A Survey on Assertiveness Among Undergraduate Medical Students in Manipal University College Malaysia (MUCM)

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Abstract

Assertiveness is regarded as a vital skill that can help an individual to enhance their interpersonal communication. In the context of medical field, the ability to present an assertive response is essential in critical circumstances to save a patient's life. Without jeopardising working relationships, assertive behaviour may be used to line up patient privileges. With this background, a survey was done to determine the level of assertiveness of MUCM medical students and to study the association between age, gender, nationality, ethnicity, religion, academic year, residential area, household income, highest level of education in parents and level of assertiveness. A cross sectional study was conducted among MBBS pre-clinical and clinical year students of MUCM from semester 1 until semester 10. An online questionnaire was distributed and a total of 124 responses were collected. The data was statistically analysed using Epi Info version 7.2.4.0. Unpaired T-test and ANOVA were used to analyse the data. The results revealed that 77.5% of the participants are tentative, 21.7% are assertive and 0.8% are aggressive based on Rathus Assertiveness Schedule. This study showed that there were significant association between nationality and assertiveness. Malaysian students (mean=-10.2) had negative assertiveness score showing that they were more tentative than international students (mean=5.4) with a p value of 0.009. However, there were no significant association between age, gender, ethnicity, religion, academic year, residence, parental education, household income and assertiveness. In a nutshell, most of the students from MUCM are tentative, only few of them are considered as assertive and very few of them are aggressive, in which Malaysian students are less assertive than Non Malaysian students. Overall, the study revealed that most students of MUCM had a low level of assertiveness. Thus, we recommend that education institutes should encourage students to engage in some assertiveness training programs which help to improve their level of assertiveness.

1. Introduction

Assertiveness is a form of personal trait and communication marked by a willingness to speak up about one's own desires and preferences in a straightforward and open manner. A person is considered assertive by having the willingness to stand for his or her own rights without compromising the rights of other people. [1] Assertiveness is also known as self-confident, positive, self-assured, firm, and determined. Among the various types of communication style behaviour, assertiveness is placed in between passive and aggressive. Passive behaviour is behaviour that accepts events or the actions of others without resistance which will make an individual to be seen as shy and ineffective [2] whereas

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aggressiveness differs from assertiveness by involving inappropriate expression of thoughts, emotions and beliefs in a way that violates the rights of others. [3] On the other hand, assertiveness has been described as an essential social trait that fosters personal well-being by enabling a person to communicate directly and appropriately his or her needs, wants and viewpoints without penalising or bringing down others. [4] It consists of both positive and negative expressions and aims to accomplish personal and/or instrumental purposes. [5] Besides, assertiveness is also perceived to be a form of self-development and the attainment of full personal satisfaction and assertive abilities in different fields of communication, in accordance with the increased demands on the social maturity of the personality. [6]

In the health care profession, the ability to put forward an assertive response plays a vital role in crucial situations to save a patient's life. With an assertive behaviour, one can match up patient's rights without violating professional relations. It is also important that students acquire this behaviour to be able to land themselves a job, develop and promote in it and increase their self-confidence and self-esteem. [7] The existence of high assertiveness enables the ability to express themselves without anxiety or being hostile in any given situations. [1] There are studies that shows people with low levels of assertiveness are being stressed and disappointed particularly due to being bullied and this is another point how assertiveness can be used against bullying, to make stressful situations better and enhance empowerment. [3] Adopting an assertive behaviour not only maximizes one's self esteem but it also ensures a positive input by enabling the person to accept their personal deficiencies, to be competent and practice safely. [8] Being cooperative is very important in any field, the nurturing of assertiveness builds a better relationship among colleagues and creates a better team as we most often than not have to work as team and share ideas or opinions, collaborate with other professionals. Proper communication amongst health care professionals is vital, as being unable to communicate is one the main cause of medical errors which is another reason as to why being assertive as a medical student is important. [9] However, there are certain obstacles that keep students from being self-assured. These include absence of information about close to home/proficient rights, worry about others' opinion on their conduct, and uneasiness because of absence of certainty and helpless confidence, animosity, dread of others' antagonism, scared of outrage or negative reactions, and request right and reasonable treatment. [10]

Previous studies show there are certain demographical factors that are associated with level of assertiveness among students. One study showed an opposite and significant connection among age and assertiveness. [7] In view of the investigation of Baghani and colleagues (2013), by expanding the age, the assertiveness will be raised. This reality could be because of relational abilities' improvement and social development when age is increased. Eskin (2003) additionally pronounced that the level of assertiveness will be increased by age. Along these lines, it very well may be inferred that one of the huge elements which impact the connection among age and assertiveness is most of the students being in the lower age range. The same report did not show significant connection among assertiveness and gender. [7] This finding is comparable with the investigations of SeyedFatemi and colleagues (2013) and Taghavi and colleagues (2010). This is presumably because of the way that the compliant idea of clinical students versus medication forestalls appropriate confident conduct in any event, for male students. This could prompt further decrease of decisiveness. Notwithstanding, Baghani and colleagues (2013) announced that the degree of confidence is higher in female students than male students, while Dincyurek and colleagues (2009) revealed the male students were more assertive than their female counterparts. The various discoveries of different investigations could be because of certain distinctions in culture, religion and customs of every local area. In addition, finding of another study uncovered that no critical contrasts in assertiveness exist among rural and urban students. In fact, it is usually accepted that region is known to be a solid factor in adding to the degree of assertiveness in students. In any case, this study uncovered no critical distinction among young men and young ladies with particular to their residence. [1] The impact of ethnicity on level of assertiveness have also been explored since the 1960's where ethnic minorities were believed to be inadequate in assertive behaviour. [11]

Previously, various studies on assertiveness were conducted among nursing students. Our study, however, highlights the level of assertiveness in medical students as we believe there is a lack of emphasis on this population, particularly in the Malaysian context. A study conducted in a university in Jeddah, Saudi Arabia by Alghamdi N. G. (2015) revealed that medical students have lower levels of assertiveness than their non-medical counterparts. [12] In contrast, a research conducted by Ibrahim N. A. (2013) on undergraduate students in a public university in Malaysia reported that 95.2% of the participants possessed high levels of assertiveness. [13] This demonstrates that while medical students are seen to be less assertive, Malaysian students are found to be the exact opposite. For this reason, we wish to study the behaviour in participants that are both Malaysian and medical student, and perhaps compare them to their non-

Malaysian classmates. Furthermore, among the independent factors investigated in previous studies, age, gender, residential area, parental education and household income showed inconsistent associations with level of assertiveness, while the relationship between factors such as cultural difference and religious belief have not been well established. These variables will be explored in our research as well.

Our objectives are as follows:

1. To determine the level of assertiveness of MUCM medical students.

2. To determine the association between age, gender, nationality, ethnicity, religion, academic year, residential area, household income, highest level of education in parents and level of assertiveness.

2. Methods

2.1. Study Design, Study Time, Study Setting, Study Population

This is a cross sectional analytical study conducted over a 5-week period from March 2021 to April 2021. The setting of the research is Manipal University College Malaysia, Malaysia (MUCM). There are 2 campuses based in Malacca and Muar known as MUCM, Malacca, Malaysia and MUCM, Muar, Malaysia respectively. This university offers Foundation in Science (FIS), Bachelor of Medicine Bachelor of Surgery (MBBS) and Bachelor of Dental Surgery (BDS) programs. There are currently 4 preclinical batches and 6 clinical batches in MBBS whereas BDS has 2 preclinical batches and 3 clinical batches varying from semester 1 to 10 in both Malacca and Muar campus. The students involved in this data collection are MBBS pre-clinical and clinical year students from semester 1 until semester 10. The selected population has an estimated total of 1300 students, whereby approximately 600 are from the preclinical batches and 700 clinical batch students.

2.2. Sample Size

According to previous research conducted among undergraduates in University of Technology Malaysia, 95.2% of the undergraduates are classified as having a high assertiveness level, while only 4.8% are classified as having a low assertiveness level, [13] thus an estimated proportion of 0.952 was taken.

In this study, sample size was calculated through Epi Info software version 7.0 with a population size of 1300, expected frequency of 95.2%, precision error of 4.0%, as well as confidence level of 95%. As a result, the sample size required for this study is 101 (i.e. $n_{calculated}$ = 101)
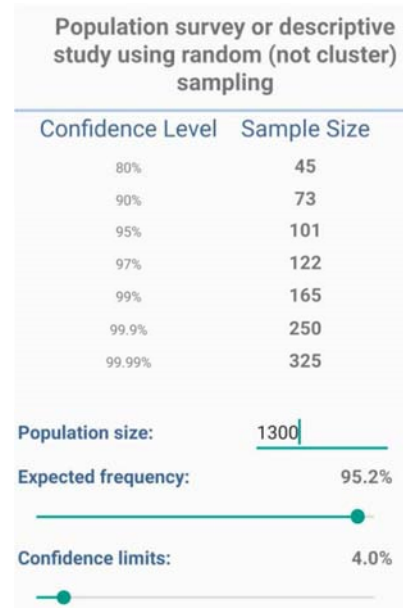

Figure 1. Calculation of minimum sample size using Epi Info software phone version 7.0.

On the other hand, by considering a non-response percentage of 30%, n_{final} was calculated as follows:

$$n_{final} = \frac{n_{calculated}}{1 - non\ response\ \%}$$

$$= \frac{101}{1 - 0.3}$$

$$= 144$$

2.3. Sampling Method

This study utilized purposive sampling which is a non-probability quantitative sampling method. An online questionnaire was distributed to all MBBS students from Manipal University College Malaysia (MUCM) through Google Form. The inclusion criteria included all MBBS students from MUCM who voluntarily agreed to participate in this study and filled in the questionnaire completely, whereas the exclusion criteria consist of students who did not agree to take part in this study as well as students who did not complete the questionnaire.

2.4. Data Collection

A self-administered questionnaire is distributed to both pre-clinical and clinical students via Google Form. No time limit will be allotted to complete the questionnaire. It consists of two parts; the first being a demographic data section inquiring on age, gender, ethnicity, nationality, religion, academic year, residential area, parental highest education level and total household income; and the second part, a standardized tool for assessing assertiveness, known as the Rathus Assertiveness Schedule (1973). The schedule is a 30-

item questionnaire comprising personal and situational statements. Participants will rank each statement according to how characteristic or descriptive it is of their behaviour, on a 6-point Likert scale of -3 (very much unlike me) to +3 (very much like me), not including a neutral point 0.

2.5. Data Processing and Data Analysis

The data collected from Google Form is converted into a Microsoft Excel spreadsheet and processed. Epi Info version 7.2.4.0 is used to statistically analyse the compiled data. For quantitative data (age, level of assertiveness), the frequency, range, mean and standard deviation are calculated. The association between qualitative data (gender, ethnicity, nationality, religion, academic year, residential area, parental highest level of education and household income) and level of assertiveness as well as each domain are presented in terms of mean along with standard deviation and analysed using statistical tests, Unpaired T-Test and ANOVA. Each item on the Rathus Assertiveness Schedule are given a score between -3 to +3, not including 0, by the participants from which 17 items on the scale will have their values inverted before totalling up to a score of between -90 to +90. Karakas and Okanli (2015) had used cut off points of -10 (tentative), +10 (assertive) and +70 (aggressive) to classify participants into different levels of assertiveness. [2] Based on a previous study by Caballo et al., the scale assesses six domains of assertiveness; (1) Assertive business dealings (items 12, 13, 14, 16, 17); (2) Expressing annoyance or displeasure assertively (items 3, 25, 27, 28); (3) Standing up for personal rights (items 6, 7, 8, 22); (4) Interacting with others in an extroverted way (items 1, 2, 10, 11, 18, 30); (5) Expressing feelings openly (items 20, 21, 24, 26); and (6) Refusing requests (items 4, 5, 15, 23). [2] Age, gender, ethnicity, nationality, religion, academic year, residential area, parental highest level of education and household income will be compared to each domain and analysed by unpaired t-test and ANOVA. Table 1 shows the statistical tests that will be used in our study.

Table 1. Variables and statistical tests used in data analysis.

Independent Variable	Dependent Variable	Statistical Test
Age	Level of Assertiveness/Domain Score	Unpaired T-Test
Gender	Level of Assertiveness/	Unpaired T-Test
Nationality	Domain Score	Unpaired T-Test
Academic Year	Level of Assertiveness/	Unpaired T-Test
Residence	Domain Score	Unpaired T-Test
Ethnicity	Level of Assertiveness/	ANOVA
Religion	Domain Score	ANOVA
Parental Education	Level of Assertiveness/	ANOVA
Household Income	Domain Score	ANOVA

2.6. Ethical Consideration

The study was conducted ethically, with prior approval from the Research Ethics Committee, Faculty of Medicine, Manipal University College Malaysia, Malaysia.

The participation in the study was completely voluntary. The participants were made aware about the objectives of the study and about the information that the participant needs to provide when answering the questionnaire. The informed consent was obtained and the participants were able to deny or withdraw from the study. All the information recorded were anonymous and the confidentiality of the given information were maintained.

3. Results

Table 2. Socio-demographic profile of medical students of Manipal University College Malaysia (MMMC) (n=120).

Variables	Frequency (%)
Age group	
<22	45 (37.5)
≥22	75 (62.5)
Gender	
Female	79 (68.1)
Male	37 (31.9)
Ethnicity	
Malay	8 (6.7)
Indian	61 (50.8)
Chinese	19 (15.8)
Others	32 (26.7)
Nationality	
Malaysian	101 (84.2)
Non- Malaysian	19 (15.8)
Religion	
Muslim	13 (10.8)
Buddhist	23 (19.2)
Hindu	50 (41.7)
Christian	25 (20.8)
Others	9 (7.5)
Academic year	
Preclinical	50 (41.7)
Clinical	70 (58.3)
Residence	
Rural	14 (11.7)
Urban	106 (88.3)
Parental education	
Secondary	20 (16.7)
Diploma	18 (15.0)
Undergraduate	22 (18.3)
Postgraduate	60 (50.0)
Household income (monthly)	
<RM 4360	19 (15.8)
RM 4360- RM 9619	48 (40.0)
>RM 9619	53 (44.2)

Table 2 shows the demographic data frequency. Participants who are aged lesser than 22 are 37.5% whereas those who are more than 22 are 62.5%. Females are 68.1% and male participants are 31.9%. Malay participants are 6.7%, Indian participants are 50.8%, Chinese are 15.8% and Others are 26.7%. Malaysian participants are 84.2% and Non-Malaysians are 15.8%. Muslims are 10.8%, Buddhists are 19.2%, Hindu participants are 41.7% followed by Christians

and others who are 20.8% and 7.5% respectively. Participants from preclinical years are 41.7% and those from clinical years are 58.3%. Participants who are residing in rural areas are 11.7% and those who are from urban areas are 88.3%. Participants with parents of a secondary level of education are 16.7%, diploma are 15.0%, undergraduates are 18.3% and postgraduates are 50.0%. Participants with a household income of lesser than RM 4360 are 15.8%, between RM 4360- RM 9619 are 40.0% and more than RM 9619 are 44.2%.
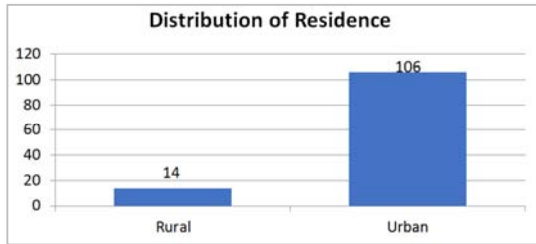

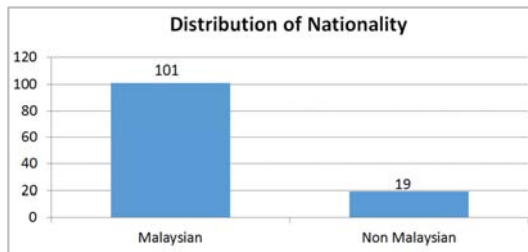**Figure 2.** Distribution of participants from rural and urban areas.

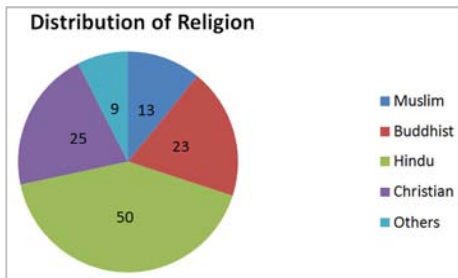**Figure 3.** Distribution of Malaysian and Non-Malaysian participants.

Figure 4. Distribution of participants with regards to religious affiliation.

Table 3 shows level of assertiveness among students of Manipal University College Malaysia (MUCM). This table reveals that 77.5% of the participants are tentative, 21.7% are assertive and 0.8% are aggressive. With respect to the domains assessed in Rathus Assertiveness Schedule, the mean score for 'Assertive business dealings' is -1.7. The second domain, 'expressing annoyance or displeasure assertively' showed a mean score of -0.9. Participants scored a mean of 3.9 for 'Standing up for personal rights' and on the contrary, -3.1 in 'Interacting with others in an extroverted way'. In 'Expressing feelings openly', a mean score of -1.2 is shown and for 'Refusing requests', participants scored a mean of -3.7.

Table 3. Level of assertiveness among Manipal University College Malaysia (MUCM) students.

| Variables	Frequency (%)/Mean (SD)
Level of assertiveness (-90 – 90)	
Tentative	93 (77.5)
Assertive	26 (21.7)
Aggressive	1 (0.8)
Mean (SD)	-7.7 (24.2)
Domains	
Assertive business dealings (-15 – 15)	-1.7 (7.5)
Expressing annoyance or displeasure assertively (-12 – 12)	-0.9 (5.6)
Standing up for personal rights (-12 – 12)	3.9 (4.4)
Interacting with others in an extroverted way (-18 – 18)	-3.1 (6.4)
Expressing feelings openly (-12 – 12)	-1.2 (4.5)
Refusing requests (-12 – 12)	-3.7 (5.3)
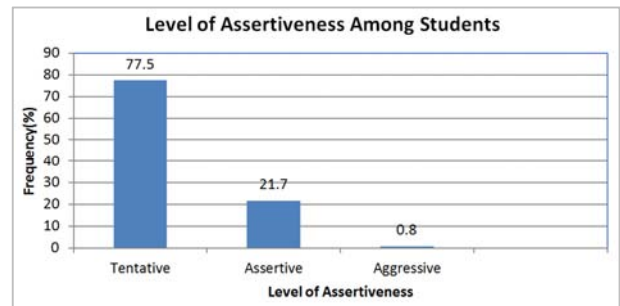
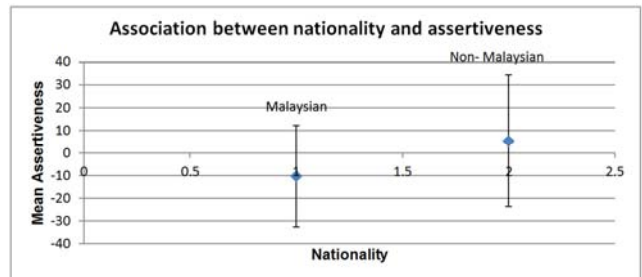**Figure 5.** Level of assertiveness among students.

Figure 6. Association between nationality and assertiveness.
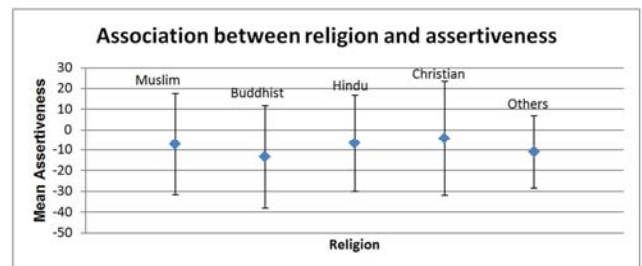

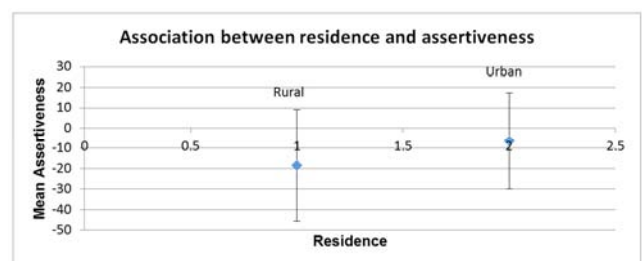**Figure 7.** Association between religion and assertiveness.

Figure 8. Association between residence and assertiveness.

Table 4. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and level of assertiveness.

Variables	Assertiveness Mean (SD)	Mean Difference (95% CI)	T(df)/F(df$_1$, df$_2$)	Pr > |t|
Age group				
<22	-8.5 (20.5)	-1.2 (-10.3,7.9)	-0.26 (118)	0.796
≥22	-7.3 (26.3)			
Gender				
Female	-10.2 (25.2)	-8.1 (-17.7,1.5)	-1.68 (114)	0.096
Male	-2.1 (22.1)			
Ethnicity				
Malay	-12.4 (16.7)			
Indian	-6.5 (24.5)	-	1.11 (3,116)	0.359
Chinese	-15.8 (16.5)			
Others	-4.0 (28.4)			
Nationality				
Malaysian	-10.2 (22.5)	15.6 (3.9,27.3)	2.64 (118)	0.009
Non- Malaysian	5.4 (29.0)			
Religion				
Muslim	-7.0 (24.6)			
Buddhist	-13.2 (25.0)			
Hindu	-6.6 (23.4)	-	0.48 (4,115)	0.749
Christian	-4.2 (27.7)			
Others	-10.8 (17.7)			
Academic year				
Preclinical	-5.9 (19.3)	-3.1 (-12.0, 5.8)	-0.70 (118)	0.488
Clinical	-9.0 (27.3)			
Residence				
Rural	-18.4 (27.3)	-12.0 (-25.6, 1.5)	-1.76 (118)	0.081
Urban	-6.3 (23.6)			
Parental education				
Secondary	-11.2 (30.8)			
Diploma	-4.1 (26.7)	-	0.79 (3,116)	0.504
Undergraduate	-13.2 (21.6)			
Postgraduate	-5.7 (22.0)			
Household income (monthly)				
<RM 4360	-12.6 (18.7)			
RM 4360- RM 9619	-8.4 (24.3)	-	0.65 (2,117)	0.524
>RM 9619	-5.4 (26.0)			

Table 4 shows the frequency of association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and level of assertiveness. Participants aged more than 22 have a mean score of -7.3 whereas those who are aged lesser than 22 have a mean score -8.5 with a mean difference of -1.2 (95% CI -10.3, 7.9) and p value of 0.796 which shows it is statistically insignificant. Males have a mean score of -2.1 and females have a mean score of -10.2. The mean difference is -8.1 (95% CI -17.7, 1.5) and p value is 0.096 indicating that it is statistically insignificant as well. Participants categorized under Others scored a mean of -4.0 followed by Indians, Malays and finally Chinese with mean scores of -6.5, -12.4, -15.8 respectively. P value is 0.359 revealing that is statistically not significant. Non-Malaysians have a mean score of 5.4 whereas, Malaysians scored -10.2 with a mean difference of 15.6 (95% CI 3.9, 27.3). However, the p value is 0.009 which is found to be statistically significant. Christian participants have a mean score of -4.2, followed by Hindus with a score of -6.6, Muslims with a score of -7.0, Others scored -10.8 and Buddhist participants have a mean score of -13.2. They have a p value of 0.749 which is statistically insignificant. The preclinical students have a mean score of -5.9 and clinical students have a mean score of -9.0 with a mean difference of -3.1 (95% CI -12.0, 5.8). Meanwhile, p value finding shows that it is statistically not significant as it is 0.488. Participants from urban areas scored a mean of -6.3 and those from rural areas scored -18.4 with mean difference of-12.0 (95% CI -25.6, 1.5) and p value is 0.081. This reveals that it is statistically insignificant. Participants with parents who have an education level of diploma have a mean score of -4.1, followed closely by parents who are postgraduates with a score of -5.7 whereas, parents who have a secondary level of education and undergraduates scored -11.2 and -13.2 respectively. The p value is 0.504 which is statistically not significant. Participants with a household income of more than RM 9619 have a mean score of -5.4 followed by those with a household income of between RM 4360 to RM 9619 who scored -8.4 and students with a household income of lesser than RM 4360 have a mean score of -12.6. Meanwhile, the p value is 0.524 and the findings show that it is statistically not significant.

Table 5 describes the mean score for assertiveness in the context of business dealings based on each age, gender,

ethnicity, nationality, religion, academic year, residence, parental education and household income. The range of score that can be obtained in this section is -15 to +15 where a larger number represents a higher level of assertiveness.

Participants aged less than 22 scored slightly higher than those aged 22 and above with a mean score of -1.2, while the latter scored a mean of -2.0. The mean difference is 0.8 (95% C1 -2.0 to 3.6) and p value is 0.562, hence, statistically non-significant. Females have a slightly higher mean score of -1.0 as compared to males with a mean score of -2.1. The mean difference is -1.2 (95% CI -4.1 to 1.8) and p value is 0.440, showing statistical non-significance. Others scored the highest among the ethnic groups with a mean score of 0.6, followed by Indians with a mean of -1.8, subsequently Malays with a mean of -4.1, followed by Chinese with a mean score of -4.3. The p value of 0.098 shows that the finding is not significant. Non-Malaysians have a mean score of 3.6. This is higher than Malaysians who scored a mean of -2.7. The mean difference is 6.3 (95% CI 2.8 to 9.9) and p value of 0.001, denoting that the finding is significant. Christians scored the highest with a mean of -0.4, followed by Hindus with a mean score of -1.8, then Muslims with a mean of -2.0, followed by

Buddhists with a mean score of -2.1, and finally Others with a mean score of -3.3. The p value is 0.868, therefore the finding is not significant. Students in preclinical year scored a slightly higher mean of -0.8 as compared to the mean score of -2.3 produced by clinical students. The mean difference is -1.5 (95% CI -4.3 to 1.2) and the p value is 0.271, thus the finding is not significant. Participants residing in urban areas have a mean score of -1.7, higher than those from rural areas, who scored a mean of -1.9. There is a mean difference of -0.2 (95% CI -4.4 to 4.0) and a p value of 0.930, showing statistical non-significance. With regards to the highest level of parental education, those in the Diploma level scored the highest with a mean of 0, followed by Postgraduate and Undergraduate level with a mean score of -1.5 and finally, Secondary level have a mean score of -4.0. The p value is 0.428, thus the finding is not significant. Students with a total monthly household income of >RM9619 scored a mean of -1.1, ranking the highest in the group, while those in the range of RM4360-9619 have a mean score of -1.6, followed by participants with a household income of <RM4360, scoring a mean of -3.6. However, this finding is not significant as the p value is 0.458.

Table 5. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and assertive business dealings.

Variables	Mean Assertiveness* (SD)	Mean Difference (95% CI)	T(df)/F(df$_1$, df$_2$)	Pr > |t|
Age group				
<22	-1.2 (7.1)	0.8 (-2.0, 3.6)	0.58 (118)	0.562
≥22	-2.0 (7.7)			
Gender				
Male	-1.0 (8.0)	-1.2 (-4.1, 1.8)	-0.78 (114)	0.440
Female	-2.1 (7.2)			
Ethnicity				
Malay	-4.1 (6.1)			
Indian	-1.8 (7.2)	-	2.154 (3, 116)	0.098
Chinese	-4.3 (5.7)			
Others	0.6 (8.7)			
Nationality				
Malaysian	-2.7 (6.9)	6.3 (2.8, 9.9)	3.55 (118)	0.001
Non – Malaysian	3.6 (8.5)			
Religion				
Muslim	-2.0 (8.4)			
Buddhist	-2.1 (8.3)			
Hindu	-1.8 (7.3)	-	0.315 (4, 115)	0.868
Christian	-0.4 (7.3)			
Others	-3.3 (6.9)			
Academic year				
Preclinical	-0.8 (7.1)	-1.5 (-4.3, 1.2)	-1.11 (118)	0.271
Clinical	-2.3 (7.7)			
Residence				
Rural	-1.9 (9.1)	-0.2 (-4.4, 4.0)	-0.09 (118)	0.930
Urban	-1.7 (7.3)			
Parental education				
Secondary	-4.0 (8.3)			
Diploma	0.0 (8.8)	-	0.932 (3, 116)	0.428
Undergraduates	-1.5 (6.8)			
Postgraduates	-1.5 (7.0)			
Household income (Monthly)				
>RM4360	-3.6 (7.0)			
RM4360 – RM9619	-1.6 (7.9)	-	0.786 (2, 117)	0.458
>RM9619	-1.1 (7.2)			

Figure 9. Association between nationality and level of assertiveness in business dealings.

Table 6 describes the association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education level and household income with the level of assertiveness in expressing annoyance or displeasure. The range of score that can be obtained in this section is -12 to +12 where a larger number represents a higher level of assertiveness. Participants aged 22 and above scored slightly higher than those aged less than 22, with a mean score of -0.4, while the latter scored a mean of -1.6. The mean difference is -1.3 (95% C1 -3.3 to 0.8) and p value is 0.232, hence, statistically non-significant. Males have a slightly higher mean score of 0.1 as compared to females with a mean score of -1.3. The mean difference is -1.4 (95% CI -3.6 to 0.8) and p value is 0.206, showing statistical non-significance. Malays scored the highest among the ethnic groups with a mean score of 1.9, followed by Indians with a mean of 0, subsequently Chinese with a mean of -1.8, followed by Others with a mean score of -2.6. The p value of 0.065 shows that the finding is not significant. Non-

Malaysians have a mean score of -0.7. This is higher than Malaysians who scored a mean of -1.8. The mean difference is -1.2 (95% CI -3.9 to 1.6) and p value of 0.403, denoting that the finding is not significant. Muslims scored slightly higher with a mean of 0.2, followed by Others with a mean score of 0, then Hindus with a mean of -0.2, followed by Christians with a mean score of -0.9, and Buddhists scoring lowest in the group with a mean score of -3.1. The p value is 0.286, therefore the finding is not significant. Students in clinical year scored a slightly higher mean of -0.3 as compared to the mean score of -1.6 produced by preclinical students. The mean difference is 1.3 (95% CI -0.7 to 3.4) and the p value is 0.194, thus the finding is not significant. Participants residing in urban areas have a mean score of -0.4, higher than those from rural areas, who scored a mean of -4.6. There is a mean difference of -4.3 (95% CI -7.3 to -1.2) and a p value of 0.006, showing statistical significance. With regards to the highest level of parental education, those in the Secondary level scored the highest with a mean of 0.1, followed by Postgraduate with a mean score of -0.6, then Diploma level with a mean score of -1.1 and finally, Undergraduate level with a mean score of -2.1. The p value is 0.610, thus the finding is not significant. Students with a total monthly household income of <RM4360 scored a mean of 0.7, ranking the highest in the group, while those in the range of >RM9619 have a mean score of -0.5, followed by participants with a household income of RM4360-9619, scoring a mean of -1.9. However, this finding is not significant as the p value is 0.194.

Table 6. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and expressing annoyance or displeasure assertively.

Variables	Mean Assertiveness (SD)	Mean Difference (95% CI)	T (df)/F (df1, df2)	Pr > |t|
Age group				
<22	-1.6 (5.2)	-1.3 (-3.3, 0.8)	-1.20 (118)	0.232
≥22	-0.4 (5.7)			
Gender				
Female	-1.3 (5.7)	-1.4 (-3.6, 0.8)	-1.27 (114)	0.206
Male	0.1 (5.4)			
Ethnicity				
Malay	1.9 (5.7)	-	2.472 (3, 116)	0.065
Indian	0.0 (5.6)			
Chinese	-1.8 (5.5)			
Others	-2.6 (5.1)			
Nationality				
Malaysian	-1.8 (5.6)	-1.2 (-3.9, 1.6)	-0.84 (118)	0.403
Non-Malaysian	-0.7 (5.2)			
Religion				
Muslim	0.2 (4.9)	-	1.269 (4, 115)	0.286
Buddhist	-3.1 (5.6)			
Hindu	-0.2 (5.5)			
Christian	-0.9 (6.1)			
Others	0.0 (4.5)			
Academic year				
Preclinical	-1.6 (5.2)	1.3 (-0.7, 3.4)	1.31 (118)	0.194
Clinical	-0.3 (5.8)			
Residence				
Rural	-4.6 (6.2)	-4.3 (-7.3 -1.2)	-2.79 (118)	0.006

Variables	Mean Assertiveness (SD)	Mean Difference (95% CI)	T (df)/F (df1, df2)	Pr > |t|
Urban	-0.4 (5.3)			
Parents education				
Secondary	0.1 (6.6)			
Diploma	-1.1 (4.8)	-	0.610 (3, 116)	0.610
Undergraduate	-2.1 (5.1)			
Postgraduate	-0.6 (5.6)			
Household Income (Monthly)				
<RM4360	0.7 (5.3)			
>RM4360 - RM9619	-1.9 (5.5)	-	1.664 (2, 117)	0.194
>RM9619	-0.5 (5.6)			

Table 7. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and standing up for personal rights.

Variables	Assertiveness Mean (SD)	Mean Difference (95% CI)	$T(df)/F(df_1, df_2)$	Pr > |t|
Age				
<22	4.0 (4.9)	0.2 (-1.4,1.9)	0.27 (118)	0.785
≥22	3.8 (4.1)			
Gender				
Female	3.7 (4.7)	-1.0 (-2.7,0.7)	-1.14 (114)	0.258
Male	4.7 (3.4)			
Ethnicity				
Malay	3.6 (5.7)			
Indian	4.7 (3.8)	-	1.709 (3, 116)	0.168
Chinese	3.0 (5.0)			
Others	2.8 (4.6)			
Nationality				
Malaysian	4.0 (4.3)	-0.8 (-3.0,1.3)	-0.76 (118)	0.450
Non-Malaysian	3.2 (4.8)			
Religion				
Muslim	3.7 (4.5)			
Buddhist	1.7 (5.5)			
Hindu	5.1 (3.9)	-		0.037
Christian	3.7 (3.3)			
Others	3.3 (4.7)			
Academic Year				
Preclinical	4.8 (4.1)	-1.6 (-3.2,-0.0)	-2.02 (118)	0.046
Clinical	3.2 (4.5)			
Residence				
Rural	0.2 (5.4)	-4.1 (-6.5,-1.8)	-3.46 (118)	<0.001
Urban	4.3 (4.0)			
Parental Education				
Secondary	3.6 (4.6)			
Diploma	2.7 (4.6)		0.929 (3, 116)	0.429
Undergraduate	3.4 (5.2)			
Postgraduate	4.5 (3.9)			
Household Income (Monthly)				
<RM4360	3.1 (4.2)			
RM4360-RM9619	2.9 (4.4)	-	3.251 (2, 117)	0.042
>RM9619	5.0 (4.2)			

Table 7 shows the association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and standing up for personal rights. Participants less than 22 years old have a mean score of 4.0 and participants who are 22 years old or more have a mean score of 3.8. The mean difference is 0.2 with 95% CI range from -1.4 to 1.9. The p value is 0.785 thus showing that there is no significant association between age of the participants and standing up for personal rights. Males have a mean score of 4.7, females have a mean score of 3.7. The mean difference is -1.0 with 95% CI range from -2.7 to 0.7. The p value is 0.285 thus showing that there is no significant association between gender and standing up for personal rights. Indians have a mean score of 4.7, Malays have a mean score of 3.6, Chinese have a mean score of 3.0 and other ethnicities have a mean score of 2.8. The p value is 0.168, thus there is no significant association between ethnicity and standing up for personal rights. Hindus have a mean score of

5.1, Muslims have a mean score of 3.7, Christians have a mean score of 3.7 and Other religion have a mean score of 3.3, Buddhists have a mean score of 1.7. The p value is 0.037, thus there is significant association between religion and standing up for personal rights. Malaysians have a mean score of 4.0, whereas non-Malaysians have a mean score of 3.2. The mean difference is -0.8 with 95% CI range of -3.0 to 1.3. The p value is 0.450 showing that there is no significant association between nationality and standing up for personal rights. Participants in the preclinical year have a mean score of 4.8, whereas participants in the clinical year have a mean score of 3.2. The mean difference is -1.6 with 95% CI range of -3.2 to -0.0. The p value is 0.046 showing that there is significant association between academic year and standing up for personal rights. Participants staying in urban areas have a mean score of 4.3 whereas participants staying in rural areas have a mean score of 0.2. The mean difference is -4.1

with 95% CI range of -6.5 to -1.8. The p value is <0.001 showing that there is significant association between residential area and standing up for personal rights. Participants with parental education level of postgraduate level have a mean score of 4.5, secondary school have a mean score of 3.6, undergraduate level have a mean score of 3.4, diploma level have a mean score of 2.7. The p value is 0.429 showing that there is no significant association between parental education and standing up for personal rights. Participants with household income more than RM 9619 monthly have a mean score of 5.0, participants with household income less than RM 4360 monthly have a mean score of 3.1, participants with household income of RM 4360 to RM 9619 monthly have a mean score of 2.9. The p value is 0.042 showing that there is significant association between monthly household income and standing up for personal rights.

Table 8. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and interacting with others in an extroverted way

Variables		Mean Assertiveness* (SD)	Mean Difference (95% CI)	T(df)/F(df$_1$, df$_2$)	Pr > |t|
Age group					
<22		-4.0 (5.5)	-1.5 (-3.9,0.9)	-1.21 (118)	0.227
	≥ 22	-2.6 (6.9)			
Gender					
Male		-1.9 (6.1)	-1.8 (-4.4, 0.7)	-1.41 (114)	0.162
Female		-3.7 (6.7)			
Ethnicity					
Malay		-3.4 (4.9)			
Indian		-3.3 (6.4)	-	2.338 (3, 116)	0.077
Chinese		-6.0 (5.2)			
Others		-1.1 (7.0)			
Nationality					
Malaysian		-3.9 (6.1)	5.2 (2.1, 8.2)	3.33 (118)	0.001
Non – Malaysian		1.2 (6.8)			
Religion					
Muslim		-1.4 (6.8)			
Buddhist		-4.3 (5.9)			
Hindu		-3.4 (6.0)	-	0.890 (4, 115)	0.472
Christian		-1.8 (8.0)			
Others		-4.9 (5.1)			
Academic year					
Preclinical		-3.6 (5.7)	0.8 (-1.6, 3.2)	0.65 (118)	0.515
Clinical		-2.8 (7.0)			
Residence					
Rural		-3.9 (5.6)	-0.9 (-4.6, 2.7)	-0.50 (118)	0.621
Urban		-3.0 (6.6)			
Parental education					
Secondary		-4.2 (8.1)			
Diploma		-2.4 (7.5)	-	0.698 (3, 116)	0.555
Undergraduates		-4.4 (5.1)			
Postgraduates		-2.5 (6.0)			
Household income (monthly)					
>RM4360		-5.8 (5.8)			
RM4360 – RM9619		-2.7 (6.3)	-	2.063 (2, 117)	0.132
>RM9619		-2.5 (6.6)			

Table 8 shows the association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and interacting with others in an extroverted way. Participants who are 22 years old or more than 22 years old have a mean score of -2.6 and participants less than 22 years old have a mean score of -4.0. The mean difference is -1.5 with 95% CI range from -3.9 to 0.9. The p value is 0.227 thus showing that there is no significant association between age of the participants and interacting with others in an extroverted way. Male have mean scores of -1.9 and females have a mean score of -3.7. The mean difference is -1.8 with 95% CI range from -4.4 to 0.7. The p value is 0.162 thus showing that there is no significant association between gender and interacting with others in an extroverted way. Other ethnicities have a mean score of -1.1, Indians have a mean score of -3.3, Malays have a mean score of -3.4, Chinese have a mean score of -6.0. The p value is 0.077, thus there is no significant association between ethnicity and interacting with others in an extroverted way. Non-Malaysians have a mean score of 1.2 whereas Malaysians have a mean score of -3.9. The mean difference is 5.2 with 95% CI range of 2.1 to 8.2. The p value is 0.001 showing that there is significant association between nationality interacting with others in an extroverted way. Muslim have a mean score of -1.4, Christian have a mean score of -1.8, Hindu have a mean score of -3.4, Buddhist have a mean score of -4.3, and other religion have a mean

score of -4.9. The p value is 0.472, thus there is no significant association between religion and interacting with others in an extroverted way. Participants in the clinical year have a mean score of -2.8 whereas participants in the preclinical year have a mean score of –3.6. The mean difference is 0.8 with 95% CI range of -1.6 to 3.2. The p value is 0.515 showing that there is no significant association between academic year and interacting with others in an extroverted way. Participants staying in urban areas have a mean score of -3.0 participants staying in rural areas have a mean score of -3.9. The mean difference is -0.9 with 95% CI range of -4.6 to 2.7. The p value is 0.621 showing that there is no significant association between residential areas and interacting with others in an extroverted way. Participants with parental education level of diploma level have a mean score of -2.4, postgraduate level have a mean score of -2.5, secondary school have a mean score of -4.2, undergraduate level have a mean score of -4.4. The p value is 0.555 showing that there is no significant association between parental education and interacting with others in an extroverted way. Participants with household income more than RM 9619 monthly have a mean score of -2.5, participants with household income of RM 4360 to RM 9619 monthly have a mean score of -2.7 and participants with household income less than RM 4360 monthly have a mean score of -5.8. The p value is 0.132 showing that there is no significant association between monthly household income and interacting with others in an extroverted way.

Table 9. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and expressing feelings openly.

Variables	Mean Assertiveness (SD)	Mean Difference (95% CI)	T(df)/F(df$_1$, df$_2$)	Pr > |t|
Age				
<22	-1.1 (4.4)	0.0 (-1.7,1.7)	0.05 (118)	0.963
≥22	-1.2 (4.6)			
Gender				
Female	-1.6 (4.6)	-1.4 (-3.2,0.4)	-1.55 (114)	0.125
Male	-0.2 (4.2)			
Ethnicity				
Malay	-3.4 (3.5)			
Indian	-1.0 (4.3)	-	0.948 (3, 116)	0.420
Chinese	-1.8 (3.9)			
Others	-0.6 (5.5)			
Nationality				
Malaysian	-1.6 (4.2)	2.9 (0.7,5.1)	2.60 (118)	0.011
Non-Malaysian	1.3 (5.5)			
Religion				
Muslim	-2.7 (4.8)			
Buddhist	-0.7 (4.7)			
Hindu	-0.6 (4.3)	-	0.842 (4, 115)	0.501
Christian	-1.5 (5.0)			
Others	-2.4 (3.9)			
Academic Year				
Preclinical	-0.5 (4.4)			
Clinical	-1.6 (4.6)	-1.1 (-2.8,0.6)	-1.31 (118)	0.194
Residence				
Rural	-1.7 (5.2)	-0.6 (-3.2,1.9)	-0.49 (118)	0.628
Urban	-1.1 (4.5)			
Parental Education				

Variables	Mean Assertiveness (SD)	Mean Difference (95% CI)	T(df)/F(df$_1$, df$_2$)	Pr > |t|
Secondary	-2.0 (4.1)	-		
Diploma	-0.2 (4.1)		1.287 (3, 116)	0.288
Undergraduate	-2.5 (4.3)			
Postgraduate	-0.7 (4.8)			
Household Income (Monthly)				
<RM4360	-1.3 (3.4)	-		
RM4360-RM9619	-1.0 (4.6)		0.062 (2, 117)	0.940
>RM9619	-1.3 (4.9)			

Table 9 shows the association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and openly expressing feelings (Rathus Assertiveness Scale). Participants who are 22 years old or above have a mean score of -1.2, slightly higher than participants who are less than 22 years old with a mean score of -1.1. The mean difference is 0.0 with 95% CI range from -1.7 to 1.7. The p value is 0.963 thus showing that there is no significant association between age of the participants and expressing feelings openly. Females have a mean score of -1.6 which is higher than males with a mean score of -0.2. The mean difference is -1.4 with 95% CI range from -3.2 to 0.4. The p value is 0.125 thus showing that there is no significant association between gender and expressing feelings openly. Malays have the highest mean score of -3.4, followed by Chinese who have a mean score of -1.8 whereas Indians have a mean score of -1.0 and other races have the lowest mean score which is -0.6. The p value is 0.420, thus there is no significant association between ethnicity and expressing feelings openly. Muslim have the highest mean score of -2.7, followed by other religion with a mean score of -2.4. Christian and Buddhist have a mean score of -1.5 and -0.7 respectively while Hindu have the lowest mean score, which is -0.6. The p value is 0.501, thus there is no significant association between religion and expressing feelings openly. Malaysians have a mean score of -1.6, higher than non-Malaysians whose mean score is 1.3. The mean difference is 2.9 with 95% CI range of 0.7 to 5.1. The p value is 0.011 showing that there is *significant* association between nationality and expressing feelings openly. Participants in the preclinical year have a lower mean score of -0.5 compared to participants in the clinical year who have a mean score of -1.6. The mean difference is -1.1 with 95% CI range of -2.8 to 0.6. The p value is 0.194 showing that there is no significant association between academic year and expressing feelings openly. Participants staying in rural areas have a mean score of -1.7, higher than the mean score of participants staying in urban areas which is -1.1. The mean difference is -0.6 with 95% CI range of -3.2 to 1.9. The p value is 0.628 showing that there is no significant association between residential areas and expressing feelings openly. Participants with parental education of undergraduate level have the highest mean score of -2.5, followed by the education level of secondary school with a mean score of -2.0, postgraduate

level have a mean score of -0.7, diploma level have the lowest mean score which is -0.2. The p value is 0.288 showing that there is no significant association between parental education and expressing feelings openly. The mean score of participants with household income less than RM 4360 monthly and more than RM 9619 monthly are the same which is -1.3 whereas participants with household income of RM 4360 to RM 9619 monthly have a mean score of -1.0. The p value is 0.940 showing that there is no significant association between monthly household income and expressing feelings openly.

Table 10 shows the association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and refusing requests (Rathus Assertiveness Scale). Participants less than 22 years old have a mean score of -3.1, lower than the mean score of participants who are 22 years old or above which is -4.2. The mean difference is 0.8 with 95% CI range from -1.1 to 2.8. The p value is 0.963 thus showing that there is no significant association between age of the participants and refusing requests. Females have a mean score of -3.8 higher than male whose mean score is -3.4. The mean difference is -0.4 with 95% CI range from -2.5 to 1.7. The p value is 0.702 thus showing that there is no significant association between gender and refusing requests. Malays have the highest mean score which is -5.0, Indians have a mean score of -3.9, Chinese have a mean score of -3.3 and Other races have the lowest mean score which is -3.1. The p value is 0.772, thus there is no significant association between ethnicity and refusing requests. Malaysians have a mean score of -2.4 lower than the mean score of non-Malaysians which is -3.9. The mean difference is 1.5 with 95% CI range of -1.1 to 4.1. The p value is 0.246 showing that there is no significant association between nationality and refusing requests. Muslim have the highest mean score which is -4.2, Hindu have a mean score of -4.0, Other religions have a mean score of -3.9, Buddhist have a mean score of -3.3. Christian the lowest mean score which is -2.9. The p value is 0.906, thus there is no significant association between religion and refusing requests. Participants in preclinical year have a mean score of -3.1 which is slightly lower than participants in clinical year with a mean score of -4.0. The mean difference is -0.9 with 95% CI range of -2.8 to 1.0. The p value is 0.364 showing that there is no significant association

between academic year and refusing requests. Participants staying in rural areas have a mean score of -3.8 higher than the mean score of those who are staying in urban areas which is -3.6. The mean difference is -0.1 with 95% CI range of -3.1 to 2.8. The p value is 0.924 showing that there is no significant association between residential area and refusing request. Participants with parental education of undergraduate level have the highest mean score which is -4.1, secondary school level have a mean score of -4.0, postgraduate level have a mean score of -3.7, diploma level

have the lowest mean score which is -2.7. The p value is 0.864 showing that there is no significant association between parental education and refusing requests. Participants with household income less than RM 4360 monthly have the highest mean score which is -4.1, compared to participants whose household income are more than RM 9619 monthly and in between RM 4360 to RM 9619, with a mean score of -4.0 and -3.1 respectively. The p value is 0.666 showing that there is no significant association between monthly household income and refusing requests.

Table 10. Association between age, gender, ethnicity, nationality, religion, academic year, residence, parental education, household income and refusing requests.

Variables	Mean Assertiveness (SD)	Mean Difference (95% CI)	T (df)/F(df1, df2)	Pr > |t|
Age				
<22	-3.1 (4.4)	0.8 (-1.1, 2.8)	0.85 (118)	0.400
≥22	-4.0 (5.7)			
Gender				
Female	-3.8 (5.3)	-0.4 (-2.5, 1.7)	-0.38 (114)	0.702
Male	-3.4 (5.4)			
Ethnicity				
Malay	-5.0 (5.8)			
Indian	-3.9 (5.0)	-	0.374 (3, 116)	0.772
Chinese	-3.3 (4.8)			
Others	-3.1 (6.0)			
Nationality				
Malaysian	-2.4 (5.1)	1.5 (-1.1, 4.1)	1.17 (118)	0.246
Non-Malaysian	-3.9 (6.2)			
Religion				
Muslim	-4.2 (6.9)			
Buddhist	-3.3 (5.6)			
Hindu	-4.0 (5.0)	-	0.255 (4, 115)	0.906
Christian	-2.9 (4.7)			
Others	-3.9 (5.6)			
Academic year				
Preclinical	-3.1 (4.6)	-0.9 (-2.8, 1.0)	-0.91 (118)	0.364
Clinical	-4.0 (5.7)			
Residence				
Rural	-3.8 (5.2)	-0.1 (-3.1, 2.8)	-0.10 (118)	0.924
Urban	-3.6 (5.3)			
Parents education				
Secondary	-4.0 (6.1)			
Diploma	-2.7 (4.9)	-	0.246 (3, 116)	0.864
Undergraduate	-4.1 (5.0)			
Postgraduate	-3.7 (5.3)			
Household Income (Monthly)				
<RM4360	-4.1 (4.4)			
>RM4360-RM9619	-3.1 (5.0)	-	0.407 (2, 117)	0.666
>RM9619	-4.0 (5.8)			

4. Discussion

We conducted a cross sectional survey, primarily to study the level of assertiveness among undergraduate students of Manipal University College Malaysia (MUCM). The second objective is to study the association of age group, gender, ethnicity, nationality, religion, academic year, residence, parental education as well as monthly household income and level of assertiveness among the participants based on domains which includes assertive business dealings,

expressing annoyance or displeasure assertively, standing up for personal rights, interacting with others in an extroverted way, expressing feelings openly and refusing requests. [14]

This study showed that majority of our participants (77.5%) are tentative which means a low level of assertiveness, few of them (21.7%) are assertive whereas very few of the participants (0.8%) are aggressive. The results were in contrast with the study done among undergraduates in a Malaysian Public University which showed that only very few of their participants (4.8%) are described as having low assertiveness level while majority (95.2%) of them are

assertive [13]. However, a cross sectional study was done among nursing students of Tehran University of Medical Sciences showing that 55.6% of the students indicated average and low levels of assertiveness. [15]

Our study also showed that there was a significant association between nationality and assertiveness in such a way that Malaysian students with a negative assertiveness score were more tentative compared to international students. However, there were no significant association between age group, gender, ethnicity, religion, academic year, residence, parental education, monthly household income and level of assertiveness. Furthermore, the results showed that there were significant association between nationality and some of the domains which include 'assertive business dealings', 'interacting with others in an extroverted way' and 'expressing feelings openly'. Non-Malaysian students had positive assertiveness score showing they are more assertive than Malaysian students with respect to each of these domains. Moreover, residence was significantly associated with 'expressing annoyance or displeasure assertively' as participants from rural areas had higher negative assertiveness scores showing they are more tentative than those from urban areas. Besides, there were significant association between 'standing up for personal rights' and religion, academic year, residence as well as household income. In each of these categories, a higher assertiveness level was observed in Hindu, participants in preclinical years, participants from urban and participants with monthly household income >RM 9619 compared to other variables in their respective categories. We also found that there were no significant association between age group, gender, ethnicity, nationality, religion, academic year, residence, parental education, monthly household income and the domain 'refusing requests'.

In a cross sectional study conducted amongst nursing students in a university in Turkey, it was found that mean scores for assertiveness amongst male students were higher than in female students. [16] However another cross sectional study conducted amongst nursing students in a university in Iran, revealed that majority of the male students had a low assertiveness score. [17] Contrary to that, a cross sectional study conducted amongst medical students in Bosnia which revealed that there was no significant association between gender and assertiveness as well as the other variables (residence and re-enrolment following failure of first year) and assertiveness. [18] Similarly, a study conducted amongst Sweden and Turkish school students which aimed to find the association between culture, gender and age of school students aged 13 to 20 years revealed that, there was no significant association between gender and level of assertiveness. [19] However, the same study found out that

the older students were more assertive than the younger ones. Moreover, the same study found that the Sweden adolescents were more assertive than the Turkish counterparts. A study conducted amongst undergraduate business students in USA and Vietnam found out that the American students were more assertive than the Vietnam students. [11] These findings are suggestive that assertiveness is highly valued in the Western parts of the world than the Eastern counterparts owing to the cultural conceptual differences. This same study also demonstrated association between gender and level of assertiveness. It revealed that females had lower levels of assertiveness, however the national culture had a greater influence in determining their assertiveness. A study conducted amongst nursing students in Greece to find the association between semester in school and assertiveness, revealed that the assertiveness displayed by students increase slightly in advanced semesters compared to that displayed by the first semester students. [3] Similarly, a cross sectional study conducted amongst nursing and midwifery students in Iran revealed that there was significant association between the year of education and the assertiveness. [7] In a descriptive analytical study conducted amongst nursing students in a university in Egypt, it was found that there was a significant association between the residence of the students and their level of assertiveness. It was found that the students who resided in villages had a lower assertiveness score. [10] This study also revealed that there was no association between scholarly level and assertiveness. Moreover, it depicted that as the family income increased, assertiveness too increased. Similarly, the study conducted amongst nursing students in Iran revealed that the students from families with high economic status had higher levels of assertiveness. It was also found that, in students whose fathers were more educated, the assertiveness scores were higher. [17] In contrast to that, the study conducted amongst nursing students in Turkey revealed that there was no significant association between the educational status of parents and the assertiveness scores. [16] In addition to that, this study also looked into the association between the birth order and assertiveness as well as the number of brothers and sisters and the assertiveness. However there was no significant association between those variables and assertiveness.

A cross sectional study conducted by El Hadad et al. (2017) found that most medical students reported feeling anxious when asked to do a task in front of someone and was fearful of their behaviour being perceived as odd. [20] This was observed to be common in males than females. In contrast, a survey conducted by Nadile et al. (2021) reported that most participants avoid asking questions in large-enrolment courses and that the prevalence is higher in women than in

men. [21] Another study conducted in India showed significant associations between gender and fear of being watched and humiliated as well as embarrassment of being the centre of attention in public (Mascarenhas et al., 2019). [22] In our study, we have found that Non-Malaysians are significantly more assertive in the context of business dealings than Malaysians. In addition to this, our findings also show that there are no significant association between age, ethnicity, religion, academic year, residential area, socioeconomic status, and highest level of parental education with assertive business dealing.

For the second domain, expressing annoyance and displeasure assertively, a cross sectional study conducted on adolescents in Netherlands by Novin et al. (2018) found that ethnicity moderate expression of displeasure but not gender. [23] This finding is also supported by Ndubisi & Tam (2007) in a cross-sectional study conducted on bank customers, where gender was not seen to be a determinant of complaint behaviour.[24] However, a study by Baker et al. (2013) found that cultural values do not influence the desire to lodge complaints to a third party. [25] Ndubisi & Ling (2007) also reported that low-income earners tend to complain privately rather than to the establishment itself, [26] while Raston et al. (2021) found that complaint behaviour is not significantly associated with socioeconomic status. [27] A survey conducted among international students in a Business School in the United Kingdom revealed that international students are generally pro-active in lodging complaints directly to the university, but also privately to their peers (Hart & Coates, 2011). [28] In our study, we have found that urban residents are more likely to express annoyance and displeasure assertively compared to rural residents. However, the association between age, ethnicity, religion, nationality, academic year, socioeconomic status, highest level of parental education and expressing annoyance and displeasure assertively was found to be non-significant, contrary to some findings in the previous studies.

In a cross-sectional study conducted by Infante (1989), female participants showed a strong preference for argumentative response when dealing with aggressive messages while male participants indicated preference for aggressive communication in response to the same. [29] Another cross-sectional study conducted on Japanese nurses by Singhal & Nagao (1998) reported Japanese participants being more reluctant to confront a person from an ingroup over a mistake they have done when compared to Americans. [30] Findings in both studies do not correspond with those from our study, that there are no significant associations between gender, nationality and standing up for personal rights. Nevertheless, we found religion and academic year to have significant association to standing up for personal

rights. Additionally, our study shows that age, ethnicity, religion, residential area, household income and highest level of parental education does not contribute to a person's tendency or ability to stand up for their personal rights.

In our study, it shows that most of the female students are more introverted than male students. In comparison to the study done by Oakland, Pretorius and Lee (2008), it showed that females normally prefer extroverted while males are more likely to prefer introverted. [31] We also found out that students of age group less than 22 years of age are more introverted than students of more than age of 22 years old, in our results. However, a study conducted by Lucas and Donnellan in Michigan State University showed the opposite as their studies showed age-related differences in openness were positive before age 30 and then negative (and greater in size for men) after age 30. Extraversion increased with increasing age among women before age 30 but then decreased with increasing age from that point on. [32] According to our results, there were no significant association amongst the ethnicities, religion, academic year, residence, parental education, household incomes with interacting with others in an extroverted way. However, based on our results, Malaysians in general are more introverted than Non-Malaysians

Expressing feelings openly is found to be more in Non-Malaysians than Malaysians in the present study. This finding is compared to a study conducted on adolescents where it was shown that Malaysian adolescents have the tendency to regulate their negative emotions (Ahmad et al., 2010). [33] A cross sectional study carried out on Middle Eastern postgraduate students found that men are more likely to suppress their positive emotions and express negative emotions, while the opposite is true for women (Simpson & Stroh, 2004). [34] Matsumoto (1993) reported in a cross-sectional study that there is significant difference among ethnicities in self-expression [35], while Kim & Sherman (2007) concluded that European Americans consider self-expression as important more than East Asians/East Asian Americans do. [36] In addition, income was found to be a significant factor associated to self-expression and regulation of emotions. Côté et al. (2010), Martini et al. (2004) reported that higher socioeconomic status is associated with amplified expression of appropriate emotions, [37] and those of lower income brackets tend to regulate their emotions negatively. [38] In a different study, Kim Prieto & Diener (2009) showed that religion is associated with differences in expression of positive or negative emotions. [39] In contrast, our study showed no significant association between age, gender, ethnicity, religion, socioeconomic status and self-expression. Our study also found that parents' highest level of education, participants' current academic year, residential area are not

significant factors determining self-expression.

Our study has found no significant association between any of the demographic variables with the tendency to refuse requests. However, a previous cross-sectional study by Niikura (1999) found significant differences across nationalities with the tendency to make and refuse requests. [40] Kazerooni & Shams (2015) reported no significant relationship between socioeconomic status and politeness in requestive speech, while Esfahlan & Boroumand (2020) reported the same findings. [41, 42] According to our study, males are better at refusing request compared to females. However, another study by Clark from University of North Texas showed the similar results that the rate of male subjects agreeing to something is lesser female subjects. [43] We also found out that Malaysians refuses request than Non-Malaysians. A study conducted by Dewi et al. (2019) from Gandhi Memorial Intercontinental School (GMIS) shows direct refusal is highly used by Russian while it is lowest used by Indonesian students. [44] Based on our results, there were no significant association between age, ethnicity, religion, academic year, residence, parents' education, household incomes and refusing requests.

This study included just one medical school. Therefore, the findings cannot be generalized to other medical schools or other institutions. The significant limitation in this study is the time limitation. This study was carried out for a short period of 5 weeks. A longer period of investigation would have been sufficient to enable us to collect more responses from students of other academic years too as in this present study the response rate is so much higher among the clinical year students compared to preclinical year students. Besides that, this cross-sectional study limits us from observing changes over time instead only gives us an overview of the level of assertiveness among students at one point of time. The outcome of this investigation depended on self-reports of assertiveness utilizing the Rathus Assertiveness Scale. Even though, it has been recommended that a self-detailing survey instrument developed in the mid-1970s for an American population may not be proper for the present worldwide population however, many of the studies validated this questionnaire. This scale is still considered reliable to be used for such studies.

Being assertive means communicating with others in a direct and honest manner without intentionally hurting anyone's feelings. Direct communication can reduce conflict, build self-confidence and enhance personal and work relationships. Assertiveness is a skill that anyone can learn. It is recommended that students participate in some sort of assertiveness training program to help build their confidence and communication skills. It is definitely beneficial for students of clinical fields to be assertive considering the need for them to communicate with patients in their day-to-day lives. The most ideal creation and strategy for conveyance of such preparing needs is something that should be additionally researched, yet it should consolidate close participation among students and educators. Once settled upon and set up as a regular occurrence, noticed evaluation of such preparing ought to likewise be mandatory, as it will prompt proof-based appreciation of this fundamental learning issue.

5. Conclusion

In conclusion, only 21.67% of participants are found to be assertive revealing that majority of the participants are tentative. Assertiveness is among the correctable interpersonal communication skills. Enhancing level of assertiveness among students plays a critical role in their personal life as well as academically. We suggest future researchers to carry out more extensive studies inclusive of interventions with a larger and diverse sample size to help students figure out ways to feel more assertive and confident with good communication skills. This can further assure a better future for medical students in their chosen career path, ace academically and even with their mental health status as there are previous studies that show deterioration of mental health associated with their level of assertiveness.

Acknowledgements

Appendix

LEVEL OF ASSERTIVENESS AMONG UNDERGRADUATE MEDICAL STUDENTS IN MANIPAL UNIVERSITY COLLEGE MALAYSIA

Principal investigator:

Alyssa Sureyya binti Awang

Investigators:

Lim Yon Ling, Divyah Nayagi, Villasheny Ghanesh, Udari Sandalika Pasquel Wasange

You are being invited to take part in a research project which aims to determine the level of assertiveness among undergraduate medical students in Manipal University College Malaysia (MUCM). You will be asked for basic information without breaking anonymity as well as personal and situational questions to assess assertiveness. This survey will take about 10-15 minutes. This survey form includes demographic information and the Rathus Assertiveness Schedule, consisting 30 items in the form of short statements to assess levels of assertiveness, which you will score according to how likely the statements describe you. Participation in this study is voluntary and you have the right to deny and/or withdraw from the study at any time, no valid reason needed, and this will not have negative impact on you. Any information you provide is anonymous. Results of the study will be reported as total picture and not individually.

Consent:

I have read the above information. I am 18 years of age or older. I consent to participate in the study as titled above of my own free will. I further understand that I have the freedom to choose not to participate in the study. No reward or inducement has been offered to me to participate as a volunteer in the study.

Part 1: Social Demographic profile

1. Age

   _____

2. Gender:

   a) Male

   b) Female

   c) Prefer not to say

3. Nationality

   a) Malaysian

   b) International Student

4. Ethnicity:

   a) Malay

   b) Chinese

   c) Indians

   d) Others: _____

5. Religion:

   a) Islam

   b) Buddhist

   c) Hindu

   d) Christian

   e) Others:_____

6. Academic year:

   a) MBBS Pre-Clinical Year (Semester 1-5)

   b) MBBS Clinical Year (Semester 6-10)

7. Which area are you residing? (Permanent residence)

   a) Rural

   b) Urban

8. Father/Mother's highest level of education:

   a) Secondary

   b) Diploma

   c) Undergraduate

d)   Postgraduate or higher

9. Household income (monthly)

   a) < RM 4360

   b) RM 4360- RM 9619

   c) > RM 9619

Part 2: Questionnaire- Rathus Assertive Scale

Directions: Indicate how well each item describes you by using this code

3 very much like me

2 rather like me

1 slightly like me

-1 slightly unlike me

-2 rather unlike me

-3 very much unlike me

No	Item	3	2	1	-1	-2	-3
1.	Most people seem to be more aggressive and assertive than I am.						
2.	I have hesitated to make or accept dates because of "shyness".						
3.	When the food served at a restaurant is not done to my satisfaction, I complain about it to the waiter or waitress						
4.	I am careful to avoid hurting other people's feelings, even when I feel that I have been injured.						
5.	If a salesperson has gone to considerable trouble to show me merchandise that is not quite suitable, I have a difficult time saying "No".						
6.	When I am asked to do something, I insist upon knowing why.						
7.	There are times when I look for a good, vigorous argument.						
8.	I strive to get ahead as well as most people in my position.						
9.	To be honest, people often take advantage of me.						
10.	I enjoy starting conversations with new acquaintances and strangers.						
11.	I often don't know what to say to people I find attractive.						
12.	I will hesitate to make phone calls to business establishments and institutions.						
13.	I would rather apply for a job or for admission to a college by writing letters than by going through with personal interviews.						
14.	I find it embarrassing to return merchandise.						
15.	If a close and respected relative were annoying me, I would smother my feelings						

No	Item	3	2	1	-1	-2	-3
	rather than express my annoyance.						
16.	I have avoided asking questions for fear of sounding stupid.						
17.	During an argument, I am sometimes afraid that I will get so upset that I will shake all over.						
18.	If a famed and respected lecturer makes a comment which I think is incorrect, I will have the audience hear my point of view as well.						
19.	I avoid arguing over prices with clerks and sales-people.						
20.	When I have done something important or worthwhile, I manage to let others know about it.						
21.	I am open and frank about my feelings.						
22.	If someone has been spreading false and bad stories about me, I see him or her as soon as possible and "have a talk" about it.						
23.	I often have a hard time saying "No".						
24.	I tend to bottle up my emotions rather than make a scene.						
25.	I complain about poor service in a restaurant and elsewhere.						
26.	When I am given a compliment, I sometimes just don't know what to say.						
27.	If a couple near me in a theatre or at a lecture were conversing rather loudly, I would ask them to be quiet or to take their conversation elsewhere.						
28.	Anyone attempting to push ahead of me in a line is in for a good battle.						
29.	I am quick to express an opinion.						
30.	There are times when I just can't say anything.						

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