abstract: Globalization have made intercultural competencies crucial for working and interacting effectively with people from diverse nationality, ethnics, and racial groups. Thus, this study tends to examine the predictors of cultural intelligence among international students and to propose strategies that could help international students to better adjust themselves while studying in Malaysia. A quantitative research approach was used in this study. Questionnaires were distributed and a sample size of the study collected consisted of 194 international students. Structural Equation Model using SMARTPLS was implemented to achieve the objectives of this study. The findings show that “Openness to Experience” personality trait, mainstream social connectedness, cultural exposure, and cross-cultural training were found to be positively related to cultural intelligence. Furthermore, cultural intelligence was found to have a positive significant relationship with cross-cultural adjustment. These findings underline the importance of predictors and cultural intelligence in understanding successful international students' cross-cultural adjustments. The study also examines cultural intelligence in a multiple loci of intelligences framework, which consists of capabilities such as motivational, mental and behavioral aspects. This study has contributed to the area of cultural intelligence and cross-cultural adjustments by providing suggestions to industry players such as the Higher Education Institution, government agencies and managers in enhancing cultural intelligence of international students or expatriates.

Keywords: Cultural Intelligence; Cross-Cultural Adjustment; Cultural Exposure; Openness to Experience; Cross-Cultural Training; International Students

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1. INTRODUCTION

In this modern world, the concept of globalization is not something that is foreign to people nowadays. Globalization to as a leading and dynamic force that is defining a new practice of interconnectedness and movements among nations, economics, and people (Kumaravadivelu, 2008). Firms that desire to obtain competitive advantage in the international market needs to study and recognize the effect of globalization on cross-cultural exchanges (Matthews & Thakkar, 2012). Hence, the topic of individual cross-cultural effectiveness was given considerable attention by the management scholars in recent years for its significance in a

culturally integrated commerce world. Lyubovnikova et al (2015) expressed that individuals with intercultural sensitivity are better in interpreting verbal and non-verbal behaviour of other cultures, understandable of culturally diverse peers' needs and perspectives as well as improved social interactions and interpersonal relationship with peers from different cultures.

Therefore, the paradigms of "cultural intelligence" have been propositioned (Thomas et al., 2008; Thomas & Inkson, 2004; Earley & Peterson, 2004), capturing as their foremost assumption that success in interrelating with people from cultures other than one's own lies on a separate competence or skill-set (Gagnon, & Lirio, 2014). Cultural intelligence is an individual's ability to modify to various cultural situations (Ang et al., 2006; Earley & Ang, 2003) and effectually alter to diverse cultural settings (Ng & Earley, 2006).

Many studies of cultural intelligence are pursuing to comprehend why certain people are more successful than others in adjusting to distinct environments and cultures (Ng & Earley, 2006). Hence, uncovering factors that promote to this capability may add value to the cultural intelligence research (Alon & Higgins, 2005; Ang et al., 2004; Earley & Ang, 2003). Besides that, countless international students are stressed with cultural, social and academic adjustments while studying in another host country (Hartini et al., 2017). This may lead to international students' lack of participation and engagement in their university life, which could further cause issues such as poor academic attainment, isolation, cultural shock, anxiety, boredom, depression and dropout (Fredricks et al., 2004; Nur Sofurah, 2011; Wang & Frank, 2002). Thompson (2018) also asserted that international students' performance in their academic and psychological health can be affected due to cultural challenges (Li et al., 2010). As a result, possessing CQ capability can assist international students to cultivate successful cross-cultural communication skills and display fitting behaviour, which in turn may enhance their social integration, cultural engagement and academic achievements in their campus life (Hartini et al., 2017; Thompson, 2018).

Concentrating on the issue of cultural differences in the learning process of international students is vital as Malaysia is accepting large number of international students and higher learning institutions must make certain that the university system and environment support these students' development and learning requirements (Hartini et al., 2017). It was stated that compared to local students, international students usually need to make more effort in overcoming challenges when they are outside their home country (Ramsay et al, 1999). It is apparent that CQ may assist international students to manage cross-cultural complications. Thus, the purpose of this study is to enhance apprehending the role of cultural intelligence in the adjustment of international students who are studying in Malaysia. This study intends to investigate the predictors of cultural intelligence among international students and to propose strategies that could help international students to better adjust themselves while studying in Malaysia. Lastly, this study also deliberates on the dimension of cultural intelligence and the theory of interconnections between related constructs.

2. LITERATURE REVIEW

In an advancing global world, communicating and collaborating with different countries and nations are becoming the norm. There is an increasing need not only to just cross geographical borders but also cultural (Maclachlan, 2015). It was impossible to speak about being global without the ability to deal with different cultures. Hence, in this array of ever-changing cross-cultural evolutions, international students are a growing and big population (Wang et al., 2015). There were many factors such as social support, language proficiency, stress and

personality were found to be the predictors of international students' mental change (Zhang & Goodson, 2011), but there is a nonexistence of studies assessing the role of cultural intelligence (CQ) among them. Moreover, inadequate CQ research had made use of international students (Lin et al., 2012; Ward et al., 2011).

In addition, there were limited studies that aim on the skill to resolve issues explicitly in the cultural domain (Ng et al., 2012) even in the examination on adult intelligence. For example, considerable research attention had been focused on emotional intelligence (Mayer & Salovey, 1993) pointed at grasping one's and others' emotions; social intelligence (Thorndike & Stein, 1937) aims at interpersonal relations, and practical intelligence (Sternberg, 1997) directed at answering practical issues. Yet, not a bit of these non-academic intelligences focused on the capability to resolve cross-cultural issues. Hence, Earley and Ang's (2003) was closing this gap by examining cultural intelligence (CQ), which drew on Sternberg and Detterman's (1986) consolidative theoretical structure on manifold loci of intelligences, to suggest a set of abilities consisting motivational, psychological, and behavioral aspects that emphasized particularly on solving cross-cultural issues.

Past Malaysian studies focusing on international students has emphasized on the role of communication among foreign students and internationalization of higher learning to raise the number of foreign students entering Malaysia for their studies (Sarwari & Wahab, 2016; Pui-Yee et al., 2010). Hartini and Fakhrorazi (2018) has conducted a study relating to social intelligence in increasing international students' cultural awareness. A study on international students aims to discover whether social, administrative and academic factors would affect students' learning condition (Slethaug & Manjula, 2012). On the other hand, an empirical study on international students from Universiti Sains Islam Malaysia found that these students do not only face challenges relating to food or climate, but encounters problems concerning language, academic, finances, and hostility, hence concluding that intercultural communication is vital (Pillai & Hussin, 2017). Studies has also examined the importance of international students' psychological (Yusliza et al., 2010), socio-cultural and academic adjustments (Thuraisingam & Singh, 2010) while pursuing their studies in Malaysia. In addition, Hartini et al (2017) has emphasized on CQ effects on students' engagement. However, attempts to empirically investigate the predictors of CQ and how CQ would influence international students' cross-cultural adjustment level in Malaysia has been very limited. Thus, this current study seeks to explore and address this gap.

Cultural differences and cultural diversity would be a challenge to people globally (Ang et al., 2011) as well as to international students, assumed the world-wide nature of work where people are progressively working in global teams and divisions (Earley & Gibson, 2002). While it is imperative to realize the outcomes of CQ, it is also crucial to investigate the antecedents of CQ in its larger nomological network. Thus far, it is not completely known why some people may experience greater CQ than others. International students are also facing similar cultural challenges as working adults. Thus, by having the cultural competency would prepare them for interactions in different cultures. However, there are limited studies performed in this area in Malaysia to evaluate cultural intelligence among international students. Therefore, this study adds to the literature by evaluating cultural intelligence among international students based on Malaysian context. Ultimately, this study tends to answer two research questions, first, what are the predictors of cultural intelligence among international students and second, will cultural intelligence influence cultural adjustment level of international students studying in Malaysia.

3. RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

Four predictors (“Openness to Experience” Personality Trait, Mainstream Social connectedness, Cultural Exposure and Cross-Cultural Training) were anticipated to influence cultural intelligence (CQ). In this study, higher order constructs are used to cater CQ’s dimensions (metacognitive cultural intelligence, cognitive cultural intelligence, motivational cultural intelligence and behavioral cultural intelligence). In addition, CQ was predicted to explain international students’ adjustment level. Figure 1 shows the research model of the study.

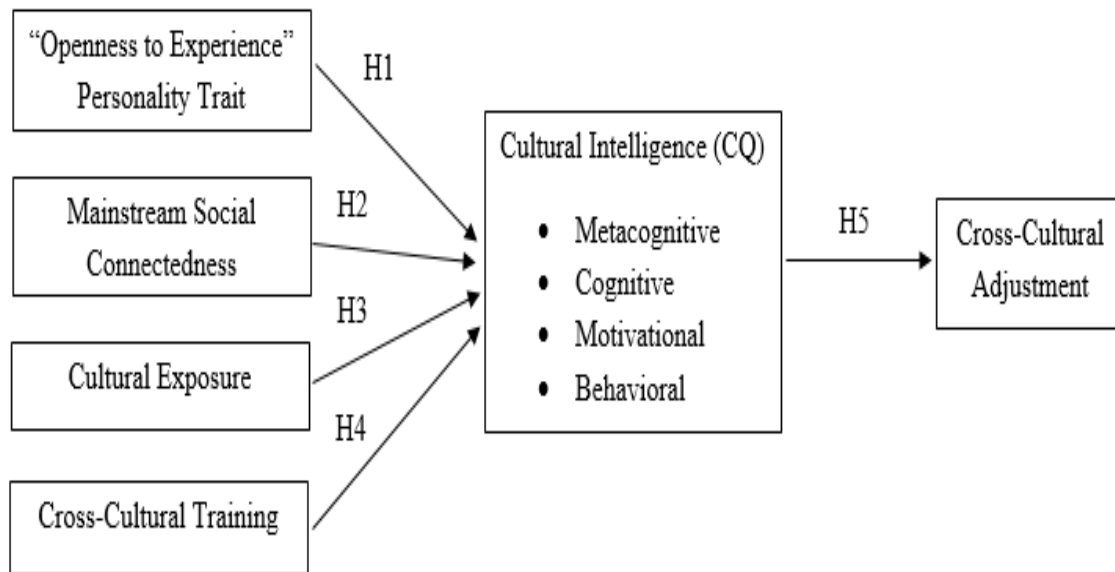


Figure 1 Research Model

First, a person with a personality of “Openness to Experience” portrays originality, innovativeness, curiosity, and is a risk taker (Costa & McCrae, 1992). Those who filled with natural curiosity and interest in new and unique experiences are found to be more likely to possess higher openness and participate in international experiences and multicultural opportunities (Caligiuri & Tarique, 2012). Furthermore, individuals that possesses high “Openness to Experience” will feel more at ease in culturally diverse countries and are more likely to have lower tolerance of ambiguity (Caligiuri, & Tarique, 2012), as being open to various cultures is the key to foster intercultural competence (Edwards et al., 2003).

According to several studies, “Openness to Experience” personality trait was the only element of the Big Five which was associated to psychological ability (Peabody & Goldberg, 1989). In other words, “Openness to Experience” personality trait was the only dimension influenced the four dimensions of CQ (metacognitive, cognitive, motivational, behavioral). By applying this to the present study in CQ, it indicated that “Openness to Experience” would be linked to metacognitive CQ among international students as they implement metacognitive approaches when discerning about and relating with those who have distinct cultural upbringing. Furthermore, individuals who were high in “Openness to Experience” would also inquiry about their own cultural preconceptions, evaluate others’ cultural inclinations and customs before and during their dealings with others and re-examined their mental representations based on the interactions with different people and cultures (Ang et al., 2006).

Moreover, cognitive CQ is also related to openness to experience. Cognitive CQ is refer to as a person's familiarity of specific customs, standards, and traditions in various cultural environments (Earley & Ang, 2003). Individuals who have high openness to experience ought to be more informed regarding specific facet of other cultures because they are more curious, permissive, and cultured (Ang et al., 2006). Furthermore, this study also proposes that "Openness to Experience" personality trait would be associated to motivational CQ and behavioral CQ. A person's eagerness and interest in accommodating to different cultures is described as motivational CQ (Ang et al., 2007). For instance, Ahmad and Buchanan (2017) found that one of the reasons students are motivated to study in Malaysia is due to their interests to interact with students from diverse cultures in a multicultural environment and wish to understand Asian culture. Conversely, behavioral CQ is connected to adaptive performance (Pulakos et al., 2000). An individual's ability in changing one's own behaviour to fulfil the demands of new, ambiguous, and changeable situation is known as adaptive performance (Pulakos et al., 2000). Individuals that are eager to attain novel things would seek out, accommodate first-hand experience and encompass a range of behaviours away from their day-to-day habits due to the fact that openness and adaptive performance are closely linked (Ang et al., 2006).

In a nutshell, one dimension of Big Five personality traits (Openness to Experience) was found to be correlated to all four elements of CQ (metacognitive, cognitive, motivational, behavioral) (McCrae & Costa, 2003). Similar, it was also determined that openness to experience was the utmost substantial predictor of CQ (Moody, 2007). Hence, H1 was proposed as below:

H1: There is a positive relationship between "Openness to Experience" Personality Trait and Cultural Intelligence among international students.

Second, social connectedness refers to a person's inner sense of belonging and general awareness of remaining close in the social environment, which was first explained by Lee and Robbins (1995). This persisting sense of connectedness then guides individual's emotional state, views, and behaviors in social circumstances (Lee & Robbins, 1998). This notion was established based on Kohut's theory (1984) which stressed greatly on the human necessity for belongingness. For instance, Arthur (2017)'s study on social resources supporting international students discovered that sense of belonging for international students are imperative as interaction with local students, counsellors and faculty members are critical social resources to international students in forming adjustment to learning in the local setting and international education experience.

Deprived of social connectedness, individuals may be frustrated and disappointed in the social setting when they assumed no one could empathize them. Such people might begin with social complexities, and ultimately distance themselves from the society. On the other hand, a person who has high sense of connectedness can effortlessly build relationships with others and join in social groups and events (Lee & Robbins, 1998). Wang et al (2015) uncovered that mainstream social connectedness in mainstream society was a significant predictor of CQ trajectories. Hence, the subsequent hypothesis is developed:

H2: There is a positive relationship between mainstream social connectedness and Cultural Intelligence among international students.

Third, an individual becomes more acquainted with merchandise, customs, values and beliefs of one's culture when he or she has exposed to many national cultures. Cultural exposure is the occurrences related to a country that supported in forming a knowhow with or thoughtfulness of the customs, standards, and principles of that country, which is probably to provide higher cultural intelligence (Crowne, 2008). A person can become accustomed with a country culture through many ways. It could be done by exploration, researching, reading, studying, or observing television programs. Some people gain international understanding in a more substantial way such as business with foreign customers or suppliers, short trip to global divisions, and continuing emersion in a new host culture (Yamazaki & Kayes, 2004, p. 362); companies started expatriate work assignments or individually driven international work experience (Inkson et al., 1997), and being a significant other of an expatriate.

It was asserted that when students are expose to the different ethnics and religions of a particular country, they would obtain a value-added life, a global viewpoint and better accepting the various cultures, customs, indigenous groups, and rituals around the globe (Ahmad & Buchanan, 2017). Phillion (2002) asserted that a person can acquire regarding the right behavior by discerning and living through situations. When a person goes overseas, they realize what is appropriate and what is not in their unfamiliar situation. This reveals that cultural exposure could positively influence the level of cultural knowledge which could affect culture intelligence. Thus, the following hypothesis was developed:

H3: International students who travelled abroad more often manifest higher CQ than those travelled abroad less or none.

Fourth, it is stated that curriculum internationalization or internationalization of education is vital as it allows students to come across diverse norms and cultures that would shape their overall learning experience and enhance intercultural competence (Cheng et al., 2018; Wang et al., 2012). Curriculum internationalization refers to the inclusion of international and intercultural elements into the subject matter of the curriculum as well as the philosophy and knowledge procedures and support services of a course of study (Leask, 2009). It is important, therefore, to find out whether and to what degree cross-cultural management training achieved these aims. This challenge was being addressed in this study and building on the argument that CQ is easily influenced through learning and experiences, where these cross-cultural management courses can increase students' cultural intelligence.

Eisenberg et al. (2013) found that after attending cross-cultural management courses, students' overall CQ is significantly higher than before attending the courses. Similarly, Ramsey and Lorenz (2016) revealed that students that has attended cross-cultural management courses have improved their CQ and that CQ has a significant relationship to course commitment and course satisfaction. Therefore, H4 was proposed as below:

H4: International students who attended cross-cultural course or training or workshop manifest higher CQ than those who have not.

Lastly, cross-cultural adjustment (CCA) was theorized as the extend of mental comfort an expatriate possesses with the diverse properties of a host culture (Black & Stephens, 1989). It includes three dimensions (e.g., Black & Stephens, 1989) which are interaction adjustment—participating comfortably in interactive relations with host country residents; general

adjustment—adjustment to the host culture and general living conditions in the host society; and work adjustment—fitting into the local work culture, anticipations, and obligations in the foreign means. A study by Wu & Ang (2011) demonstrated that the intensity of the impact of expatriate reinforcing procedures on adjustment in various methods could be moderated by cultural intelligence (Caligiuri, 2000). Moreover, a person that has greater CQ are better in their adjustment (Ramalu et al., 2010). Therefore, individuals who possesses high CQ are anticipated to adapt better in novel cultural settings, since CQ defined as an individual's ability to adjust meritoriously to new cultural environment. Hence, H5 was proposed as below:

H5: There is a positive relationship between CQ and adjustment level of international students.

4. METHODS

A quantitative research method was utilised in this study and international students that are studying in Malaysia are selected as target population and a self-administered questionnaire was adopted for data collection. A total of 210 questionnaires were distributed physically to international students studying in University Putra Malaysia.

All constructs' items were taken from prior published scales that have been reported with high validity and reliability in past research. All scale was measure on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A 20 items self-report Cultural Intelligence Scale (CQS) of Ang et al. (2007) was implemented to gauge cultural intelligence. The CQS consists of four dimensions. The first dimension, Metacognitive Intelligence (four items); a sample item was, "I am conscious of the cultural knowledge I apply to cross-cultural interactions". The second dimension, Cognitive Intelligence (six items); a sample item was, "I know the rules for expressing nonverbal behaviors in other cultures." The third dimension, Motivational Intelligence (five items); a sample item was, "I enjoy interacting with people from different cultures." The fourth dimension, Behavioral Intelligence (five items); a sample item was, "I alter my facial expressions when a cross-cultural interaction requires it."

Besides that, 10 items of "Openness to Experience" personality traits were adopted from Goldberg (1993)'s Big Five Inventory (John & Srivastava, 1999). A sample item was "I see myself as someone who is original, comes up with new ideas". Social Connectedness in Mainstream Society (SCMN) of R. M. Lee and Robbins (1995), which consisted of five items, a sample item was "I feel a sense of closeness with Malaysian". In addition, the measurement of cultural exposure was a modification from the research of Crowne (2008). Respondents were requested to point out the total countries they had travelled to, ranged from 1 (1 or below), 2 (2 - 4), 3 (5 - 6), 4 (7 - 8) and 5 (more than 8). Moreover, the Cross-Cultural Training (CCT) was constructed to asked respondents whether they had attended any cross-cultural management course or workshop in their country of origin or in Malaysia. Finally, cross-cultural adjustment was measured using a 13-item Expatriate Adjustment scale adopted from Black and Stephen (1989). A sample item was "Living conditions in general in Malaysia".

After data cleaning was performed, only 194 samples were usable for data analysis. The Statistical Package for Social Science (SPSS) was applied to facilitate data keying-in and SmartPLS 3.0 was used for the succeeding analysis (Ringle et al., 2015). In order to adapt the impact of higher order constructs in the model, two-stage approach method in PLS-SEM was employed as well (Becker et al., 2012).

5. RESULTS AND DISCUSSION

5.1. Results

5.1.1. Profiles of Respondents

Majority of respondents participated in this study were aged of 26 or above (31.4%), followed by 22- 23 years old (22.7%), 24 – 25 years old (20.1%), 20 – 21 years old (18%) and 18 – 19 years old (7.7%). Almost equal percentage of male (55.7%) and female participants (44.3%). Large percentage of them came from East Asia (31.4%), Africa (30.4%) and Middle East (29.9%). Almost two third studied science courses (62.9%) and most of them have stayed 1.5 years to 4 years in Malaysia (40.7%).

5.1.2. Assessment of Measurement Model

Table 1 shows the assessment of the construct reliability and convergent validity of the constructs of this study. It was found that all loadings that exceeded the suggested value of 0.708 (Hair et al., 2014) were maintained. Items OE7 and OE9 with low loadings were dropped. All six composite reliability (CR) were beyond the minimum threshold of 0.7 and all AVEs were larger than 0.5 after item deletion (Hair et al., 2014). Thus, the constructs met reliability and convergent validity requirement.

Table 1 Reflective measurement model: factor loadings, CR and AVE

Construct	Indicator	Loadings	CR	AVE	
"Openness to Experience" Personality Trait	OE1	0.769	0.932	0.632	
	OE2	0.736			
	OE3	0.796			
	OE4	0.816			
	OE5	0.825			
	OE6	0.810			
	OE7	0.321			Item Deleted
	OE8	0.826			
	OE9	0.551			Item Deleted
	OE10	0.770			
Mainstream Social Connectedness	MSC1	0.833	0.936	0.746	
	MSC2	0.875			
	MSC3	0.841			
	MSC4	0.872			
	MSC5	0.897			
Cultural Exposure	CE	SIM	NA	NA	
Cross-Cultural Training	CCT	SIM	NA	NA	
Cultural Intelligence - Metacognitive	MC1	0.723	0.827	0.545	
	MC2	0.774			
	MC3	0.752			
	MC4	0.700			
Cultural Intelligence – Cognitive	COG1	0.815	0.910	0.629	
	COG2	0.782			
	COG3	0.690			

	COG4	0.816		
	COG5	0.856		
	COG6	0.788		
Cultural Intelligence - Motivational	MOT1	0.765	0.893	0.627
	MOT2	0.824		
	MOT3	0.818		
	MOT4	0.821		
	MOT5	0.726		
Cultural Intelligence - Behavioral	BEH1	0.822	0.891	0.621
	BEH2	0.841		
	BEH3	0.762		
	BEH4	0.804		
	BEH5	0.704		

Note: OE7 and OE9 were deleted due to low loadings; SIM = Single Item Measurement, AVE= Average Variance Extracted and CR= Composite Reliability

Table 2 illustrate the assessment of the discriminant validity. This is to ensure that all construct is unique and distinct from all others and does not measure the occurrence explained by other constructs in the model (Hair et al., 2017). Heterotrait-monotrait (HTMT) technique was conducted to ascertain whether high multicollinearity exist. Table 2 shows that all the values conceded the HTMT.90 (Gold et al., 2001) and the HTMT.85 (Kline, 2011), thus indicating that discriminant validity has been make certain.

Table 2 Discriminant validity of the measurement model: Heterotrait-Monotrait (HTMT) criterion (2015)

	BEH	COG	MOT	MC	CCT	CE	MSC	OE
BEH								
COG	0.653							
MOT	0.608	0.613						
MC	0.856	0.593	0.677					
CCT	0.135	0.161	0.097	0.102				
CE	0.299	0.335	0.297	0.385	0.162			
MSC	0.297	0.491	0.288	0.231	0.05	0.285		
OE	0.626	0.611	0.611	0.579	0.066	0.325	0.366	

Note: HTMT < 0.85 (Kline, 2011), HTMT < 0.90 (Gold et al., 2001)

5.1.3. Assessment of Formative First and Second Order Constructs

Table 3 display the assessment of formative first and second-order constructs. The cultural adjustment level's and CQ dimensions' problems of collinearity have been appraised. Collinearity assessment is essential to ensure that variables do not measure the same constructs. Hence, multicollinearity between indicators was assessed. A VIF value of 5 and greater signifies a possibility of collinearity issue (Hair et al., 2011). Based on Table 3 and 4, one item (AL11) recorded VIF greater than 5 and were subsequently excluded from further analysis in the structural model.

Table 3 Collinearity assessment for formative first order construct

	AL
AL1	2.219
AL2	2.440
AL3	1.709
AL4	1.522
AL5	1.575
AL6	1.468
AL7	1.831
AL8	2.013
AL9	1.865
AL10	4.461
AL12	4.286
AL13	4.061

Note: AL11 is deleted due to VIF>5; AL=Cultural Adjustment Level

Table 4 Collinearity assessment for formative second order construct

	CQ
BEH	2.175
COG	1.674
MOT	1.684
MC	1.994

Note: CQ=Cultural Intelligence, BEH=Behavioral Intelligence, COG=Cognitive Intelligence, MOT=Motivational Intelligence, MC=Metacognitive Intelligence

Following this, the significance and relevance of the outer weights of the formative constructs were also estimated. Table 5 and 6 portrays that all formative indicators were significant except for MC. Nevertheless, it was not deleted because prior research and theory provided verification for the significance of these indicators for depicting cultural intelligence (Ang et al., 2007). Finally, the indicators of formative construct were used to compute latent variable scores for use in structural modelling (Becker et al., 2012; Hair et al., 2014).

Table 5 Path Co-Efficient assessment for outer weights on first order constructs

	Direct Effect (β)	Standard Error	T-statistic	P-value
AL1 → AL	0.131	0.011	11.724**	0.000
AL2 → AL	0.133	0.011	12.314**	0.000
AL3 → AL	0.112	0.012	9.490**	0.000
AL4 → AL	0.090	0.016	5.481**	0.000
AL5 → AL	0.100	0.013	7.591**	0.000
AL6 → AL	0.090	0.013	6.999**	0.000
AL7 → AL	0.088	0.013	6.536**	0.000
AL8 → AL	0.145	0.012	11.794**	0.000
AL9 → AL	0.122	0.013	9.100**	0.000
AL10 → AL	0.135	0.012	11.402**	0.000
AL12 → AL	0.138	0.012	11.732**	0.000
AL13 → AL	0.139	0.013	11.105**	0.000

**p< 0.01, *p<0.05 (one-tailed)

Table 6 Path co-efficient assessment for outer weights on second order constructs

	Direct Effect (β)	Standard Error	T-statistic	P-value
BEH \rightarrow CQ	0.225	0.105	2.151*	0.032
COG \rightarrow CQ	0.564	0.102	5.552**	0.000
MOT \rightarrow CQ	0.283	0.116	2.439*	0.015
MC \rightarrow CQ	0.131	0.093	1.414	0.158

Note: ** $p < 0.01$, * $p < 0.05$ (one-tailed)

CQ=Cultural Intelligence, BEH=Behavioral Intelligence, COG=Cognitive Intelligence, MOT=Motivational Intelligence, MC=Metacognitive Intelligence

5.1.4. Assessment of Structural Model

Before evaluating the structural model, it is essential to make certain that there is no lateral collinearity concern in the innermost model of the study. Table 7 shows the results of the lateral collinearity test. The VIF score for each individual construct is lower than the threshold value of 5 (Hair et al., 2014), thus, suggesting that there were no lateral collinearity issues.

Table 7 Collinearity assessment

	CQ	AL
OE	1.201	
MSC	1,172	
CE	1.173	
CCT	1.027	
CQ		1.000

Note: CQ=Cultural Intelligence, AL=Cultural Adjustment Level, OE=“Openness to Experience” Personality Trait, MSC=Mainstream Social Connectedness, CE=Cultural Exposure, CCT=Cross-Cultural Training

To gauge the significance levels of hypothetical relationships, path coefficients were measured using bootstrapping process. There are five direct hypotheses that are developed in this study. Table 8 shows that “Openness to Experience” Personality Trait ($\beta = 0.538$, $p < 0.01$), Mainstream Social Connectedness ($\beta = 0.187$, $p < 0.01$), Cultural Exposure ($\beta = 0.129$, $p < 0.05$) and Cross-cultural Training ($\beta = 0.096$, $p < 0.05$) are positively linked to cultural intelligence. Therefore, H1 till H4 are supported. In addition, cultural intelligence ($\beta = 0.666$, $p < 0.01$) was uncovered to be significantly related with cultural adjustment level. Hence, H5 was supported.

Table 8 Path co-efficient assessment

	Direct Effect (β)	Standard Error	T-statistic	P-value	Decision
OE \rightarrow CQ	0.538	0.060	8.911**	0.000	Supported
MSC \rightarrow CQ	0.187	0.064	2.908**	0.002	Supported
CE \rightarrow CQ	0.129	0.066	1.936*	0.027	Supported
CCT \rightarrow CQ	0.096	0.049	1.953*	0.026	Supported
CQ \rightarrow AL	0.666	0.043	15.516**	0.000	Supported

Note: ** $p < 0.01$, * $p < 0.05$ (one-tailed)

CQ=Cultural Intelligence, AL=Cultural Adjustment Level, OE=“Openness to Experience” Personality Trait, MSC=Mainstream Social Connectedness, CE=Cultural Exposure, CCT=Cross-Cultural Training

Table 9 shows the co-efficient of determination (R^2) value for cultural adjustment level is 0.444, which implies that cultural intelligence explains 44.4% of variances in cultural adjustment level. Besides that, R^2 values for cultural intelligence is 0.484, which indicates that “Openness to Experience” Personality Trait, Mainstream Social Connectedness, Cultural Exposure and Cross-Cultural Training explains 48.4% of variance in cultural intelligence. Following that, Table 9 shows the Q^2 value for cultural adjustment level (0.195) and cultural intelligence (0.282), which exceeded the value of 0, suggests that the model has adequate predictive relevance. Finally, Table 9 shows the exogenous variables’ effect sizes on the endogenous variable, where cultural intelligence ($f^2 = 0.797$) has large effect size on cultural adjustment level. In addition, while “Openness to Experience” Personality Trait ($f^2 = 0.467$) has large effect size on cultural intelligence, mainstream social connectedness ($f^2 = 0.058$), cultural exposure ($f^2 = 0.027$) and cross-cultural training ($f^2 = 0.026$) has small effect size on cultural intelligence. This signifies that “Openness to Experience” Personality Trait is more imperative than the other predictors in describing and predicting cultural intelligence. On that other hand, it is indicated that cultural intelligence is imperative when explaining and predicting cultural adjustment level.

Table 9 Determination of Co-efficient (R^2), Effect size (f^2) and Predictive Relevance (Q^2)

	<i>Determination Co-efficient</i>	<i>Predictive Relevance</i>	<i>Effect Size (f^2)</i>			
	R^2	Q^2	<i>AL</i>	<i>CQ</i>	<i>Effect Size</i>	
AL	0.444	0.195	0.797			
CQ	0.484	0.282				
OE					0.467	Large
MSC					0.058	Small
CE					0.027	Small
CCT					0.017	Small

Note: CQ=Cultural Intelligence, AL=Cultural Adjustment Level, OE=“Openness to Experience” Personality Trait, MSC=Mainstream Social Connectedness, CE=Cultural Exposure, CCT=Cross-Cultural Training

5.2. Discussion

The intention of this study is to examine the predictors that influenced the cultural intelligence among international students that are studying in Malaysia. First, “Openness to Experience” personality trait was found to be positively significant towards cultural intelligence of international students. This implied that when an international student possesses an open minded and is interested to learn new things which are not limit to their own cultures, will lead them to obtain a higher cultural intelligence. The result is in line with the studies of McCrae and Costa (2003) and Moody (2007), which reported that “Openness to Experience” was the most substantial factor of CQ. Second, the results also revealed that mainstream social connectedness has a positive significant relationship with cultural intelligence. This signifies that international students have higher CQ when their interpersonal connections with Malaysian students or community members who are “cultural insiders” is strong. This was coherent with the findings of Yeh and Inose (2003) and Wang et al (2014) that foreign students with high social connectedness were able to easily adapt to the new social settings.

Third, cultural exposure was also found to be significantly influenced cultural intelligence of international students. The findings indicated that majority of the international students who

travel abroad more often, will be exposed to more new things which help to increase their cultural intelligence. This finding was parallel to the studies of Chen and Isa (2003) which stated that cultural exposure could positively impact the culture intelligence where it gained awareness of other culture. Fourth, cross-cultural training was also discovered to have significant relation with cultural intelligence of international students. The result showed that international students tend to demonstrate high cultural intelligence after they have attended cross-cultural trainings or workshops. This finding was consistent with the study of Eisenberg et al. (2013) and Ramsey and Lorenz (2016) which reported that students' overall CQ has substantially increased after attending cross-cultural management courses. Lastly, this study also discovered that there is a significant relationship between CQ and international students' adjustment level. This indicates that international students with high cultural intelligence seem to be well adjusted to the environment in Malaysia. This finding is in line with the study of Lin et al (2012) that found that CQ have a positive impact on cross-cultural adjustment.

6. THEORETICAL IMPLICATIONS

This study adds to CQ literatures in three ways. First, it adds to CQ theory by providing evidence in a Malaysia's international students context, the applicability of CQ in explaining adjustment. CQ was found to explain adjustment in many contexts including learning new language (Lin et al., 2012) and behavioural and competency-based traits (Caligiuri, 2000). Its applicability in Malaysian context is now verified. Second, this study extends Big 5 personality trait theory in explaining CQ. Personality is an inborn characteristic embedded within an individual (Peabody & Goldberg, 1989). Big 5 personality traits were reported to explain competency like oral communication (Srivastava, 2015) and problem solving (Witt et al., 2002). Its applicability in predicting CQ competency is verified in this study.

Finally, this study extends the work of Wang et al. (2015) who studied CQ phenomenon of international students in United States. This study adopted their framework by including "Openness to Experience" personality trait, cultural exposure, cross-cultural training and cross-cultural adjustment. The first three variables have significantly increased the explanation power of CQ, and cross-cultural adjustment was included as outcome of CQ which found to be significant. Hence, these extended variables significantly improved our understanding on CQ phenomenon.

7. PRACTICAL IMPLICATIONS

First, findings from this study could direct to more tailored and efficient outreach programs and educating seminars focusing on CQ or cross-cultural proficiency more broadly, to boost acculturational adjustment of foreign students. For instance, universities may design programs such as training workshops or communal bonding programs to enhance international students' CQ. Besides that, cross-cultural training can run by adopting various teaching methods such as simulation games, role playing, and case study while for social connectedness, programs such as homestay with Malaysian host, experiential tours to villages, and worship places or historical building are some of the events that may help improve international students' CQ.

Furthermore, universities may organize internships, visits to industries and international exchanges for international students. These may give the international students a better international and learning experience in Malaysia. Other ways are to expedite more positive

interface during the first study semester between international students and Malaysian students to reinforce their social connections through mentor-mentee system. Besides initiatives from universities, one suggestion is that international students should also take the lead to interact more with local students to improve their understanding on different cultures in Malaysia by joining sports or clubs and societies to meet peers with mutual interests.

Second, managers may also utilize similar strategies to enhance CQ of their foreign employees. Candidates that are applying for jobs which require high CQ can be identified from those who score high in the “Openness to Experience” personality trait test. Finally, government agencies that regulates Malaysia education hub could also benefit from this study. Expatriates and international students can better adjust and enjoy the stay in Malaysia if programs such as free workshops to explain cultural values and behaviours of Malaysian is provided. Moreover, the government agencies could create a unit specializing in assisting international students or expatriates on connecting with Malaysian host who would like to host newcomers to Malaysia for a short period of time. By implementing this, international students or expatriates will feel welcome and subsequently may spread positive words about Malaysia, which would help Malaysia achieves the objective of being an international education hub.

8. LIMITATIONS OF THE STUDY AND FUTURE STUDIES RECOMMENDATION

This study has several limitations. First, the samples in the context of this study are limited to international students who enrolled in a Malaysia public university (i.e. University Putra Malaysia). Future research may include international students’ samples from other public universities as well as from the private universities in Malaysia to obtain more meaningful data and a more holistic outcome. Second, this study follows a cross-sectional design. Future studies could consider to perform a longitudinal study given that the level of individual CQ and student’s cross-cultural adjustments may alter over time (Hartini et al., 2017). Lastly, this study found that the R^2 values for cultural intelligence is 0.484, hence, there is about 52% of variance in CQ which is not explain. Future research may include other predictors which might influence CQ such as the role of communication (Sarwari & Wahab, 2016; Pui-Yee et al., 2010) and cultural awareness (Hartini & Fakhrorazi, 2018) to better understand CQ in international students’ cross-cultural adjustment level.

9. CONCLUSION

This study has extended the work of Wang et al (2015) by focusing on cultural intelligence of international students adjusting in the Malaysia environment. The study also contributed to CQ theory by offering confirmation in a Malaysia’s international students’ context, where the applicability of CQ in explaining adjustment level was ascertained. Besides that, this study has also addressed the research objectives of the study, where all the predictors (“Openness to Experience” Personality Trait, Mainstream Social connectedness, Cultural Exposure and Cross-Cultural Training) were found to be significantly influence cultural intelligence of international students and subsequently their adjustment level while pursuing their higher education in Malaysia. Thus, these findings have offered several suggestions to Higher Education Institution and policy makers to enhance cultural intelligence so that the international students could function effectively in a culturally diverse environment. Moreover, by knowing and ascertaining how to aid the early development of international students’ cultural intelligence and also

expatriates' cultural intelligence could be an extremely crucial part of creating a worldwide-friendly campus, and would create Malaysia more alluring to foreign countries.

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