RESEARCH ARTICLE

Intercultural Communication and Barriers in Malaysian Public Universities: The Mediating Effect of Intercultural Willingness to Communicate

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Abstract: Underpinned by anxiety/uncertainty management (AUM) theory, this study aims to examine the mediating effect of intercultural willingness to communicate (IWTC) on the relationship between intercultural barriers (anxiety, uncertainty, and ethnocentrism) and intercultural communication among undergraduates in five Malaysian public universities. A quantitative method using a questionnaire was employed to gather data for the study, and analyses were performed using structural equation modeling (SEM) - partial least square (PLS). The analysis of responses from 450 undergraduates revealed that intercultural willingness to communicate mediates the relationship between anxiety, uncertainty, ethnocentrism, and intercultural communication. This study further revealed that anxiety, uncertainty, and ethnocentrism have a direct negative influence on intercultural communication.

Keywords: anxiety/uncertainty management; intercultural willingness to communicate; intercultural communication; ethnocentrism; undergraduates

Malaysia is one of the most multicultural countries in Southeast Asia (Azlan et al., 2018), consisting of three large ethnic groups, namely Malays, Chinese, and Indians, as well as people of other ethnicities and indigenous people (Chang & Kho, 2017). These cultures shape Malaysians, who vary considerably in their values and ways of knowing and experiencing the world (Nordin et al., 2017). This has resulted in an ongoing drive in Malaysia to promote the concept of "unity in diversity" in its multicultural society to form a "national identity" (Yusof & Esmaeil, 2017).

Although Malaysia achieved its independence from the British more than 60 years ago, national integration and ethnic solidarity still remain top of the country's agenda because of their importance to national development. The British policy of "divide and rule" to dominate and maintain political power in Peninsular Malaysia resulted in polarization and ethnic divisions that continue to this day. This historical background influences the people's perception of other ethnicities to a certain extent, preventing them from engaging in intercultural communication with people of other

cultural backgrounds (Azlan et al., 2018). Mustafa and Poh (2019) further added that intercultural relations in Malaysia remain fragile and unstable despite the country's global reputation as a multicultural nation.

The fragility of intercultural relations in Malaysian society is even more evident among multicultural undergraduates in public universities in Malaysia. Although university policies have been restructured to play an important role in fostering national integration, existing studies indicate that intercultural engagement among university students has reached an alarmingly low level. A qualitative study conducted by Lino and Hashim (2019) revealed that students in universities face issues such as intercultural insensitivity, ingroup exclusivity, bias toward students from different cultures, and preference for interaction with students from own culture. Similarly, Hashmi et al. (2017) found the extent of intercultural communication among university students in Malaysia to be unsatisfactory, and observed that students were actually unwilling to communicate with students from other cultural backgrounds.

One of the most fundamental factors explaining successful and effective intercultural communication is intercultural willingness to communicate (IWTC). It is considered a key element that stimulates a desire for interaction in multicultural contexts (Campbell, 2016; Kassing, 1997; Sun, 2013). However, past studies have identified several predicting barriers to IWTC among university students. Logan et al. (2015) opined that university students often feel anxious and uncertain during their interactions with students from other cultural backgrounds, which sometimes causes them to avoid initiating the interaction. Neuliep (2015) further added that even when communicating with an unfamiliar individual from one's native culture, it is common for uncertainty and anxiety to set in. Besides anxiety and uncertainty, Fatemi et al. (2016) proposed ethnocentrism as another strong predictor of IWTC. The impact of ethnocentrism has been confirmed by Malaysian studies (Ketab et al., 2015, 2019). Thus, there is strong evidence that anxiety, uncertainty, and ethnocentrism are significant predicting barriers to IWTC.

High levels of anxiety, uncertainty, and ethnocentrism tend to reduce IWTC, which eventually affects the initiation of intercultural communication (Gudykunst, 2005; Logan et al., 2015; Neuliep, 2012). Past studies from various countries claim that high IWTC should

lead to high intercultural communication (Campbell, 2016; Clark et al., 2015; Gonzalez et al., 2017; Logan et al., 2015, 2016, 2017). However, due to the absence of multicultural respondents, these studies have been unable to prove the extent IWTC contributes to the initiation of intercultural communication in reality. In contrast, the availability of multicultural students in Malaysia allows the present study to explore the actual impact of IWTC on intercultural communication.

Studies on barriers to IWTC are scarce in the Malaysian context. Although various studies have employed IWTC as a dependent variable, to the best of our knowledge, only a limited number of studies have employed IWTC as a mediator. Therefore, the present study aims to address this research gap by investigating the predicting barriers (anxiety, uncertainty, and ethnocentrism) to IWTC and the mediating effects of IWTC on the relationship between the predicting barriers and intercultural communication.

Theoretical Underpinning

The underpinning theory for the study is the anxiety/uncertainty management (AUM) theory established by Gudykunst (1995). The AUM theory has been cited by several researchers and academicians as the underlying theory for their intercultural communication studies (Diana & Lukman, 2018; Hayati, 2018; Khojastehrad & Sattarova, 2015; Logan et al., 2015, 2016, 2017).

The AUM theory explains the relationship between anxiety, uncertainty, and mindfulness in intercultural settings in order to achieve effective intercultural communication. According to Gudykunst (1995), the AUM theory identifies uncertainty and anxiety as the two key variables that explain why people struggle with intercultural communication. Uncertainty and anxiety toward other cultures play a major role in determining whether people effectively communicate with one another. Thus, mindful management of uncertainty and anxiety is necessary for effective communication.

Although the original AUM theory consists of only two independent variables (anxiety and uncertainty), the present study has incorporated a third independent variable (ethnocentrism) into the research. This is because ethnocentrism should also be maintained mindfully in order to engage in intercultural communication (Nameni, 2020), similar to the existing variables of AUM theory: anxiety and uncertainty.

Furthermore, the inclusion of ethnocentrism into the theory was inspired by Neuliep (2012), who pointed out that besides anxiety and uncertainty, ethnocentrism is also an important factor associated negatively with intercultural communication and IWTC. A number of studies in the Malaysian context have also declared ethnocentrism as a barrier to intercultural communication among university students (Ketab et al., 2015, 2019; Tamam & Krauss, 2017). Therefore, the present study aims to discover the impact of these three barriers on intercultural communication mediated by IWTC among undergraduates in Malaysian public universities.

Literature Review and Hypotheses Development

A total of seven hypotheses have been developed along based on five variables (anxiety, uncertainty, ethnocentrism, IWTC, and intercultural communication) of the study. Four hypotheses are developed to investigate the cause and effect relationships, whereas the remaining three are projected to inspect the mediating effects.

Intercultural Communication

Intercultural communication was first explored in the 1950s by Hall, known as the father of intercultural communication. Hall (1959, as cited by Sharifian & Jamarani, 2013) coined the term in his book "The Silent Language." As the world has become increasingly interdependent and interconnected, intercultural communication has turned into an unavoidable component of human life (Nameni & Dowlatabadi, 2018). Intercultural communication can help build not just the knowledge about other people but also provide the opportunity to better understand one's own culture (Liu et al., 2014). Thus, the primary solution for developing a better understanding between cultural groups is to mingle with other cultures and widen the scope of one's understanding of other people's ways of living (Kleshchina, 2018).

Thus, the cultivation of understanding and awareness is the first step in the intercultural integration process, which should be followed by respect and active collaboration with people from different cultures to establish long-lasting and deep intercultural relations (Khoruzha, 2018). Hence, education has become a

reliable tool that guarantees national development through intercultural unity (Rohana et al., 2017). As a leading agent of socialization, universities undoubtedly play a crucial role in shaping the worldview of future generations by serving as a platform for establishing new contacts and networks among multicultural students (Ananina & Danilov, 2015).

University students are the backbone of the modernization efforts of a country and the hope of its future development. Hence, their perceptions and attitudes on the issue of national unity directly affect the entire society and the nation (Chang, 2016; Mugizi, 2018). In addition to providing students the foundation for a flexible adaptation of intercultural tolerance (Tregubova et al., 2019), universities also help students achieve willingness and ability to live in a multicultural society (Yusupova et al., 2015). Harmonious intercultural interactions also enable the building of a positive atmosphere for cognitive and social development among students (Morita, 2012). At the same time, students will learn to avoid judging the actions of other students from the point of view of their own culture, be aware of the existence of cultural diversity, and accept the differences influenced by it (Shukshina et al., 2017). Besides providing knowledge through culture-related courses, universities also act as a platform for students to experience real-life intercultural interactions that enable them to develop intercultural sensitivity (Tuncel & Paker, 2018). Regardless of the forms that the interactions take, they will somehow reduce prejudice and establish more favorable intercultural attitudes in the long run among multicultural students (Shwed et al., 2018).

Intercultural Willingness to Communicate and Intercultural Communication

Kassing (1997) developed the concept of IWTC, which he defined as "one's predisposition to initiate intercultural communication encounters" (p. 400). IWTC is also defined as one's desire to interact with people from diverse cultural backgrounds (Fatemi et al., 2016), which makes them initiate the conversation instead of waiting for their opponent to do so (Jackson, 2014). IWTC is about one's willingness to communicate with people of different races, cultures, and languages, which should lead to a positive attitude towards intercultural communication and eventually initiate actual intercultural communication (Ulu et al., 2015). Similarly, Badrkoohi (2018) opined that without

IWTC, there is less chance of establishing intercultural communication in reality.

Past studies have claimed that high IWTC should lead to high intercultural communication (Campbell, 2016; Clark et al., 2015; Gonzalez et al., 2017; Logan et al., 2015, 2016, 2017). However, due to the absence of multicultural respondents, these studies were unable to confirm whether high IWTC will, in reality, result in high intercultural communication. Therefore, the present study aims to explore the relationship between IWTC and intercultural communication among multicultural respondents in the Malaysian context. Hence, we hypothesize:

H1: There is a positive relationship between intercultural willingness to communicate and intercultural communication.

Anxiety and Intercultural Willingness to Communicate

The word "anxiety" is derived from the Latin word anxietas which is defined as the anticipation of future threat; it is distinguished from fear, the emotional response to real or perceived imminent threat (Crocq, 2015). Paolini et al. (2018) argued that interaction with members of different cultures or ethnic groups, whether actual or anticipated, leads to anxiety. A higher degree of unfamiliarity is suspected to be the factor causing anxiety among the communicators (Neuliep, 2015). People experience anxiety due to insufficient information related to the intercultural setting (Chen & Yang, 2015), which makes them feel that they are losing all their familiar signs and symbols of social intercourse (Wu et al., 2015). Hence, we hypothesize:

H2: There is a negative relationship between anxiety and IWTC among Malaysian undergraduates.

Uncertainty and Intercultural Willingness to Communicate

"Certainty" comes from the Latin word *cernere*, *cerno*, meaning to separate, distinguish, perceive, and comprehend. The prefix *un* turns the meaning into its opposite. Therefore, uncertainty refers to something that is unseparated, indistinguishable, imperceptible, and incomprehensible. Uncertainty is epistemic, future-oriented, and refers to a lack of knowledge concerning how to act with predictable outcomes (Aspers, 2018). It is natural for human beings to seek

explanations and predict the world in order to reduce uncertainty. Consequently, the inability to predict and explain the events that transpire in and around intercultural settings will cause uncertainty (Whitt, 2015). Neuliep (2017) stated that when students engage in intercultural communication, they tend to face the highest degree of "strangeness" and the lowest degree of familiarity. The resultant feelings of discomfort and uneasiness lead to an unwillingness for and avoidance of intercultural communication (Presbitero & Attar, 2018). As high uncertainty will reduce student's IWTC, we hypothesize:

H3: There is a negative relationship between uncertainty and IWTC among Malaysian undergraduates.

Ethnocentrism and Intercultural Willingness to Communicate

Studies on IWTC have indicated that apart from anxiety and uncertainty, people might be unwilling to communicate due to another important factor called ethnocentrism (Logan et al., 2015; Nameni, 2020). Ethnocentrism has become a predominant topic since William Sumner introduced the term more than a century ago to the vocabulary of social scientists. Ethnocentrism is defined as "the technical name for this view of things in which one's own group is the center of everything, and all others are scaled and rated with reference to it" (Sumner, 1906, as cited in Neuliep, 2012, p. 13). Although ethnocentrism serves as a fundamental element to form patriotism and the willingness to sacrifice for one's group, extreme ethnocentrism may trigger the tendency for people to view their own way as the only right way. This tendency can be dangerous and lead to prejudice and discrimination (Ketab et al., 2015; Neuliep, 2012). Hence, we hypothesize:

H4: There is a negative relationship between ethnocentrism and IWTC among Malaysian undergraduates.

Intercultural Willingness to Communicate as Mediator

A number of studies have been conducted in various countries to investigate IWTC as a dependent variable (Campbell, 2016; Logan et al., 2015, 2016, 2017; Nameni, 2020; Neuliep, 2012). However, to the

best of our knowledge, none has actually employed IWTC as a mediator. Gudykunst (2005) has also recommended the inclusion of a mediator to better predict intercultural communication. Furthermore, Kassing (1997) professed that IWTC is a prerequisite to initiate intercultural communication. On the other hand, Logan et al. (2015, 2016, 2017) and Neuliep (2012) highlighted that anxiety, uncertainty, and ethnocentrism are the predicting barriers of IWTC. Hence, this leads the present study to propose that the effect of anxiety, uncertainty, and ethnocentrism on intercultural communication may be mediated through IWTC. Thus, the present study believes that integrating IWTC as a mediator may provide a better understanding of intercultural communication in reality. This has motivated us to further investigate IWTC as a mediator. Hence, we hypothesize:

- H5: IWTC mediates the relationship between anxiety and intercultural communication among Malaysian undergraduates.
- H6: IWTC mediates the relationship between uncertainty and intercultural communication among Malaysian undergraduates.
- H7: IWTC mediates the relationship between ethnocentrism and intercultural communication among Malaysian undergraduates.

The framework of this study is developed based on Gudykunst's (1995) anxiety-uncertainty management theory with its existing two predicting barriers to intercultural communication—anxiety and uncertainty. In addition to this, Sumner's (1906) ethnocentrism

is incorporated as the third predicting barrier, which makes a total of three independent variables. Figure 1 illustrates the research model based on the AUM theory framework.

Methods

Population

There are a total of 20 public universities in Malaysia that are categorized into three major groups: five research universities, four comprehensive universities, and 11 focused universities. The top five research universities in the country are expected to produce the most competent graduates in every aspect (Arjomandi et al., 2015; Bakar & Ismail, 2019). Therefore, Malay, Chinese, and Indian undergraduates who are studying in these five research universities were selected as the population of this study. The selected universities were Universiti Malaya (UM), Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM), Universiti Kebangsaan Malaysia (UKM), and Universiti Teknologi Malaysia (UTM). Table 1 shows the breakdown of the undergraduate population in the five selected universities.

The respondents of the study are comprised of Malay, Chinese, and Indian undergraduates from five research universities of Malaysia. The rationale for selecting public universities rather than private ones is that the ethnic ratio of Malay, Chinese, and Indian students' population in the public universities is 6:3:1, which is similar to the ratio of the total population in Peninsular

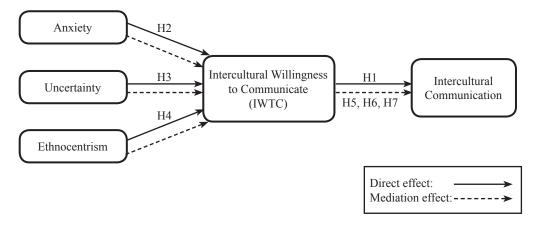


Figure 1. Model with Related Hypotheses

Malaysia. Among the students, undergraduates from all years of study were selected for this study, as they have many classes to attend and frequently receive group assignments, in contrast to postgraduate students who have fewer classes to attend and have less opportunity for intercultural cooperation.

Table 1Local Undergraduates Population in Five Public Universities

Public Universities	Local Undergraduates Population	%
UM	14, 514	16.25
USM	21, 161	23.69
UPM	16, 733	18.74
UKM	17, 883	20.02
UTM	19, 019	21.30
Total	89, 310	100

Source: Ministry of Higher Education Malaysia (2018)

Sample

The sampling of this study was based on Krejcie and Morgan's (1970) sample size table (see Table 2), as recommended by Sekaran and Bougie (2016, p. 263). As the total population was more than 75,000, the minimum sample size designated for the present study was 382, which fulfilled the minimum sample size of 100 for data analysis using PLS-SEM (Sekaran & Bougie, 2016). However, to perform factor analysis, it is suggested to have at least 300 samples (Benitez et al., 2020).]

Table 2Sample Size Table

Population $= N$	Sample = S
50,000	381
75,000	382
1,000,000	384

The response rates of the past studies were considered in deciding the sample size of the present study. Most studies on intercultural communication among Malaysian undergraduates yield between 86% and 98%. The lowest response rate was yielded by Yunus et al.'s (2017) study, followed by two studies

that recorded the response rates of 87% and 87.5%—the study on multicultural awareness by Awang-Rozaimie et al. (2017), and the study on the impact of ethnocentrism on intercultural interaction by Ketab et al. (2015). Meanwhile, Ketab et al.'s (2015) study generated the highest response rate of 98%. Based on the minimum and maximum response rates yielded in past studies, the present study aimed to obtain at least an 80% response rate. Therefore, the final sample required was 477.

Sampling Design

In order to obtain the intended sample representing the population, proportionate stratified sampling was employed in this study. The purpose of proportionate stratified sampling is to ensure adequate representation of ethnic ratio in each stratum. The study aimed to recruit respondents according to the ratio of Malaysia's three main ethnicities, namely, the Malay, Chinese, and Indian (6:3:1). Hence, this sampling method consists of the advantages of both proportionate and stratified sampling methods. The stratified sampling requires the researcher to meaningfully stratify the units of analysis according to the different strata of the targeted population in order to reflect the identified strata (Lynn, 2019). This sampling method is more efficient because each important segment of the population is adequately represented in the sample.

The questionnaires were proportionately distributed according to each university's local undergraduate student population. The population was then divided into non-overlapping strata. In this study, the strata focused in this study were the three main ethnicities in Malaysia, namely, Malay, Chinese, and Indian. This decision was taken because the three ethnic groups are the majority in Malaysia.

Because all five universities refused to disclose the information regarding the number of students according to the actual ethnic composition of the student population, we have taken into account the actual composition based on the ratio of the ethnic population in Peninsular Malaysia. Thus, the ethnic composition ratio used in this study was Malay: Chinese: Indian with a ratio of 6:3:1. This is the best way recommended by past researchers in the event of unavailability of ethnic ratio data (Farahana & Norhasniah, 2018; Ketab, 2015; Pragash et al., 2020). Therefore, the chosen sample size for the present study was 60% Malay, 30% Chinese, and 10% Indian

students to portray the different ethnic distribution in all the universities.

Hence, 477 sets of questionnaires were distributed; 286 questionnaires to Malay respondents (60%), 143 questionnaires to Chinese respondents (30%), and 48 questionnaires to Indian respondents (10%), respectively.

Data Collection Procedure

The data of this study were collected via a selfadministered survey questionnaire, which refers to a questionnaire that is designed exclusively to be completed by a respondent without the interference of the researcher (Zhang et al., 2018). A self-administered questionnaire is one of the best approaches in distributing the questionnaire to the respondents (Hsien, 2016). Apart from ensuring a high response rate and reducing researcher bias (Smith et al., 2019), it also allows the researcher to gather all completed questionnaires within a short period (Zhang et al., 2018). Furthermore, it is important to note that inquiring about students' preference on intercultural communication in a multicultural environment like Malaysia could be highly sensitive and uncomfortable for some respondents (Wok & Mohamed, 2017). Therefore, it is recommended to use a self-administered questionnaire when surveying such sensitive topics (Bader et al., 2016; Chong et al., 2019; Hinsley et al., 2019).

The library in each university was a targeted location to distribute the questionnaire due to the accessibility of getting multicultural students from various years of study and faculties. Moreover, the library was selected as it is the nature of this place where multicultural students will meet each other regularly and experience intercultural communication. Furthermore, the library is a silent environment that allows the respondents to answer the questionnaire in a peaceful mind. Therefore, the university's library was selected as the best place to have access to the highest number of multicultural respondents.

Selection Criteria of the Respondents

The respondents were selected using a systematic technique. Every third local student (Malay, Chinese, or Indian) who entered the library was asked if they are willing to participate in the survey. If the student agrees to participate, a questionnaire will be given to them, along with a pen as a token of appreciation. The

respondents were instructed to return the questionnaires when they leave the library. We hand-delivered all the questionnaires to the respondents and collected them back upon completion. In each university, the distribution of questionnaires was stopped when the desired sample size in each ethnic group was reached.

Research Instrument

Data was collected by using a cross-sectional survey design. The survey instrument consisted of 31 items on five constructs, seven items (each for anxiety, uncertainty, and intercultural communication), and five items (each for ethnocentrism and IWTC). Some questions on the demographic profiles were included as well. Anxiety was measured via the Personal Report of Intercultural Communication Apprehension (PRICA) Scale developed by Neuliep and McCroskey (1997b). Uncertainty was measured with Clatterbuck's (1979) Attributional Confidence Scale. Ethnocentrism was assessed with five items from Neuliep and McCroskey's (1997a) Generalized Ethnocentrism (GENE) Scale. Meanwhile, respondent's intercultural communication was measured using a seven-item scale proposed by Ketab et al. (2015) For the purpose of measuring IWTC, Kassing's (1997) well-established Intercultural Willingness to Communicate Scale was employed. All the items were adopted and modified to fit the Malaysian context. Closed-ended survey instruments were used, designed with a 5-point Likert Scale (1=strongly disagree; 5=strongly agree). (see Appendix 1 for the full questionnaire).

Data Analysis

Response Rate

A total of 477 respondents participated in the survey voluntarily. However, only 465 completed questionnaires were obtained, yielding a response rate of 97.48%. Fifteen questionnaires were eliminated due to incomplete and suspicious responses; hence the total valid responses amounted to 450. Partial least squares (PLS) regression was adopted to evaluate the proposed model using the SmartPLS 3.2.8 software (Ringle et al., 2015).

Nonresponse Bias Test

The data were then processed for bias test to foresee the significant differences between the early and late responses to prevent non-respondent error. Any statistical difference that occurs between the two groups would be an indication of nonresponse errors (Bollinger et al., 2018; Nishimura et al., 2016; Zahid & Shabbir, 2018).

The data collection of this study began at the end of May 2019 and was completed at the end of July 2019, approximately eight weeks. Therefore, the data collected in the first four weeks were identified as early responses, whereas data collected in the last four weeks were considered as late responses. Of the total, 278 and 187 respondents were categorized as early and late responses, respectively. Levene's test in SPSS was performed to inspect the statistical differences of both the groups of responses. Table 3 illustrates the result of Levene's test, which revealed the p-values of each variable were greater than 0.05, indicating there was no significant difference between the two groups of responses. Thus, it was concluded that nonresponse bias does not exist in this study.

Common Method Biases

As the data are obtained from the same target respondents for both the predictor and response variables, common method bias (CMB) may exist. CMB is described as the overlapping between multiple variables due to the high correlations between the underlying constructs (George & Pandey, 2017). The

result in Table 4 shows that component 1 explained 24.607% of the total variance, whereas the subsequent components explained a relatively small amount of variances.

Because the result shows eight components with values greater than 1 and the respective variances are lower than recommended 50%, this study suggests that common method bias is not affected (Rodríguez-Ardura & Meseguer-Artola, 2020; Tehseen et al., 2017).

Data Normality Test

Civelek (2018) suggested examining the normality of the data to ensure that the data are not too far from the normal distribution, as the extremely nonnormal data might affect the significance level of some relationships between the variables. Therefore, skewness and kurtosis analyses were performed to measure the data normality. According to Mishra et al. (2019), for a sample size of greater than 300, the value of skewness must be ≤ 2 , and the value of kurtosis must ≤ 4 to prove the normal distribution of data. Based on this recommendation, the analysis of skewness and kurtosis had been performed.

Table 5 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.

Table 3Results of Levene's Test

Constructs	Group N Mean		SD	Levene's Test for Equality of Variances		
	_				F	Sig.
IC	Early Response	278	3.5550	.65540	.025	975
IC	Late Response	187	3.5149	.67143	.023	.875
ETIM	Early Response	277	1.9574	.82008	722	202
ETHN	Late Response	186	1.8043	.78195	.733	.393
ICC	Early Response	277	3.8616	.51820	2 110	079
ICC	Late Response	187	3.8622	.58444	3.119	.078
IWTC	Early Response	277	3.9834	.57724	2 220	.069
IWTC	Late Response	187	3.9037	.66051	3.320	
ANIX	Early Response	276	2.4048	.78569	2.164	076
ANX	Late Response	187	2.4148	.85767	3.164	.076
LINIOT	Early Response	277	2.6931	.54228	0.077	250
UNCT	Late Response	187	2.7907	.57492	0.877	.350

 Table 4

 Harman's One Factor Test: Total Variance Explained

	Total Variance Explained							
	Initial H	Eigenvalues (%)		Extraction Sums of Squared Loading				
Factor	Total	Variance	Cumulative	Total	Variance	Cumulative		
1	9.843	24.607	24.607	9.133	22.832	22.832		
2	4.044	10.110	34.717					
3	2.926	7.316	42.033					
4	2.132	5.331	47.364					
5	1.735	4.338	51.702					
6	1.479	3.697	55.399					
7	1.248	3.119	58.517					
8	1.104	2.759	61.277					

Note. Extraction Method: Principal Axis Factoring.

Table 5 *Normality Checking: Skewness and Kurtosis at the Construct Levels*

Constructs -	Ske	wness	Kur	Kurtosis	
Constructs	Statistics	Std. Error	Statistics	Std. Error	
Intercultural Communication (IC)	.108	.115	158	.230	
Uncertainty (UNCT)	077	.115	.620	.230	
Anxiety (ANX)	.085	. 115	359	.230	
Ethnocentrism (ETHN)	.498	. 115	668	.230	
Intercultural Willingness to Communicate (IWTC)	179	. 115	065	.230	
Intercultural Communication Competence (ICC)	.018	. 115	.107	.230	

Note: N = 450 for all constructs. All constructs are measured using 5 – point Likert scale.

Results

Respondents' Demographic Profile

Table 6 shows the respondents' demographic profile. Out of the 450 respondents, 23.3% (n=105) were male, and the remaining 76.7% (n=345) were female. The huge gender disparity was because the enrolment of female students outnumbered that of male students at the universities included in the study. According to Tienxhi (2017), 13 out of 20 public universities in Malaysia fall within the extreme disparity classification where the Gender Parity Index (GPI) is higher than 1.5, which means females outnumber males by a ratio

of more than 1.5. UM, USM, UPM, and UKM were recorded as having a GPI greater than 1.5. This is the reason for the gender disparity among the respondents.

In terms of ethnicity, the respondents were 60.4% (n=272) Malay, 29.8% (n=134) Chinese, and 9.8% (n=44) Indian. Although the ethnic breakdown is not exactly 6:3:1, it is almost close to the intended ratio. The respondents represented all years of undergraduate studies with 41.3% (n=186) first year, 23.6% (n=106) second year, 33.1% (n=149) third year, and 2% (n=9) fourth year undergraduates.

In regard to the respondents' weekly frequency of intercultural communication, a majority of the respondents (62.2%, n=280) reported engaging in intercultural communication on a daily basis, 21.6% (n=97) indicated a frequency of 3–5 days in a week, followed by 8.9% (n=40) and 7.3% (n=33) of the respondents who indicated 1–2 days, and rarely, respectively. Surprisingly, none of the respondents reported that they never engaged in intercultural communication. Therefore, university environments can be considered a good platform to foster students' intercultural communication.

Assessment of the Measurement Model

Confirmatory factor analysis (CFA) was performed to examine the discriminant validity, convergent validity, and reliability to assess the measurement model. Four items were discarded due to low factor loading, three from uncertainty (UNCT1, UNCT2, and UNCT6), and one from intercultural communication (IC6). In addition, as suggested by Hair et al. (2017a), the composite reliability (CR), average variance extracted (AVE), and Cronbach's alpha (CA) of all

the five constructs were above 0.7, 0.5, and 0.7, respectively. Thus, the convergent validity was met. Table 7 shows the item loadings and convergent validity of each construct.

Besides, Hair et al. (2017b) recommended the inclusion of discriminant validity during the assessment of reflective measurement models. There are two common ways to perform discriminant validity, namely, the Fornell-Larcker criterion and the heterotrait-monotrait ratio of correlations (HTMT; Ab Hamid et al., 2017). For the Fornell-Larcker criterion, an indicator's outer loading should be higher than all cross-loadings on other constructs (Hair et al., 2017b). Meanwhile, for HTMT, discriminant validity is achieved when the correlation between each pair of the latent exogenous construct is less than 0.85 (more strict threshold) or 0.90 (more lenient threshold; Henseler et al., 2015). Hence, in this study, both ways were employed to assess the discriminant validity as suggested by past researchers (Benitez et al., 2020 Cheah et al., 2018).

Table 6Demographics Profile (N=450)

Characteristics	Frequency	Percent (%)
Ethnicity		
Malay	272	60.4
Chinese	134	29.8
Indian	44	9.8
Total	450	100.0
Gender		
Male	105	23.3
Female	345	76.7
Total	450	100.0
Current year of study		
First year	186	41.3
Second year	106	23.6
Third year	149	33.1
Fourth year	9	2.0
Total	450	100.0
Frequency of having intercultural communication		
in a week		
Rarely	33	7.3
1-2 days in a week	40	8.9
3-5 days in a week	97	21.6
Everyday	280	62.2
Total	450	100.0

Table 8 shows the Fornell-Larcker criterion result, which indicates that values in the diagonal are the square root values of AVE—all the values are higher than the inter-construct correlations. Meanwhile, Table

9 shows the HTMT criterion result wherein all the values are less than 0.85. Thus, this study concludes that all the constructs are different from each other, and discriminant validity is assured.

Table 7 *Results of Assessment Model*

Construct	Measurement Items	Loadings	CR	AVE	CA
	ANX1	0.657			
Anxiety	ANX2	0.726			
	ANX3	0.851			
	ANX4	0.870	0.919	0.619	0.902
	ANX5	0.847			
	ANX6	0.789			
	ANX7	0.743			
	UNCT3	0.763			
TT	UNCT4	0.672	0.016	0.520	0.727
Uncertainty	UNCT5	0.657	0.816	0.528	0.737
	UNCT7	0.806			
	ETHN1	0.773			
	ETHN2	0.756			
Ethnocentrism	ETHN3	0.826	0.869	0.571	0.814
	ETHN4	0.713			
	ETHN5	0.704			
	IC1	0.627			
	IC2	0.733			
Intercultural	IC3	0.803	0.060	0.505	0.010
Communication	IC4	0.776	0.868	0.525	0.818
	IC5	0.764			
	IC7	0.624			
	IWTC1	0.642			
Intercultural	IWTC2	0.789			
Willingness	IWTC3	0.868	0.883	0.604	0.832
to Communication	IWTC4	0.862			
	IWTC5	0.697			

 Table 8

 Discriminant Validity (Fornell-Larcker's Criterion)

			TITIES		IDIOT
Construct	ANX	ETHN	IWTC	IC	UNCT
ANX	0.787				
ETHN	0.390	0.756			
IWTC	-0.301	-0.303	0.777		
IC	-0.287	-0.191	0.395	0.725	
UNCT	0.083	-0.106	-0.226	-0.356	0.727

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Construct	ANX	ETHN	IWTC	IC	UNCT
ANX	_				
ETHN	0.413	_			
IWTC	0.302	0.348	_		
IC	0.314	0.22	0.463	_	

0.242

0.198

 Table 9

 Discriminant Validity (HTMT Criterion)

Assessment of the Structural Model

UNCT

Two compulsory analyses should be carried out prior to hypotheses testing using SmartPLS3—the coefficient of determination (R²) to quantify the endogenous constructs and the path coefficients analysis (Hair et al., 2017b). The R² value can vary depending on the research area, but it is important for the path coefficients to be significant. Chin (1998) described the R² values of 0.19, 0.33, and 0.67 in the path model as weak, moderate, and substantial,

0.101

respectively. As shown in Figure 2, the present study found that the R² of IWTC is 0.417, whereas the R² of intercultural communication is 0.365, indicating both to be moderate. This means that the influence of anxiety, uncertainty, and ethnocentrism towards IWTC is 41.7%, and the remaining 58.3% is influenced by other variables. Meanwhile, the influence of IWTC on intercultural communication is 36.5%, and the remaining 63.5% is influenced by other variables.

0.41

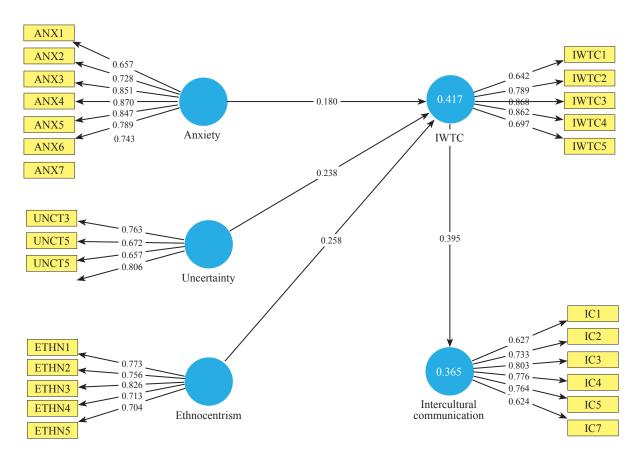


Figure 2. Coefficient of Determination (R2)

Blindfolding and Predictive Relevance (Q2)

Besides looking at the R^2 value, it is recommended to examine the Q^2 value, which will somehow forecast the model's predictive relevance (Hair et al., 2017b). Q^2 value should be above zero to display the level of relevancy. In the study, all Q^2 values are above zero. Table 10 shows the value of Q^2 for intercultural communication is at 0.103, and IWTC at 0.075 indicated that the model has an adequate predictive relevance.

Goodness-of-Fit Index

Goodness-of-fit (GoF) is defined as the geometric mean of the average communality and average R2 for all endogenous constructs, which may be used to validate the PLS model (Akter et al., 2011). The GoF index is also developed to foresee whether the model fits for both measurement and structural model and thus reveal a single indicator for the overall model performance, which is appropriate for reflective measurement models (Hair et al., 2017b). Hoffmann and Brinbrich (2012) suggested the following value range for assessing the results of the GoF analysis: GoFsmall = 0.1; GoFmedium = 0.25; GoFlarge =

0.36. The GoF value was calculated using the equation proposed by Akter et al. (2011), as recommended by Rahman et al. (2013). Table 11 shows the GoF value of this study is 0.471, exceeding the large cut-off point, and indicates that the model fits the data. Therefore, the finding obtained provides meaning, and also conclusions can be drawn from the data.

Hypotheses Testing of Direct Effect

This paper performed PLS-SEM to test the hypotheses. More specifically, we applied a complete bootstrapping setting with 5,000 subsamples and a two-tailed test for hypothesis testing. As shown in Table 12, the results provide support for all four hypotheses (H1, H2, H3, and H4): IWTC \rightarrow intercultural communication (β = 0.395, t = 4.287, p = 0.000), anxiety \rightarrow IWTC (β = -0.180, t = 6.473, p = 0.000), uncertainty \rightarrow IWTC (β = -0.238, t = 10.01, p = 0.000), AND ethnocentrism \rightarrow IWTC (β = -0.258, t = 6.003, p = 0.000). IWTC has positively influenced intercultural communication, supporting H1. Meanwhile, anxiety, uncertainty, and ethnocentrism are negatively related to IWTC, supporting hypotheses H2 to H4. Thus, all the hypotheses were supported.

Table 10Predictive Relevance

Construct	SSO	SSE	Q² (=1-SSE/SSO)
Intercultural communication	2,250.00	2,018.82	0.103
IWTC	2,700.00	2,498.08	0.075

Table 11Goodness-of-Fit Index Calculation

Construct	AVE	\mathbb{R}^2
Intercultural communication	0.525	0.365
Anxiety	0.619	_
Uncertainty	0.528	_
Ethnocentrism	0.571	_
IWTC	0.604	0.417
Average Score	0.569	0.391
Average of AVE \times Average of R ² = (0.569 \times 0.391)	0.2	222
$GoF = \sqrt{0.222}$	0.4	471

The bootstrapping procedure was performed to test the mediating effect, as recommended by past researchers (Falahat et al., 2020; Hair et al., 2017b). As shown in Table 13, all three hypotheses of mediating effect (H5, H6, and H7) were found to be significant. This finding indicates that IWTC mediates the relationship between anxiety, uncertainty, and ethnocentrism toward intercultural communication, supporting hypotheses H5 to H7.

Discussion

The purpose of this study is to establish an understanding of the mediating effect of IWTC on the relationship between anxiety, uncertainty, ethnocentrism, and intercultural communication among undergraduates in Malaysian public universities. The

study also aims to identify the influence of anxiety, uncertainty, and ethnocentrism on IWTC.

The finding of H1 revealed that IWTC has a positive effect on intercultural communication. This finding has strengthened the concept of IWTC introduced by Kassing (1997), which reported that people high in IWTC tend to have more international friends than people low in IWTC. Similarly, Ulu et al. (2015) noted that the motivation to communicate should lead to a positive attitude towards intercultural communication behavior and finally initiate intercultural communication successfully. This finding is consistent with past studies, which claimed that high IWTC would lead to high intercultural communication (Campbell, 2016; Clark et al., 2015; Gonzalez et al., 2017; Logan et al., 2015, 2016, 2017).

The finding of H2, which revealed that anxiety provoked in an intercultural situation will reduce

Table 12 *Results of Hypotheses Testing (Direct Effect)*

	Hypotheses	Std. Beta (β)	Std. Error	T value	P value	Decision
Н1	IWTC → Intercultural communication	0.395	0.039	4.287	0.000	Supported
H2	Anxiety → IWTC	-0.180	0.042	6.473	0.000	Supported
НЗ	$\begin{array}{c} \text{Uncertainty} \rightarrow \\ \text{IWTC} \end{array}$	-0.238	0.04	10.01	0.000	Supported
H4	Ethnocentrism → IWTC	-0.258	0.04	6.003	0.000	Supported

Table 13 *Results of Hypotheses Testing (Mediating Effect)*

	Hypotheses	Std. Beta (β)	Std. Error	T value	<i>P</i> -value	Decision
Н5	Anxiety → IWTC → Intercultural communication	-0.071	0.02	3.614	0.000	Supported
Н6	Uncertainty \rightarrow IWTC \rightarrow Intercultural communication	-0.094	0.021	4.573	0.000	Supported
Н7	Ethnocentrism \rightarrow IWTC \rightarrow Intercultural communication	-0.102	0.02	5.18	0.000	Supported

willingness to engage in communication, is consistent with past studies (Paolini et al., 2018; Logan et al., 2015, 2016, 2017). As indicated by Januariza and Hendriani (2016), it is noted that although students are in the process of making a decision whether or not to communicate, the fear of making mistakes, the fear of being laughed at, the lack of vocabulary, and the lack of self-confidence will cause anxiety, which eventually demotivates them from initiating intercultural communication. At this point, if anxiety is high, students will choose not to initiate intercultural communication and vice versa. Thus, anxiety negatively influences IWTC.

Similarly, the finding of H3 revealed that uncertainty also has a significant negative relationship with IWTC. The finding that when uncertainty is high, IWTC will be low, supports the claim made in past studies that when uncertainty is high, individuals tend to feel uneasy and thus decide to avoid initiating intercultural communication (Ismail, 2015; Logan et al., 2015, 2016, 2017; Presbitero & Attar, 2018; Redmond, 2015). When students have the opportunity to willingly communicate with culturally diverse students, they might be uncertain whether the other student is interested in communicating. In such doubtful situations, students' uncertainty increases and IWTC decreases. This is consistent with Sarwari and Wahab's (2017) study, which revealed that students sometimes wait for other students to initiate communication because they are uncertain whether the other will be interested in communicating with them.

The finding of H4 revealed that ethnocentrism has a significant negative relationship with IWTC, indicating that higher ethnocentrism will reduce IWTC. This supports the claims made by past studies that ethnocentrism negatively influences IWTC (Campbell, 2016; Fatemi et al., 2016; Logan et al., 2015, 2016, 2017; Nameni, 2020). This result shows that when students view students from other cultures as inferior to their own culture, they become unwilling to communicate. This is similar to Ketab et al.'s (2015) finding, which revealed that Malaysian undergraduates frequently involve in offline intercultural communication as they are unable to avoid such interaction. However, the frequency of interaction dropped when it comes to online interaction, where students could choose whether or not to interact. This explains the negative relationship between ethnocentrism and IWTC in the present study.

In regard to the mediating effect of IWTC, H5 revealed that IWTC mediates the relationship between anxiety and intercultural communication. High anxiety will lower student's willingness, leading to an avoidance of intercultural communication. As noted by Logan et al. (2015), anxiety will cause intense feelings of uneasiness in students, which causes an unwillingness to communicate. Anxious students will avoid or leave an interaction as soon as possible. Similarly, Batul (2019) opined that anxiety occurs due to students' fear of rejection, cultural differences, and fear of embarrassment from appearing foolish to others. Hence, to avoid all these potential predicaments, students become unwilling to engage in intercultural communication. This supports the present study's notion that anxiety negatively influences intercultural communication through IWTC. Therefore, IWTC is proven to mediate the relationship between anxiety and intercultural communication.

The finding of H6 revealed that IWTC mediates the relationship between uncertainty and intercultural communication. High levels of uncertainty decrease IWTC, which in turn decreases intercultural communication. When students want to initiate communication, high uncertainty will lower their willingness; hence they tend to avoid initiating intercultural communication. De Meulenaer et al. (2015) believed that high uncertainty makes individuals feel they have little control over intercultural communication, causing them to avoid such communication. Similarly, Gareis et al. (2019) noted that when people meet others from a different culture, due to their lack of knowledge about the other culture, expectations of verbal and nonverbal communication behaviors may be violated. This may create uncertainty and discomfort.

Lastly, the result of H7 indicated that IWTC mediates the relationship between ethnocentrism and intercultural communication. When students wish to initiate communication, high ethnocentrism will lower their willingness; hence, they tend to avoid initiating intercultural communication. This finding is consistent with past studies. Hsu (2017) stated that ethnocentric beliefs might make people less willing to communicate and form a relationship with people from different cultures. Similarly, Ketab et al. (2019) stated that ethnocentric people view out-group people as untrustworthy and potentially dangerous. Thus, they strongly prefer to restrict their

communication with those they consider as in-group members and ignore interactions with people whom they perceive as out-groups. Hence, this continuing trend of communication within in-group members tends to make ethnocentric individuals less willing to communicate interculturally, eventually leading to lower intercultural communication.

Theoretical Implications

This study has successfully examined the relationship of anxiety, uncertainty, and ethnocentrism on intercultural communication mediated by IWTC among multicultural undergraduates in five Malaysian public universities. With the help of AUM theory, the present study has contributed to the previous studies by providing support as well as clarifying the role of anxiety, uncertainty, ethnocentrism, and IWTC toward intercultural communication. IWTC is introduced as a mediator between intercultural barriers and intercultural communication. Furthermore, AUM theory states that anxiety and uncertainty have a direct impact on intercultural communication. However, the present study revealed that the relationship of anxiety and uncertainty, along with ethnocentrism toward intercultural communication, is actually mediated by IWTC. This could be a new insight contributing to AUM theory.

Practical Implications

This study has implications for universities and policymakers who are involved in fostering intercultural relations among students. The results reveal that it is important to reduce anxiety, uncertainty, and ethnocentrism among students to increase their willingness to communicate with students from different cultural backgrounds. The lack of quality interactions, in-depth cultural knowledge, and openness towards other cultures are among the reasons for anxiety, uncertainty, and ethnocentrism among university students. Therefore, universities and policymakers should consider organizing programs or activities involving multicultural students as part of the existing academic structure for undergraduates. These activities would provide greater opportunities for students from various cultural groups to mix around. This could help students become more willing to communicate interculturally and assist them in managing their intercultural barriers effectively.

Conclusion

This study provides empirical evidence on the predicting barriers of IWTC and the mediating role of IWTC in the Malaysian context. The findings of the study revealed that IWTC is a significant mediator variable for all three paths between anxiety, uncertainty, and ethnocentrism towards intercultural communication. This indicates that IWTC is gained through lower levels of anxiety, ethnocentrism, and uncertainty. Thus, intercultural communication successfully occurs through IWTC. In contrast, high levels of anxiety, ethnocentrism, and uncertainty will reduce students' IWTC, which eventually will reduce intercultural communication. This shows that when there is an opportunity to communicate with students from different cultural backgrounds, anxiety, uncertainty, and ethnocentrism will negatively influence students' willingness to initiate the communication and indirectly influence intercultural communication. In such situations, intercultural communication might be avoided altogether, or if initiated, might result in aversive communication. Therefore, it is important to examine the influence of these three barriers to improve student's IWTC, as intercultural communication is unlikely to take place without such willingness.

Although the findings of the present research have a significant contribution to existing literature, there are a few limitations. Because the data was collected from undergraduate students from five Malaysian public universities, the generalization of these findings should be used with caution. This is because the target respondents in this study may not be suitable to represent the Malaysian population as a whole. Hence, further research should emphasize more on conducting research in a larger geographical area or cross-country comparison to obtain more accurate, complete, and representative results. Besides the public universities, future researchers can broaden the study to private universities across the nation. It is also recommended that future studies do not focus on the three major ethnic groups alone. Apart from Malay, Chinese, and Indian, future studies could extend the study to other cultural groups such as indigenous communities from the state of Sabah and Sarawak. Furthermore, this study collected the data only by using a self-administered questionnaire. Hence, in addition to quantitative surveys, future studies may consider phenomenological research design or other methods such as an in-depth

interview or focus group to qualitatively investigate intercultural communication. In other words, more meaningful information can be collected by utilizing both quantitative and qualitative methods to depict the status quo of intercultural communication in Malaysia.

Declaration of ownership:

This report is our original work.

Conflict of interest:

None.

Ethical clearance:

This study was approved by the institution.

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Appendix 1 Research Instruments (31 items)

Anxiety

- 1. I'm tense and nervous while interacting with peers and friends of different ethnics in this campus.
- Engaging in a group discussion with peers and friends of different ethnics in this campus makes me nervous.
- While participating in a conversation with peers and friends of different ethnics in this campus, I get nervous.
- 4. Generally, I'm very tense and nervous in a conversation with a peer or friend of different ethnic in this campus.
- 5. I'm afraid to speak up in conversations with peers and friends of different ethnics in this campus.
- 6. My thoughts become confused and jumbled when interacting with peers and friends of different ethnics in this campus.
- 7. Communicating with peers and friends of different ethnics in this campus makes me feel uncomfortable.

Uncertainty

- 1. I'm confident in my ability to predict the behaviour of my peers and friends of different ethnics in this campus.
- 2. I'm confident that my peers and friends of different ethnics in this campus like me.
- 3. I can predict accurately the values hold by my peers and friends of different ethnics in this campus.
- 4. I can predict accurately the attitude of my peers and friends of different ethnics in this campus.
- I can predict accurately the feelings and emotions of my peers and friends of different ethnics in this campus.
- I can empathise very well the way my peers and friends of different ethnics in this campus feel about themselves.
- 7. I know very well about my peers and friends of different ethnics in this campus.

Ethnocentrism

- 1. I do not cooperate with people who are from different ethnics.
- 2. I do not trust people who are from different ethnics.
- 3. I dislike interacting with people from different ethnics.
- 4. I have little respect for the values of other ethnics.
- 5. I have little respect for the customs of other ethnics.

Intercultural Communication

- 1. I dined with peers and friends of different ethnics in this campus in a semester.
- 2. I had meaningful and honest discussions about ethnic relations with peers and friends of different ethnics.
- 3. I had satisfied communication with peers and friends of different ethnics in this campus.
- 4. I had friendly communication with peers and friends of different ethnics in this campus.
- 5. I had intellectual discussions with peers and friends of different ethnics outside the class.
- 6. I felt secure during communication with peers and friends of different ethnics in this campus.
- 7. I studied or prepared for class with peers and friends of different ethnics in this campus.

Intercultural Willingness to Communicate

If the opportunity arose, I would enjoy...

- 1. talking with someone I perceive to be different than me.
- 2. talking with someone from a culture I know very little about.
- 3. talking with someone of a different ethnic than mine.
- 4. talking with someone from another culture.
- 5. talking with someone who speaks English as their second language.