

Intercultural Adjustment in High Context Communication: The Mediating Role of Intercultural Willingness to Communicate on AUM Theory

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Abstract

Underpinned by anxiety/uncertainty management (AUM) theory, this study uses Baron and Kenny's (1986) framework to test the prediction that intercultural willingness to communicate (IWTC) mediated the relationship between anxiety and uncertainty among international students at University Putra Malaysia. The previous study displayed a significant relationship between anxiety, uncertainty, and intercultural adjustment while moderated by mindfulness. As a high-context culture in communication, Malaysia specialized in interpersonal and intergroup communication among ethnic and races. While intercultural willingness to communicate plays a crucial role in intercultural communication. Results through Multi-linear regression (SPSS) to investigate a possible method for testing mediation effects of intercultural willingness to communicate (IWTC) on the relationship between anxiety and uncertainty. Employed surveys were used to collect data to test hypotheses predicting intercultural adaptation. A total of 201 international students which includes undergraduates and post-graduate students at the University Putra Malaysia participated in the survey. This study revealed that anxiety and uncertainty have a direct negative influence on intercultural willingness to communicate and an indirect negative influence on intercultural adjustment. Especially, this study was conducted under the effect of the Covid-19 pandemic.

Keywords: Intercultural Adjustment, Uncertainty, Anxiety, Intercultural Willingness to Communicate

Introduction

Back in 2014, there were far fewer international students studying in Malaysian universities than there are now. Some courses are still taught in Bahasa Melayu, and there is a lack of international student affairs management. Adapting to Malaysia is a huge challenge that affects student performance. Compared with the idea or original intention of studying abroad, intercultural adaptation occupies a disproportionately large proportion of life. This is

the main motivator for me to focus on international student adaptation. In particular, the COVID-19 has exacerbated the negative impact on student achievement, which is reflected in cross-group and cross-cultural communication through online instruction.

Difficulties in intercultural adjustment are the main concern of international students in Malaysia Universities (Yusoff & Chelliah, 2010). Internationalization results in students crossing borders (Teichler, 2017) and the increasing number of international student enrolment in Malaysian higher education (Ahmad, 2017). It is, therefore, crucial to go through all the adjustment processes to overcome various obstacles (Jamal et al., 2020) and perform well on campus. Internationalization is a transition based on crossing borders, especially for students crossing borders (Teichler, 2017). The shortage of higher education degrees and inadequate university resources in many developing countries has also led many students to pursue higher education abroad, and statistics show that the number of international students in developing countries is increasing (Yang 2002).

International students exacerbate their internal fears out of uncertainty about communication from an unknown culture (Neuliep, 2015), leading to an inability to predict or interpret events in and around social communication (Whitt, 2015) while making people unable to predict the behavior of strangers when plagued by anxiety (Gudykunst, 2005). To date research into intercultural adjustment based on AUM theoretical model has not been applied to the high-context culture of Malaysia; however, the application to this setting would allow for a better understanding of how to refine Western-originated theories for use in future Malaysian interethnic/intercultural research (Tamam & Waheed, 2017). In this manner, the application of intercultural communication theory assists people to reduce the barrier to interpersonal communication in Malaysia. The cross-cultural interaction in Malaysia may differ compared day to day. For example, expanding how cultural/ethnic relations address contemporary intercultural issues associated with growing diversity and democracy in society (Tamam & Waheed, 2017). This exploration is of critical importance given the adaptive challenge and the opportunity to transcend the confines of their original culture and to have a greater sense of self (Kim, 2001).

Whereas measuring the model with mindfulness moderating between anxiety/uncertainty and intercultural adjustment was criticized as over-reliance on consciousness (Yoshitake, 2002). Excessive reliance on consciousness fails to explain contradictions between people's consciousness and emotion at both levels of personal and culture (Yoshitake, 2002). Compared with western people, eastern people display lower arousal emotions to adjust and conform to other people (Lim, 2016). Gudykunst addressed those members of high-context cultures were more cautious in their initial interactions with strangers, made more assumptions about strangers based on their background, and asked more questions about strangers' backgrounds than members of low-context cultures. Therefore, the development of strong interpersonal relationships on the amount of communication in which interactants are willing to engage in all cultures, but people differ dramatically from one another in the degree to which they do talk (McCroskey & Richmond, 1987). Anxiety and uncertainty hinder cross-cultural engagement and lead to avoidance (Duronto et al., 2005). While literature rich in the variable of intercultural willingness to communicate played the role of mediator (Rajan et al., 2021) and consequence (Afsaneh, 2020) on international students' intercultural

communication. It is a new exploration of intercultural willingness to communicate mediating the relationship between anxiety & uncertainty and intercultural adjustment.

Background of Study

Since February 2020, Malaysian educational institutions have started to implement online courses. Apart from problems of understanding the learning structure and Internet problems, the main problem of students is poor communication with lecturers or teachers, classmates in teamwork, and lack of interaction in any academic activities.

While shortage of higher education degrees and inadequate university resources in many developing countries has also led many students to pursue higher education abroad, and statistics show that the number of international students in developing countries is increasing (Yang, 2002) to relieve the stress of losing a job or seeking job. There has been a trend to analyze universities in developing countries, considering their response to the changing environment (Chapman & Austin, 2002), with a particular focus on BRICS countries (Schwarzman et al., 2015). Malaysia is emerging as an international education hub (Ahmad, 2017), known for its economic tuition fees, multicultural background, and commonwealth international education system. By December 2020, a total of 93,478 international students will be enrolled in Malaysian higher education institutions. Of this number, 60% of students are hosted by the private higher education sector, while public universities host 40% of them (Doria, 2021). In 2019, the countries with the highest number of international students in Malaysian universities are China, Indonesia, Bangladesh, Yemen, Pakistan, Nigeria, India, Egypt, Saudi Arabia, and Iraq after each other (Statista, 2022).

Problem Statement

Despite the importance of sojourners' interpersonal/intergroup communication in the hosts' culture as a possible intercultural adjustment in cross-border education (CBE), very few studies have investigated the international students' intercultural adjustment based on AUM Theory in Malaysia's multicultural context (Hassan & Saodah, 2020).

Theoretically, Nadeem and Koschmann (2021) pointed out that the AUM theory was measured in Western cultural contexts thus creating a gap in the literature. For example, one limited study is on measuring international students' intercultural adjustment through cross-cultural adaptation theory in Malaysia (Lu et al., 2008; Zhou et al., 2011).

While cross-cultural interactions threaten people as they realize that their assumptions about interacting with people from their own culture do not apply when interacting with people from a different culture. Feelings of lost ground often led to anxiety (Bucker et al., 2014). Additionally, communication with people from unknown cultures can be frightening and exacerbated by uncertainty (Neuliep, 2015), resulting in an inability to predict or explain events in and around social communication (Whitt, 2015). Even though immigration, result indicating that a slow adaptation and lower uncertainty in the host country's culture, this issue remains undisclosed in Malaysia (Cappellini & Yen, 2013).

Uncertainty is the trigger of worrying thoughts. Uncertainty leads to elevated state anxiety at low but not high situational threats, suggesting that uncertainty and threatening stimuli

interact to trigger anxiety responses (Reuman et al., 2015). But when under an imminent threat, the effect of uncertainty on state anxiety would be limited (Chen et al., 2018).

Although Malaysian university policy has been adapted to play an important role in promoting national integration, existing research shows that cross-cultural engagement among university students has reached alarmingly low levels. The reason to some extent is Malaysia's polarization and racial division (Rajan et al., 2021). Students were unwilling to communicate with students from other cultural backgrounds. Intercultural communication among university students in Malaysia is unsatisfactory (Hashmi et al., 2017). A higher intercultural willingness to communicate (IWTC) leads to high intercultural communication (Campbell, 2016; Clark et al., 2015; Gonzalez et al., 2017; Logan et al., 2015, 2016, 2017).

Objectives

The purpose of this research is to understand how international students adjust to life in Malaysia within the context of AUM theory. The study aims to investigate interpersonal/intergroup behavior regarding intercultural adjustment and the role of intercultural willingness to communicate in communication.

- i. To determine the relationship between uncertainty and anxiety among international students.
- ii. To determine the relationship between uncertainty & anxiety reduction and intercultural adjustment.
- iii. To determine whether the intercultural willingness to communicate mediates the relationship between uncertainty, anxiety, and intercultural adaptation in Malaysia.

Hypotheses Development

In previous research on the correlation between uncertainty and anxiety, first of all, uncertainty and anxiety are independent dimensions (Gudykunst & Gao, 1990; Hammer et al., 1998). Gudykunst and Nishida (2001) proved the positive relationship between anxiety and attributional confidence (uncertainty) across relationships and cultures (Nishida, 2016; Gudykunst, 2005). This study's findings were examined by Hammer et al.'s (1998) study, which found that uncertainty and anxiety were interdependent dimensions and correlation coefficients between uncertainty and anxiety. The other scholars' results support this finding as well (Chen, 2009; Duronto et al., 2005; Rui & Wang, 2015).

H1: Uncertainty reduction predicts anxiety reduction.

Intercultural willingness to communicate, and intercultural competence as a result of studying abroad, therefore may affect students' willingness to move abroad or participate in international activities in the future (Ella et al, 2017). Zimmerman (1995), in discussing cross-cultural interaction and communication in communicative groups of multi-ethnic people on college campuses, argues that communication is the individual's adaptation and acceptance of the cross-cultural environment. But lack of direct empirical evidence to verify the correlation between intercultural willingness to communicate and intercultural adjustment.

H2: There is a positive relationship between intercultural willingness to communicate and intercultural communication.

Previous empirical addressed (Logan et al., 2014; 2016) the effects on willingness to interact by manipulating the perceived predictability of the person interacting across cultures and the anxiety surrounding that interaction. The inability to predict and interpret events in and around cross-cultural environments will lead to uncertainty (Whitt, 2015). Higher levels of unfamiliarity are suspected to be a factor in communicator anxiety (Neuliep, 2015). The uncertainty and anxiety reduction were tested as a positive correlation with intercultural willingness to communicate (Rajan et al., 2021).

H3: Uncertainty reduction is positively related to intercultural willingness to communicate among international students.

H4: Anxiety reduction is positively related to intercultural willingness to communicate among international students.

In addition, the AUM theory predicts high levels of intercultural adjustment when uncertainty and anxiety are low (Gudykunst, 2005; Rui & Wang, 2015). Strangers who can manage their anxiety and uncertainty so that it does not rise too high levels have a better chance of achieving a higher level of adjustment to the host culture (Nishida, 2016). Previous studies display the mediating role of intercultural willingness to communicate in the relationship between anxiety/uncertainty and intercultural communication among Malaysian public university undergraduates (Rajan et al., 2021). Intercultural willingness to communicate was noted to be an initial positive sign to engage in intercultural interaction (Justen, 2009), which is a central process of intercultural competence (Krakhellen, 2010). The higher communication apprehension possesses, the lower willingness to communicate, then makes communicators tend to avoid or withdraw from communicating with others (McCroskey & Richmond, 1990).

H5: Intercultural willingness to communicate can mediate the relationship between uncertainty reduction and intercultural adjustment among international students.

H6: Intercultural willingness to communicate can mediate the relationship between anxiety reduction and intercultural adjustment among international students.

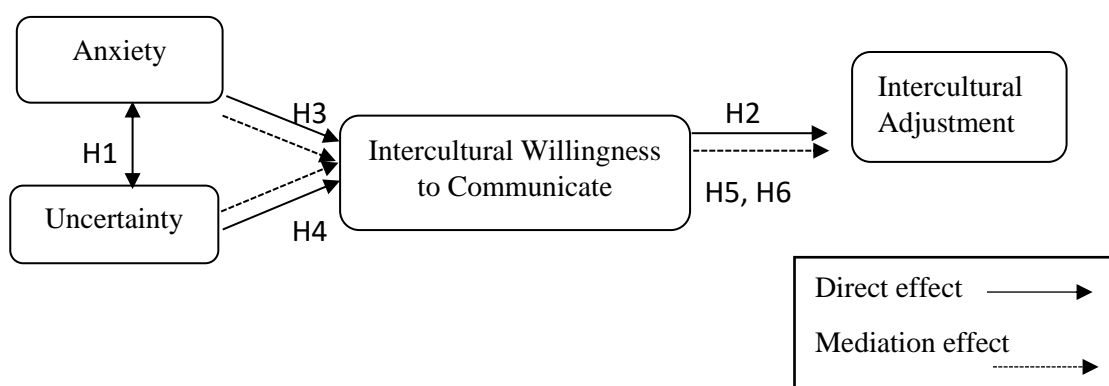


Figure 1. The model with Related Hypothesis

Literature Review

Anxiety

Anxiety is the effective equivalent of uncertainty (Gudykunst, 2005; Turner, 1988). Anxiety affects the way people feel about interacting with someone else and includes a sense of uneasiness, apprehensiveness, worrying, etc. (Neuliep, 2012). People experience intergroup anxiety when the group member contact outgroup members within the culture or out of culture (Stephen & Stephen, 1985). For most people with intergroup anxiety, their intergroup interactions take the form of avoidance, when possible, to reduce anxiety (Johnson & Pond, 1979). Gudykunst (1995) further argued that when anxiety is high, individuals are less motivated to communicate with others. The other school discussed the idea of anxiety in intercultural communication, Greenberg et al. (1992) pointed it that individuals create a "cultural-anxiety buffer", anxiety arises when individuals take their cultural worldview as reality but encounter people who do not approve of their worldview (Tegelaar, 2012).

Uncertainty

Uncertainty is a cognitive phenomenon (Gudykunst, 2005). Uncertainty affects the way people think about communication and involves the ability, or inability, to predict a stranger's attitudes, beliefs, values, and behaviors (Berger & Calabrese, 1975). Gudykunst extended to explaining communication across cultures, as well as communication between people from different cultures. He adopted the concept from the central uncertainty reduction theory (URT), when strangers meet, their primary concern is to reduce uncertainty or increase predictability about their behavior and that of others in the interaction. Therefore, when there is a high level of uncertainty, strangers ask each other to obtain the information needed to attribute confidence (Berger & Calabrese, 1975).

Intercultural Adjustment

Intercultural adaptation refers to the adjustment of communicative behavior to decrease the probability of being misunderstood when speaking with someone from a different culture (Deborah & José, 1996). This ability is universal and characteristic of all organisms because the function of self-preservation involves adaptation to new conditions of existence. The process of adaptation is a two-sided direction: not only can a person "self-adaptation" to specific and new environments, but he or she also has a significant impact on those environments, adapting them to his or her needs and requirements (Tomin et al., 2016).

Intercultural Willingness to Communicate

Intercultural Willingness to Communicate (IWTC) (Kassing, 1997) is defined as one's predisposition to initiate intercultural communication encounters (Jeffrey, 2009). A person's willingness to interact with another person in a given interpersonal context can be influenced by the situational constraints of the interaction. If a person often lives in a culture different from her/his own, cultural differences are seen to be highly correlated with willingness to communicate. There are many reasons why people avoid interacting with people from different cultures (Campbell, 2016). Being perceived as "high" or "low" in terms of willingness to communicate is both a function of the culture in which one lives and the personality orientation that distinguishes one from others (McCroskey & Richmond, 1990). However, the greater sense of belonging those individuals gain through integration leads to a greater willingness to interact cross-culturally when opportunities arise, as well as leading to higher

levels of cross-cultural competence and cross-cultural adaptation to the surrounding environment (Gonzalez et al., 2017).

Methodology

Participants and Sampling

The sample was selected from University Putra Malaysia as its largest number of international students, reaching 4,500 in 2022 (Times Higher Education, 2022). Its target population is international students who still live and study in Malaysia. Among these students, it covers from undergraduate to Ph.D students. Chinese students made up the largest percentage of UPM's international students, followed by African students, then Middle Eastern students as the main participants in this study. Besides, the undergraduates' international students take up 34.5 % and postgraduates take up 65.5 %.

Table 1

Cluster of International Students (n=201)

Cluster	Sampling	%
Asia	148	73.6
Arica	35	17.4
Middle East	16	8.0
Others	2	1.0

Sample and Survey Procedure

According to Krejcie and Morgan's (1970) sample size table (see Table 2), the number of international students who are physically active on the UPM campus is much less than registration. Due to the long-term Covid effect, online attendance and no social life are common for international students. In the instrument, the measurement scale of anxiety and uncertainty limits the interaction with other cultures that must occur on campus, which have verified by Rajan et al (2021) in intercultural communication in Malaysian public universities. To obtain an objective and real respondent, the researcher obtained the total number of valid participants from the UPM International Office around 420 international students. The valid respondents displayed the duration they live in Malaysia.

Table 2

Sample Size Table of Krejcie and Morgan's (1970)

Population = N	Sample = S
220	140
320	175
420	201

Table 3

Duration of Respondents Live in Malaysia

Duration	Number	%
<1	62	30.8
1.1- 2	59	29.4
2.1- 5	52	25.9
>5	24	11.9
Just Arrive	4	2.0

To obtain an expected sample representative of the population, this study will use stratified sampling. It is mainly utilized in quantitative research. To produce a result that represents the whole population, probably sampling will be required. The result of sampling is to acquire a balanced representative sample, from a much larger population such that the scholar carrying out the research can study the smaller group and create accurate overviews of a larger group. Bobko (1980) says stratified sampling is more effective when the population has mixed features and different elements inclusive. In stratified sampling, the researcher wants to guarantee all existing characteristics are represented in the selected sample.

Data Collection

This research adopted the self-administered survey which is designed exclusively to be completed by a respondent without the interference of the researcher (Zhang et al., 2018). The location for distributing the questionnaire was chosen in UPM International Office. First of all, the chosen respondents must have calm emotions and efficient time to pay full attention to reading and answering. Second, according to the situation offering the payment encourages them to participate. Third, the questionnaire was designed in Tengxun Survey Online System(<https://wj.qq.com/>), which produces the QR code and survey link. Each respondent only scans the QR code by phone and is unable to skip any items with the progress bar when answering. The real-time data has been uploaded to the computer terminal database. Even if they fail to fill up the survey, the QR code and survey link allow participants to fill it up later on the bus or any place. Thus, each respondent through the researcher's observation and selection, confirms identity and willingness, and proof of their response to get the payment feedback. Some of the respondents were excluded because lacking social life on campus and the chance to communicate with others.

Research Instrument

This close-ended survey instrument consisted of 33 items on four constructs (anxiety, uncertainty, intercultural willingness to communicate, and intercultural adjustment). The demographic has six items which include the area, gender, age, education level, English level, and experience of going abroad. Anxiety was measured with Neuliep and McCroskey's (1997b) Personal Report of Intercultural Communication Apprehension (PRICA), which consists of seven items. Uncertainty was measured with Clatterbuck's (1979) Attributional Confidence Scale, the same number as anxiety. Intercultural willingness to communicate was assessed with six items from Kassing's (1997) well-established Intercultural Willingness to Communicate Scale, which is developed and modified to fit the Malaysian context. An intercultural adjustment was adopted by Matsumoto and other scholars' (2001) Intercultural Adaptation Potential Scale (ICAPS-55), which has 7 items that state-based participants'

internal psychological from three aspects of well-being: adjustment to the general environment, adjustment to school/ work, and to interacting with host nationals.

All 33 items were measured on a six-point Likert scale from 1 (“strongly disagree”) to 6 (“strongly agree”) which mainly aim to avoid the problem of central tendency. Previously, research about the central tendency bias, which refers to avoiding the endpoints of a response scale and preferring responses closer to the midpoint, is generally regarded as “one of the most obstinate” response biases in psychology (Stevens, 1971). Different kinds of scales can give rise to this bias (Olkkonen et al., 2014; Douven & Schupbach, 2015; Allred et al., 2016), but the central tendency is especially well documented in data collected utilizing Likert-type questionnaires (Igor, 2017).

Data Analysis

Respond Rate

A total of 268 respondents participated in the survey voluntarily. However, 201 completed questionnaires were obtained, yielding a response rate of 75%. The fifty-five respondents fail to fill up the survey. Multi-linear regression was adopted to evaluate the proposed model using the SPSS software (Ringle et al., 2015).

Data Normality Test

Normality of the data to ensure that the data do not stray too far from a normal distribution, as extremely non-normal data may affect the level of significance of certain relationships between variables. Combining skewness and kurtosis is still a useful test of normality, as long as the limiting variance accounts for serial correlation in the data. These tests can be used to make inferences about any conjectured skewness and kurtosis coefficients (Bai & Ng, 2012). According to Mishra et al (2019), for sample sizes greater than 300, the value of skewness must be ≤ 2 and the value of kurtosis must be ≤ 4 to demonstrate a normal distribution of the data. Some suggest that the most acceptable values for the two statistics should range between -1 through 0 to +2. Because the rule of thumb for both is between -1 to 1. Based on this recommendation, the analysis of skewness and kurtosis has been performed.

Table 4 shows the skewness and kurtosis results at the construct levels, indicating that all the items in this study are within the acceptable range of ≤ 2 for skewness and ≤ 4 for kurtosis, even within the range from -1 to +1.

Table 4

Normality Checking: Skewness and Kurtosis at the Construct Levels

Construct	Skewness		Kurtosis	
	Statistics	Std. Error	Statistics	Std. Error
Anxiety	-.406	.172	-.405	.341
Uncertainty	.196	.172	-.108	.341
Intercultural	-.763	.172	.349	.341
Willingness to Communicate				
Intercultural Adjustment	-.198	.172	.595	.341

Note: N = 201 for all constructs. All constructs are measured using 6 – point Likert scale.

Results

Assessment of the Measurement Model

The value showing Cronbach's (1951) alpha coefficient is intended to test the internal consistency between the items in the scale. It can be used by SPSS reliability analysis or Smart-PLS. However, two problems regarding the alpha coefficient are still prevalent in the construction and use of the test. The first problem is that the alpha coefficient is grossly underestimated under the usual measurement error assumptions. The second problem is that the alpha value has been incorrectly assumed to be a measure of the internal structure of the test. The result of this misunderstanding of alpha is that trait validity (Campbell, 1960) is often taken for granted due to high alpha values when, in fact, it has not been investigated at all (SIJTSMA, 2009). So, Confirmatory factor analysis (CFA) was conducted to examine discriminant validity, convergent validity, and reliability to assess the measurement model. Four items were discarded due to low factor loadings, one from anxiety (Q13), two from uncertainty (Q14, Q19), one from intercultural willingness to communicate (IWTC) (Q21), and one from intercultural adjustment (IA) (Q27, Q29, Q31). Furthermore, as suggested by Hair et al. (2017a), the composite reliability (CR), average variance extracted (AVE), and Cronbach's alpha (CA) and "Quality Criteria" provides rho_A results for Construct Reliability and Validity for all five constructs were above 0.7, 0.5, 0.7 and 0.7, respectively. therefore, convergent validity was satisfied, Table 5 shows the item loadings and convergent validity for each construct.

Table 5

Results of Assessment Model Construct

	Items	Loadings	AVE	CR	Rh0_A	Cronbach's Alpha
anxiety	Q7	0.832	0.756	0.949	0.941	0.934
	Q8	0.848				
	Q9	0.924				
	Q10	0.926				
	Q11	0.896				
	Q12	0.780				
uncertainty	Q15	0.728	0.641	0.899	0.871	0.862
	Q16	0.845				
	Q17	0.836				
	Q18	0.786				
	Q20	0.803				
IWTC	Q22	0.726	0.708	0.923	0.913	0.896
	Q23	0.858				
	Q24	0.888				
	Q25	0.891				
	Q26	0.832				
IA	Q28	0.732	0.532	0.819	0.712	0.707
	Q30	0.719				
	Q32	0.686				
	Q33	0.777				

Note a. All items loading > 0.5 indicates Indicator Reliability (Hulland, 1999, p.198)

b. Average Variance Extracted (AVE) > 0.5 as indicates Convergent Reliability (Bagozzi and Yi (1981); Fornell and Larcker(1981))

c. All Composite reliability (CR)>0.7 indicates Internal Consistency (Gefen et al., 2000)

d. All Cronbach's alpha >0.7 indicates indicator Reliability (Nunnally, 1978)

Before conducting the multi-linear regression test for mediation in the model, Bivariate (Pearson) Correlation generally describes the effect that two or more phenomena occur together and therefore are linked.

In stable 6, the relationship between two variables is generally considered weak or very weak because their r value is smaller than 0.5, but positive linear correlation. The significance test has the null hypothesis that there is a positive correlation among variables in the study. Met the need for conducting the following data analysis.

Table 6

Correlation of Constructs (n=201)

		1	2	3	4
1 Anxiety	Pearson Correlation	1			
	Sig. (2-tailed)				
2 Intercultural Willingness to Communicate	Pearson Correlation	.238**	1		
	Sig. (2-tailed)	0.001			
3 Intercultural Adjustment	Pearson Correlation	.206**	.193**	1	
	Sig. (2-tailed)	0.003	0.006		
4 Uncertainty	Pearson Correlation	.175*	.400**	.298**	1
	Sig. (2-tailed)	0.013	0.000	0.000	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

In table 7, uncertainty was significantly associated with anxiety ($B=0.175$, $b=0.07$, $p=0.013$), with $F(1, 199) = 6.271$, but the relationship between the two variables is positive but very weak because their r value is smaller than $0.175 < 0.3$. Hypothesis 1 was supported in this study. intercultural willingness to communicate (IWTC) was significantly associated with intercultural adjustment ($B=0.193$, $b=0.070$, $p=0.006$), with $F(1, 199) = 7.739$, but the relationship between the two variables is positive but very weak because their r value is smaller than $0.2 < 0.3$. Hypothesis 2 was supported in this study. anxiety was significantly associated with intercultural willingness to communicate (IWTC) ($B=0.238$, $b=0.069$, $p=0.001$), with $F(1, 199) = 11.966$, but the relationship between the two variables is positive but very weak because their r value is smaller than $0.2 < 0.3$. Hypothesis 3 was supported in this study. uncertainty was significantly associated with intercultural willingness to communicate (IWTC)

($B=0.400$, $b=0.065$, $p=0.000$), with $F(1, 199) = 37.857$, but the relationship between the two variables is positive but in Guildford rule of thumb because their r value is smaller than $0.4 < 0.7$. Hypothesis 4 was supported in this study.

Table 7

Testing for depression as a mediator using multiple regression

B	SE(B)	β	t	p	95%CI	R ²
Hypothesis 1: uncertainty → anxiety						Support
0.175	0.07	0.175	2.504	0.013	0.037-0.312	0.31
Hypothesis 2: intercultural willingness to communicate → intercultural adjustment						Support
0.193	0.070	0.238	2.782	0.006	0.056-0.331	0.037
Hypothesis 3: anxiety → intercultural willingness to communicate						Support
0.238	0.069	0.238	3.459	0.001	0.102-0.374	0.57
Hypothesis 4: uncertainty → intercultural willingness to communicate						Support
0.400	0.065	0.400	6.153	0.000	0.272-0.528	0.16

Table 8 includes the analyses necessary to test the mediation hypothesis. Following the steps outlined earlier for testing mediation, we first identified the relationship between the predictor, anxiety, and the outcome variable, intercultural adjustment (IA), by regressing intercultural adjustment (IA) on anxiety (Step 1). Anxiety was significantly associated with intercultural adjustment (IA) ($B=0.206$, $b=0.069$, $p=0.003$), and path c was significant, meeting the mediation requirement of Step 1. Next, to determine that anxiety was related to the hypothesized mediator, intercultural willingness to communicate (IWTC), we regressed IWTC on anxiety (Step 2). Anxiety was also significantly associated with intercultural willingness to communicate (IWTC) ($B=0.238$, $b=0.069$, $p=0.001$), thus, the conditions of Step 2 were met (path a was significant). To test whether the hypothesized mediator, intercultural willingness to communicate (IWTC), was related to the outcome, intercultural adjustment (IA), we regressed intercultural adjustment (IA) on both anxiety and intercultural willingness to communicate (IWTC) (Step 3). Intercultural willingness to communicate (IWTC) was significantly associated with intercultural adjustment (IA) controlling for anxiety ($B = 0.152$, $b = 0.070$, $p = 0.032$). Path b was significant, and consistent with the conditions in Step 3. This third regression equation also provided an estimate of path c', the relationship between anxiety and intercultural adjustment (IA), controlling for intercultural willingness to communicate (IWTC). When path c' is zero, we have evidence of full mediation. However, path c' was still significant ($B=0.168$, $b=0.070$, $p=0.018$), although it was smaller than path c ($B=0.206$, $b=0.069$, $p=0.003$), which suggests partial mediation.

Table 8

Testing for depression as a mediator using multiple regression

Testing paths	B	SE(B)	95% CI	β	sr ²
<i>Step 1(Path c): DV= Intercultural Adjustment</i>					
R ² = .04, F (1 ,199) = 8.81, p =.003					
<i>IV= Anxiety</i>	.21	.07	.07-.34	.206	20.6%
<i>Step 2(Path a): DV= Intercultural Willingness to Communicate</i>					
R ² = .06, F (1,199) = 11.97, p=.001					
<i>IV= Anxiety</i>	.24	.07	.10-.37	.238	23.8%
<i>Step 3 (Path b and c'): DV= Intercultural Adjustment</i>					
R ² = .07, F (2 ,198) = 6.83, p =.001					
<i>IV= Anxiety (c')</i>	.17	.07	.03-.31	.169	16.5%
<i>IV= Intercultural Willingness to Communicate (b)</i>	.15	.07	.01-.29	.153	14.9%
<i>Total (a)*(b)</i>				.036	

Note: All variables were analyzed by mean-centered as a priority; sr² =the squared semi-partial correlations indicate the unique variance predicted by the independent variable.

Table 9 includes the analyses necessary to test the mediation hypothesis. Following the steps outlined earlier for testing mediation, we first identified the relationship between the predictor, uncertainty, and the outcome variable, intercultural adjustment (IA), by regressing intercultural adjustment (IA) on uncertainty (Step 1). Uncertainty was significantly associated with intercultural adjustment (IA) (B=0.298, b=0.068, p=0.000), and path c was significant, meeting the mediation requirement of Step 1. Next, to determine that uncertainty was related to the hypothesized mediator, intercultural willingness to communicate (IWTC), we regressed IWTC on uncertainty (Step 2). Uncertainty was also significantly associated with intercultural willingness to communicate (IWTC) (B=0.400, b=0.065, p=0.000), thus, the conditions of Step 2 were met (path a was significant). To test whether the hypothesized mediator, intercultural willingness to communicate (IWTC), was related to the outcome, regressed intercultural adjustment (IA), we regressed intercultural adjustment (IA) on both uncertainty and intercultural willingness to communicate (IWTC) (Step 3). Intercultural willingness to communicate (IWTC) was significantly associated with intercultural adjustment (IA) controlling for uncertainty (B = 0.193, b = 0.070, p =0.006). Path b was significant and consistent with the conditions in Step 3. This third regression equation also provided an estimate of path c', the relationship between uncertainty and intercultural adjustment (IA), controlling for intercultural willingness to communicate (IWTC). When path c' is zero, we have evidence of full mediation. Path c' was displayed as (B = 0.089, b = 0.074, p =0.231), which suggests full mediation.

Table 9

Testing for depression as a mediator using multiple regression

Testing paths	B	SE(B)	95% CI	β	sr ²
<i>Step 1(Path c): DV= Intercultural Adjustment</i>					
R ² = .09, F (1 ,199) = 19.34, p =.000					
<i>IV= Uncertainty</i>	.30	.07	.16-.43	.298	29.8%
<i>Step 2(Path a): DV= Intercultural Willingness to Communicate</i>					
R ² =.16, F (1,199) = 37.86, p =.000					
<i>IV= Uncertainty</i>	.40	.07	.27-.53	.400	40.0%
<i>Step 3 (Path b and c'): DV= Intercultural Adjustment</i>					
R ² = .10, F (2 ,198) = 10.41, p =.000					
<i>IV= Uncertainty (c')</i>	.10	.07	.12-.41	.074	7.4%
<i>IV= Intercultural Willingness to Communicate (b)</i>	.19	.07	.01-.29	.190	19.3%
<i>Total (a)*(b)</i>				.076	

Note: All variables were analyzed by mean-centered as a priority; sr² =the squared semi-partial correlations indicate the unique variance predicted by the independent variable.

Discussion

The purpose of this investigation was to examine whether anxiety and uncertainty affect international students' intercultural adjustment in Malaysia. In addition, this paper shows step-by-step how multi-linear regression analysis is used to examine the mediating role in intercultural willingness to communicate. Specifically, the presence of mediating effects is assessed using Baron and Kenny's (1986) concept, and intercultural willingness to communicate partially mediated the relationship between anxiety and intercultural adjustment. And the intercultural willingness to communicate fully mediated the relationship between uncertainty and intercultural adjustment. That is, the previously significant relationship between anxiety/uncertainty and intercultural adjustment was significantly decreased in magnitude when intercultural willingness to communicate was included in the model. The results also confirm that uncertainty and anxiety are interdependent dimensions that influence intercultural adaptation (Gao & Gudykunst, 1990; Hammer et al., 1998). The results of this study have application and practical implications for current international students as well as for university administration. Intervention programs for students with anxiety may have to address the issue of international students' adjustment in Malaysia. The findings of this study have application and practical implications for the management as well as the curriculum of public universities in Malaysia. Conducting advanced intercultural knowledge promotion and education programs for students who have first-time students in Malaysia may have to address the issue of international students' adjustment in Malaysia.

A disadvantage of this study is that the correlation between variables in the study data is weak, due to the long-term online courses and the impact of COVID-19, which has affected the willingness of a large number of international students to communicate. Forced to accept environmental impacts, most of the students involved in this study stayed in Malaysia for various reasons, and the vast majority of international students were not in Malaysia. In addition, the anxiety existing in interpersonal and intergroup communication because of COVID-19, international students ignore or weaken their sensitivity and perception of anxiety

from intercultural communication, which interferes with the measurement of anxiety in this study to some extent.

Contribution

The usefulness of the AUM theory has been identified by scholars based on various literature on intercultural communication among international students in institutions of higher education. The conclusions of most researchers were not significantly different. However, examining AUM's interpretation of international students' intercultural adaptation through an intergroup/interpersonal lens under special circumstances such as the impact of a global pandemic, this study reveals divergent findings, indicating the extent to which uncertainty and anxiety influence sampling adaptation. This facilitates later scholars to explore specifically the pandemic's impact on people's adjustment.

Summary

The results of this study directly support the AUM theory, which claims that both anxiety and uncertainty are barriers to cross-cultural communication (Gudykunst, 1998; Gudykunst & Nishida, 2001) while demonstrating the relevance of the AUM theory in the Malaysian context. Intercultural willingness to communicate was found to be another factor that influences intercultural communication. As Neuliep (2015) pointed out, higher levels of unfamiliarity and uncertainty trigger high levels of anxiety in communicators. To avoid this anxiety, individuals may choose not to interact with people from different cultural backgrounds. Our findings suggest that uncertainty is the root cause of suboptimal intercultural interactions among Malaysian international students. This is in line with Neuliep (2015) that by reducing uncertainty, anxiety should also be reduced and facilitate intercultural communication. This study provides applicable value to the curriculum of Malaysian universities to enhance the intercultural adaptation of international students to make transformative recommendations for the future management of international students. The Ministry of Higher Education should consider incorporating more Malaysian culture-related courses and activities into the existing curriculum. This will give students a greater awareness and understanding of other cultures and ethnicities in Malaysia.

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