

# **A Cross-Sectional Study on Anger Expression Among Students in University of Cyberjaya, Malaysia**

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## **Abstract**

This study examines the impact of sociodemographic factors and aggression levels on anger levels among students in a university setting. In this modernized era, academic qualifications play an increasingly heavy role in determining a person's eligibility in obtaining coveted white-collar occupations, an alarmingly high amount of discontent has been brewing among the tertiary level education students in Malaysia. This is backed up by the rapidly rising rate of protests among students voicing out their discontent and frustration on social media. Using a five-point Likert scale, a survey with a response rate of 94.76% was conducted on a total of 398 students at University of Cyberjaya by approaching them online and in person. Non-probability convenience sampling was the method chosen in this study, and it was done by approaching the most accessible students around the University of Cyberjaya. The study design executed is a cross-sectional study. Nonconsenting respondents in the questionnaire and nonresponse forms were excluded from this study. From the results of the survey, we were able to identify that the respondents have moderate levels of anger when placed in various situations and moderate levels of aggression. There is a significant relationship between gender and the level of anger. There is also a significant relationship between the level of anger and the level of aggression among the respondents. Hostility has the highest mean score on the Buss and Perry Aggression Scale. It is hoped that this study will be beneficial in tackling the identification of dysfunctional anger expression among students.

## **Keywords**

Sociodemographic Factors, Anger, Aggression, Hostility

## **1. Introduction**

According to Kazdin (2000), anger is defined as an emotion that is characterised by a feeling of rage and antagonism towards someone or situation that has deliberately done the person wrong. Anger can be triggered by certain experiences that a person has gone through. The response to these triggers can vary depending on the person's state of mind and circumstance surrounding the situation. An emotional trigger is anything which can start an intense emotional reaction regardless of the person's current mood. Examples of an emotional trigger include memories, experiences and events.

Anger is one of the most common behaviour problems among youths nowadays. This is due to the fact that anger is believed to be a maladaptive coping behaviour to a stressful situation or environment which inhibits the person from adjusting healthily to the particular stressful situation (Cox Stabb and Bruckner 1999). However, anger is also a healthy emotion like all other emotions with the main difference between healthy anger and unhealthy anger being the way it is expressed by the person. For example, if anger is expressed assertively where the person expresses their anger without placing the blame on someone else, this is considered as healthy anger. While, if the anger is expressed aggressively where the person becomes forceful and loud, this is considered as unhealthy anger.

When anger is not expressed properly but instead suppressed, it can lead to several underlying issues such as anxiety and depression (Dhasmana et al. 2018). Furthermore, this might have an adverse effect on the person's relationship, behavioural and thinking patterns. This is a significant barrier to reasonable thinking in society, which has

unfavourable implications. Aside from that, anger might be linked to difficulties like alcohol and substance misuse, emotional and physical abuse, poor focus, irregular sleep schedules, insecurities, and self-harm.

According to a study done on anger management that shows a comparison between medical students with higher anger inclinations compared to medical students with lower anger inclinations, those with stronger anger tendencies have much worse mental health. The mental health/PHQ-9 score does not drop when the effectiveness of the anger management approach improves. Friends were the most prevalent source of anger among medical students. Surprisingly, many of the students suffer one-day angry episodes, and the clear majority of them indicated it was "very difficult" to focus on their work, academics, and relationships. All of this could be related to medical students' hectic schedules, which prohibit them from taking the time to process their feelings, including rage (Prabhu et al. 2016a).

This research is mainly aimed to study the student's degree or level of anger in certain stressful situations as well as their level of aggression. This would be helpful in determining the effective methods of coping mechanisms based on their levels of anger as conducted by Karen & Kessler (1999), where a manual based group therapy was done on fifty adolescents with poor anger control, and it has been shown that their anger management skills have improved.

### **1.1 Objectives of the Study**

This research is targeted to reveal different expressions and levels of anger when put in diverse settings, based on sociodemographic variables. Appropriate anger control and expression are crucial, especially in students with excessive aggression due to anger can affect interpersonal relationships, academic grades or even extracurricular involvement. By conducting this study, we hope to disclose and analyses the levels of anger in students of University of Cyberjaya (UOC).

### **1.2 Research Question**

What is the level of anger University of Cyberjaya (UOC) students experience if placed in various situations?

### **1.3 Research Objectives**

#### **General Objective**

- (a) To study the level of anger students of UOC experience if placed in various situations.

#### **Specific Objectives**

- (a) To study the association between sociodemographic factors and the level of anger students of UOC experience if placed in various situations.
- (b) To study the association between the level of aggression of the students and the level of anger students of UOC experience if placed in various situations

### **1.4 Research Hypothesis**

Ho: There is no association between the gender and the level of anger students of UOC experience when placed in various situations.

Ha: There is an association between gender and the level of anger students of UOC experience when placed in various situations.

Ho: There is no association between the ethnicity and the level of anger students of UOC experience when placed in various situations.

Ha: There is an association between the ethnicity and the level of anger students of UOC experience when placed in various situations.

Ho: There is no association between the economic status and the level of anger students of UOC experience when placed in various situations.

Ha: There is an association between the economic status and the level of anger students of UOC experience when placed in various situations.

Ho: There is no association between the level of aggression of the students and the level of anger students of UOC experience if placed in various situations.

Ha: There is an association between the level of aggression of the students and the level of anger students of UOC experience if placed in various situations

## 2. Literature Review

In research done on 157 students conducted by MBBS students at Melaka Manipal Medical College (MMMM) in Manipal, India, the results revealed that 70% of them exhibited a bad temper on occasion. When it comes to repressing and accepting anger, 62% of all students gave a median score of "occasionally" and "often," while 20% chose "most of the time." Furthermore, 49% of students said their anger can persist up to a day, 31% said it can stay up to an hour, and 16 percent said it can last up to a week. Another significant finding was that when angry, 65% of students found it difficult to concentrate on their work, studies, and relationships (Prabhu et al. 2016b).

The results of a research on 241 Jordanian university students revealed that the majority of them have a moderate degree of anger, with the student's perception of life satisfaction being a strong predictor of anger, although social support and personal mastery were not. It was also discovered that smoking cigarettes had a significant relationship with anger levels, and that there were no variations in anger levels between male and female students (Hamdan-Mansour et al. 2012a).

Furthermore, a cross-sectional study of 345 students with stratified random sampling method was carried out to investigate the association between sociodemographic characteristics with anger among medical students in the Universiti Putra Malaysia. The results revealed a significant relationship between year of study ( $p=.028$ ) and anger expression, as well as gender and intensity of anger ( $p=.015$ ), trait anger levels ( $p=.003$ ), and anger expression ( $p=.015$ ) using the Novaco Anger Inventory and the State and Trait Anger Expression Inventory-2 (Tusimin et al., 2018a).

To add on, a cross-sectional study was conducted by C. Arslan on the relationship between anger, anger expression, coping with stress and interpersonal problem-solving among 415 university students. The research findings suggest that individuals exhibiting elevated anger levels tend to employ avoidance coping mechanisms, while concurrently experiencing challenges with interpersonal problem-solving. Furthermore, the research indicated that there exists a negative correlation between the disposition towards anger as a trait and the capability for interpersonal problem-solving. This implies that individuals with heightened levels of anger are likely to encounter difficulties in resolving interpersonal disputes and conflicts. The results of this study imply that individuals exhibiting elevated levels of anger may derive considerable advantages from interventions that target the amplification of problem-focused coping strategies and enhancement of interpersonal problem-solving competencies (Arslan et al. 2010).

The validated questionnaire that we based our framework on was the Novaco Anger Scale, which is used to somewhat quantify and categorise an individual's tendency to get angry and furthermore their potential disposition for violence. It consists of four main categories, cognitive, arousal, behavioural and anger regulation (Novaco 1975)

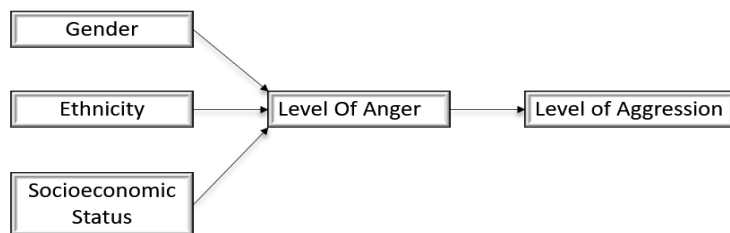


Figure 1. Conceptual framework

## 3. Methods

This section discusses the methodology used in this research study which includes study location, study design, reference population, study participants, sample size, sampling methods; and followed by data collection and analysis.

**Study Location:** The location where the study is around the University of Cyberjaya, where the students are in the healthcare field and come from various states in Malaysia. The location of the university is in a quiet, urban town.

**Study Design:** The study design executed in this research is a cross-sectional study.

**Reference Population:** Students that are currently studying in universities located in Malaysia (Boston University School of Public Health 2016).

**Study Participants:** All individuals studying at University of Cyberjaya.

### (a) Inclusion Criteria

- (i) Current student at University of Cyberjaya
- (ii) Has not graduated for over 1 year
- (iii) Studying in hybrid or online mode in University of Cyberjaya
- (iv) Fluent in English

**(b) Exclusion Criteria**

- (i) Never enrolled for any course at University of Cyberjaya
- (ii) Graduated from University of Cyberjaya for over 1 year

**Sample Size:** The sample size calculation and formula are shown in Equation (1):

$$n = \left(\frac{z}{m}\right)^2 \times P(1 - P) + 10\% \text{ nonrespondents .....Equation (1)}$$

Z score, z: 1.96

Margin error, m: 5% = 0.05

Proportion, P: 0.53 (from previous study)

$$n = (1.96 / 0.05)^2 \times 0.53 (1 - 0.53) + 10\%$$

$$n = 421.05 \sim 420$$

The sample size needed would be **420**.

**Sampling Method:** Non probability convenience sampling is employed as a sampling method where the researchers approached the most accessible participants both online and in person. This is done by distributing online questionnaires to students studying at University of Cyberjaya (UOC) in major groups for every course and reaching out to the students via the student email. The research would achieve the sample size as the questionnaire will be spread and taken part by our peers. The researchers also went to the main campus and personally approached possible participants to answer the questionnaires.

The questionnaire consists of 3 parts: Part A, Part B and Part C. Part A would be demographic data of participants and their education level. Part B would be on questions that evaluate the anger the individuals feel if placed in certain situations whereas Part C would be on questions that measure the level of aggression in the individual. The questionnaires are validated and have been mentioned by the ASEAN Conference on Psychology, Counselling, and Humanities in systematic research.

### 3.1 Data Collection and Analysis

#### 3.1.1 Data Collection Method

The data would be collected by distribution of online questionnaires which will be uploaded through Google forms. The link will be sent to the participants via student email affiliated to the university and a few social media platforms such as WhatsApp and Instagram. On a weekly basis, a reminder will be emailed to the participants. The individuals will have three weeks to complete the questionnaire on their own, with no help from the researchers. When the online distribution of questionnaires did not meet the targeted sample size, potential respondents were approached in person in the main campus of University of Cyberjaya with incentives provided upon completion of the questionnaire. Before starting the questionnaire, participants would be informed of the purpose of the research and consent will be obtained through the Google form itself. All the data collected will be stored in the university's Microsoft OneDrive for 5 years.

#### 3.1.2 Study Instruments

The three parts included in the questionnaire are Part A, B and C.

Part A

- Sociodemographic factors (e.g.: gender, age, ethnicity, education level and economic status of their parents).

Part B

- Novaco Anger Inventory, adapted from Novaco (1975).
- A simplified version that consists of 25-item with a 5-point Likert scale questionnaire which evaluates the level of anger when placed in various situations.

Part C

- Buss and Perry Aggression Questionnaire (BPAQ) by Buss and Perry (1992).
- A 29-item with 5-point Likert scale which is divided into Physical Aggression (9 items), Verbal Aggression (5 items), Anger (7 items) and Hostility (8 items) which measures the level of aggression.

#### 3.1.3 Data Analysis

Statistical analysis was performed using Jeffrey's Amazing Statistics Program (JASP), a statistical analysis software, after data had been collected. To see the association between the categorical variables, all of the data will be imported

into JASP, frequency counted, and cross-tabulated with a chi-square test. If the p value is less than 0.05, the results will be considered statistically significant.

The response rate of this survey is 94.76%. A total of 442 respondents from UOC were collected based on the inclusion and exclusion criteria (Setting Eligibility Criteria - Ora Clinical, 2017). However, there are only 398 respondents after data cleaning.

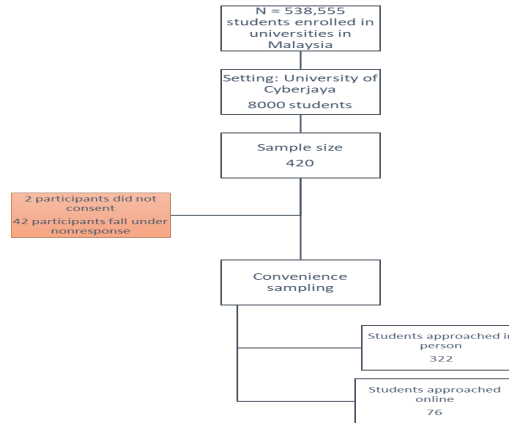


Figure 2. Sampling framework

#### 4. Data Collection

This section presents the results of the research, which includes the demographic factors of students in the University of Cyberjaya, the level of anger, the level of aggression and the association/linkages. The demographic factors of students in University of Cyberjaya are listed in Table 1 to Table 5, representing the frequencies for gender, ethnicity, household monthly income, age, and education level.

Table 1 represents the amount and percentage of male and female respondents. The percentage of female respondents is 75.63%, whereas the male respondents consisted of 24.37 out of a total of 398 respondents.

Table 1. Frequencies for gender

Gender	Frequency	Percentage (%)
Female	301	75.628
Male	97	24.372
Total	398	100.000

Table 2 reveals the frequencies and percentages of each major ethnicity among the respondents. Almost half of the participants, 49.25% to be exact, are Malay. The lowest number of respondents came from ‘Others’, with a percentage of 3.52%, where the participants are categorised in other sub-ethnicities in Malaysia.

Table 2. Frequencies for ethnicity

Ethnicity	Frequency	Percentage (%)
Malay	196	49.246
Chinese	48	12.060
Indian	119	29.899
Others	14	3.518
Noncitizen	21	5.276

Total	398	100.00
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Table 3 represents the frequencies and percentages of different categories of household monthly income. Those who earned less than RM3000 per month make up 36.43% of the total respondents in this questionnaire. There are only 20.10% of respondents with household monthly incomes of RM3000 - RM5000. This is the group with the lowest frequency among other household income groups. A majority of respondents, 43.47% of them, have household monthly incomes of at least RM5000.

Table 3. Frequencies for household monthly income

Household Monthly Income	Frequency	Percentage (%)
< RM3000	145	36.432
RM3000 - RM5000	80	20.101
> RM5001	173	43.467
Total	398	100.000

Table 4 shows the frequencies and percentages of different age groups of participants. Most of them came from the age group 18-20 years old with a percentage of 49.5%. The least number of participants is from ages 31 years old and above with a percentage of only 1.01%.

Table 4. Frequencies for age

Age	Frequency	Percentage (%)
18 - 20	197	49.498
21 - 25	189	47.487
26 - 30	8	2.01
31+	4	1.005
Total	398	100.000

Table 5 reveals the frequencies for education levels among the respondents. The highest percentage of students came from those studying for a bachelor's degree, with a value of 89.20%. However, students taking the diploma and foundation have similar percentages of 5.28% and 5.53%, respectively.

Table 5. Frequencies for education level

Education Level	Frequency	Percentage (%)
Foundation	22	5.528
Diploma	21	5.276
Degree	355	89.196
Total	398	100.000

#### **4.2 Level of Anger that Students of University of Cyberjaya Experience if Placed in Various Situations**

Table 6 lists the frequencies and percentages of each level of anger that respondents to the Novaco Anger Inventory scored. 36.94% of respondents scored low. Meanwhile, 58.29% of them scored moderate. Only 4.77% of all respondents scored high on the Novaco Anger Inventory.

Table 6. Level of anger that students of University of Cyberjaya experience if placed in various situations

Novaco Anger Inventory	Frequency	Percentage (%)
Low	147	36.935
Moderate	232	58.291
High	19	4.77
Total	398	100.000

### 4.3 The Association between Demographic Factors and the Level of Anger among Students of University of Cyberjaya Experience if Placed in Various Situations

Table 7 is divided into three parts: Part 1, 2 and 3.

Part 1: A Chi-Square Test of Independence was performed to assess the association between the gender and the level of anger among students at University of Cyberjaya. There was a significant relationship between the two variables,  $X^2(2, 398) = 6.24$ ,  $p = .044$

Part 2: A Chi-Square Test of Independence was performed to assess the association between the ethnicity and the level of anger among students of University of Cyberjaya. There was no significant relationship between the two variables,  $X^2(8, 398) = 7.77$ ,  $p = .456$

Part 3: A Chi-Square Test of Independence was performed to assess the association between the household monthly income and the level of anger among students of University of Cyberjaya. There was no significant relationship between the two variables,  $X^2(4, 398) = 3.13$ ,  $p = .537$

Table 7. The association between demographic factors and the level of anger among students of University of Cyberjaya experience if placed in various situations

Demographics Factors		Level of Anger			Total	Chi Square Value ( $X^2$ )	df	p-value
		Low	Moderate	High				
<b>Gender</b>								
Male	Percentage (%)	11.3	11.6	1.5	24.4	6.240	2	0.044
	Count	45.000	46.000	6.000	97.000			
	Expected count	35.827	56.543	4.631	97.000			
Female	Percentage (%)	25.6	46.7	3.3	75.6			
	Count	102.000	186.000	13.000	301.000			
	Expected count	111.173	175.457	14.369	301.000			
Total	Percentage (%)	36.9	58.3	4.8	100			
	Count	147.000	232.000	19.000	398.000			
	Expected count	147.000	232.000	19.000	398.000			

Table 7. Continued

Demographics Factors		Level of Anger			Total	Chi Square Value (X <sup>2</sup> )	df	p-value
		Low	Moderate	High				
<b>Ethnicity</b>								
Malay	Percentage (%)	18.8	27.4	3.0	49.2	7.772	8	0.456
	Count	75.000	109.000	12.000	196.000			
	Expected count	72.392	114.251	9.357	196.000			
Chinese	Percentage (%)	4.8	7.0	0.3	12.1			
	Count	19.000	28.000	1.000	48.000			
	Expected count	17.729	27.980	2.291	48.000			
Indian	Percentage (%)	9.0	19.4	1.5	29.9			
	Count	36.000	77.000	6.000	119.000			
	Expected count	43.952	69.367	5.681	119.000			
Others	Percentage (%)	1.5	2	0	3.5			
	Count	6.000	8.000	0	14.000			
	Expected count	5.171	8.161	0.668	14.000			
Noncitizen	Percentage (%)	2.8	2.5	0	5.3			
	Count	11.000	10.000	0	21.000			
	Expected count	7.756	12.241	1.003	21.000			
Total	Percentage (%)	36.9	58.3	4.8	100			
	Count	147.000	232.000	19.000	398.000			
	Expected count	147.000	232.000	19.000	398.000			



Table 7. Continued

Demographics Factors		Level of Anger			Total	df	p-value
		Low	Moderate	High			
<b>Household Monthly Income</b>							
< RM3000	Percentage (%)	12.3	21.6	2.5	36.4	4	0.537
	Count	49.000	86.000	10.000	145.000		
	Expected count	53.555	84.523	6.922	145.000		
RM3001-RM5000	Percentage (%)	8.0	11.6	0.5	20.10		
	Count	32.000	46.000	2.000	80.000		
	Expected count	29.548	46.633	3.819	80.000		
> RM5001	Percentage (%)	16.6	25.1	1.8	43.5		
	Count	66.000	100.000	7.000	173.000		
	Expected count	63.897	100.844	8.259	173.000		
Total	Percentage (%)	<b>36.9</b>	<b>58.3</b>	<b>4.8</b>	<b>100</b>		
	Count	<b>147.000</b>	<b>232.000</b>	<b>19.000</b>	<b>398.000</b>		
	Expected count	<b>147.000</b>	<b>232.000</b>	<b>19.000</b>	<b>398.000</b>		

#### 4.4 Buss and Perry Aggression Scale Results of Students in University of Cyberjaya

The Buss and Perry Aggression Scale results of students in University of Cyberjaya are indicated in Table 8.

Table 8. Buss and Perry Aggression Scale results of students in University of Cyberjaya

Aggression Scale	Mean, $\bar{x}$	Mode	Std. Deviation, S	Range	Minimum	Maximum
Score for Physical Aggression	22.405	16.000	7.296	36.000	9.000	45.000
Score for Verbal Aggression	13.761	15.000	3.927	18.000	5.000	23.000
Score for Anger	18.987	15.000	5.509	28.000	7.000	35.000
Score for Hostility	23.384	24.000	6.547	32.000	8.000	40.000
<b>Score for Buss Perry</b>	<b>78.538</b>	<b>87.000</b>	<b>20.241</b>	<b>113.000</b>	<b>29.000</b>	<b>142.000</b>

#### 4.5 Level of Aggression of Students in University of Cyberjaya

The Table 8 shown in Section 4.4 represents the descriptive data on Buss and Perry Scale results of students in University of Cyberjaya. Buss and Perry Scale is divided into four categories;

For physical aggression score, the mean score is 22.4 (StDev: 7.3), where the minimum possible score is 9 and the maximum score in that category is 45. The range of score is 36. The mode in the category of physical aggression is 16.

For verbal aggression score, the mean score is 13.76 (StDev: 3.3). The minimum score is 5 and the maximum score is 23. The range of score is 18. The mode in this category is 15.

For anger score, the mean score is 18.99 (StDev: 5.5). The minimum score is 7 and the maximum score is 35. The range of possible scores is 28. The mode or the most frequent score achieved by respondents is 15.

For hostility score, the mean is 23.38 (StDev: 6.55). The minimum score is 8 and the maximum score is 40, making its range to be 32. The mode is 24.

It has been found that hostility has the highest mean score (Mean = 23.384) among other measures of aggression. Verbal aggression has the lowest mean score (Mean = 13.761).

Buss and Perry's total score have a mean of 78.54 (StDev: 20.24). The range of score is 113, where the minimum score is 29 and the maximum score is 142. The most frequent score achieved by respondents is 87.

Table 9 lists the level of aggression of students in University of Cyberjaya. 58.54% of the students scored Moderate in Buss and Perry Aggression Scale. Meanwhile, only 11.06% of the respondents scored High in the Buss and Perry questionnaire.

Table 9. Level of aggression of students in University of Cyberjaya

Buss and Perry Aggression Scale	Frequency	Percent (%)
Low	125	31.407
Moderate	229	57.538
High	44	11.055
Total	398	100.000

#### 4.6 Association between the Level of Aggression and the Level of Anger among Students of University of Cyberjaya Experience if Placed in Various Situations

In Table 10, a Chi-Square Test of Independence was performed to assess the association between the level of aggression and the level of anger among students at University of Cyberjaya. There was a significant relationship between the two variables,  $X^2(4, 398) = 57.73$ ,

$P < .001$ , with 4 degrees of freedom. In other words, the level of anger is not independent of the level of aggression.

In order to explore the nature of this association, the expected and observed frequencies for each level of aggression and anger must be observed. The expected frequencies are based on the assumption of independence between the two variables. The observed frequencies are the actual counts obtained from the data. By looking at the table, there are more low levels of aggression among those with low levels of anger and more moderate levels of aggression among those with moderate levels of anger. There are also higher levels of aggression among those with high levels of anger. In conclusion, the results of the chi-square test indicate that there is a significant association between the level of aggression and the level of anger. This finding could be useful for understanding and addressing aggression in different contexts.

Table 10. Association between the level of aggression and the level of anger among students of University of Cyberjaya experience if placed in various situations

Level of Aggression		Level of anger			TOTAL	Chi Square value	df	p-value
		Low	Moderate	High				
Low	Count	68.000	53.000	4.000	125.000	57.732	4	<0.001
	Expected count	46.168	72.864	5.967	125.000			

Moderate	Count	77.000	146.000	6.000	229.000			
	Expected count	84.580	133.487	10.932	229.000			
High	Count	2.000	33.000	9.000	44.000			
	Expected count	16.251	25.648	2.101	44.000			
TOTAL	Count	147.000	232.000	19.000	398.000			
	Expected count	147.000	232.000	19.000	398.000			

## 5. Results and Discussion

### 5.1 Level of Anger that Students of UOC Experience

The result of the study shows that of the 398 students of University of Cyberjaya (UOC), only a small percentage of 4.77% of students were found to score high in the Novaco Anger Inventory survey. Conversely, 36.94% scored low, while most of the students at 58.29% scored moderate. This shows that in general, most students display a moderate level of anger when placed in different situations. This finding is supported by the study conducted by Prabhu et al. (2016c) which showed that when it comes to repressing and accepting anger, 62% of students gave a median score of “occasionally” and “often”. It is also supported by the study conducted by Hamdan-Mansour (2012b) which revealed that the majority of students have a moderate degree of anger. A significant amount of 36.94% also showed low levels of anger, which may bring up the assumption that students in general tend to be able to control their anger well or tend to underrate their anger levels in these situations. Although there are some students in the high anger score category, the low percentage does not show any early indications of students in an academic setting being more susceptible to anger than non-students. The number of students scoring high and low are also consistent with the research by Hamdan-Mansour (2012c) and Prabhu et al. (2016d).

### 5.2 Sociodemographic Factors and the Level of Anger among UOC Students

The association between the sociodemographic factors and level of anger among students at University of Cyberjaya experience if placed in various situations has been tested using a Chi Square test and tabulated in Table 7. In this study, there is a significant association between gender and the level of anger among students at University of Cyberjaya if placed in various situations ( $p=0.044$ ). These results were supported by a cross sectional study conducted by Tusimin et al. (2018b) which shows a significant association between gender and intensity of anger ( $p=0.015$ ), trait anger levels ( $p=0.003$ ) and anger expression ( $p=0.015$ ). However, the majority of both male (11.6%) and female (46.7%) unveiled moderate levels of anger followed by low and high levels of anger. However, in this study, it has been found that there are more female students (3.3%) who scored high levels of anger as compared to male students (1.5%). This finding is contradictory from a cross-sectional survey by using the STAXI-2 C/A ( $\alpha = 0.85$ ) by Ng & Khor (2018), where the mean scores of Anger Expression In (AX-I) were higher among male students ( $M = 10.11$ ,  $StdDev = 2.45$ ) as compared to female students ( $M = 8.80$ ,  $StdDev = 2.34$ ),  $t(98) = 2.73$ ,  $p < .05$ . However, the findings in our study may have been affected by the fact that there were three times more female respondents than male respondents. There may have been inadequate samples from male students in UOC.

With respect to ethnicity, many Malays (27.4%), Chinese (7.0%), Indians (19.4%) and Others (2%) displayed moderate levels of anger at 58.3% using the Novaco Anger Inventory whereas Noncitizens recorded 2.5% for moderate level of anger and 2.8% for low level of anger. Therefore, there is no significant association between the two variables ( $p=0.456$ ). This finding is consistent with a study by Mohd Noor, et al. (2012) where there were no significant ethnic differences in the student’s anger control and anger expression styles. On the other hand, Abdul Razak et al., (2017a) showed Malays reported significantly higher levels of anger-out compared to Chinese and Indians. However, it is to be noted that there were no significant ethnic differences in anger control (Abdul Razak et al., 2017b). These studies suggest that cultural factors may influence the relationship between ethnicity and anger expression among young adults and adolescents in Malaysia (Abdul Razak et al., 2017c)

Besides ethnicity, household monthly income was also one of our sociodemographic factors that was tested. Most of the respondents with different household monthly income recorded moderate levels of anger the most. However, there

was no significant association between household monthly income and the level of anger among students of University of Cyberjaya if placed in various situations as well ( $p=.537$ ). However, a study carried out by Dirzytė et al. (2016) resulted in a significant effect of household income per month on negative emotional states such as anger ( $p=.045$ ). Similarly, socio-economic status has a significant effect on anger ( $p=.022$ ) whereby respondents from low socio-economic status expressed more anger than the middle and high socio-economic status respondents (Rahman et al., 2014).

### **5.3 Subscales of BPAQ and Level of Aggression among Students in UOC**

The BPAQ was able to find scores of each subscale for aggression, such as physical aggression, verbal aggression, anger and hostility. This is represented in Table 8. It has been found that the participants scored the highest mean (23.38) in hostility subscale. Verbal aggression has the lowest mean score (mean=13.761). From this, it can be concluded that the participants are more likely to use hostility as a form of aggression. This is consistent with the findings from Nasir and Ghani (2014) where hostility or staying away from the situation is the most preferred way of expressing aggression by the participants (33.2%).

In total, the mean score for Buss and Perry Aggression Scale is 78.538, which falls under the 'Moderate' category. This means that on average, the participants show a moderate level of aggression. More than half (57.54%) of University of Cyberjaya students have a moderate level of aggression. This is similar to a previous study where up to 70.43% of the participants in a study conducted to explore the impacts of level of aggression on the academic performance among students (Khurshid et al., 2017).

### **5.4 Level of Aggression and Level of Anger**

The association between level of aggression and the Level of Anger among students of University of Cyberjaya experience if placed in various situations has been tested using a chi square test and tabulated in table 6. According to our study, there is a significant association between the level of aggression and the level of anger among students of University of Cyberjaya experience if placed in various situations ( $p < .001$ ). These results are supported by research done by Ayub et al. (2020) which shows that there was a significantly positive relationship between anger and aggression ( $r = 0.741, p = 0.000$ ). Furthermore, there was also a positive relationship between anger and anger aggression ( $r = 0.635, p = 0.000$ ), physical aggression ( $r = 0.699, p = 0.000$ ), hostility aggression ( $r = 0.615, p = 0.000$ ), and verbal aggression ( $r = 0.464, p = 0.000$ ). The results of the study showed a significant positive correlation between anger and aggression among the participants. Specifically, those who reported higher levels of anger were more likely to exhibit aggressive behaviour.

## **6. Conclusion**

The research is targeted to reveal different expressions and levels of anger when students are put in diverse settings, based on sociodemographic variables. Appropriate anger control and expression are crucial, especially in students with excessive aggression due to anger can affect interpersonal relationships, academic grades or even extracurricular involvement. From the result of the analysis, it can be deduced that there is no association between the ethnicity, economic status and the level of anger students of UOC experience when placed in various situations. While at the same time, the result shows there is an association between the gender, sociodemographic factors as well as aggression and the level of anger students of UOC experience when placed in various situations. The majority prefer hostility or staying away from the situation, this is the most preferred way of expressing aggression by the UOC students. This may bring up the assumption that students in general tend to be able to control their anger well or tend to underrate their anger at any level in any situation.

A more comprehensive review of the aggression level using the Buss and Perry Aggression Questionnaire will reveal the various ways that university students express their anger and how that expression is associated with sociodemographic factors. Addressing potential confounding variables and conducting additional studies to account for them will help to overcome the limitations of this study. Additionally, stress, personality traits, cultural differences, and prior experiences with anger can be investigated in a cross-sectional study to help understand the underlying causes of anger expression and develop effective intervention strategies. On the other hand, it is important for studies to investigate the relationship between anger expression and its effects on university students which includes academic performance, relationships with peers, and mental health. Finally, by conducting qualitative interviews on selected groups, efficient approaches such as counselling, anger management training, and mindfulness-based interventions should be developed to manage the anger of university students. Anger management skills have been proven to be effective in reducing total aggression, aggressive behaviours and thoughts (Valizadeh et al. 2010).

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**Kirsharupini Gopalakrishnan** is a fourth-year medical student at the University of Cyberjaya, Malaysia. Previously, she completed a Foundation in Science at the University of Cyberjaya. Prior to that, she studied at Victoria Institution and earned the Malaysian Higher Certificate of Education. She graduated from Orkid Desa Secondary School with the Certificate of Malaysian Education. Her working experience revolves around customer service, where she used to be a customer relations officer for TGV Cinemas, a service crew member at The Loaf Bakery Café, and a customer service representative for Foodpanda Malaysia. In secondary school, her leadership and extracurricular

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**Abu Huzaifah Muhamad Sharman** is a fourth-year medical student at the University of Cyberjaya, Malaysia. He completed the Foundation in Science programme at the University of Cyberjaya with a CGPA of 3.57. Prior to that, he went to MARA College in Banting, Malaysia, where he completed the International Baccalaureate Diploma with 30 points. He graduated from Kubang Pasu Secondary School, Kedah, Malaysia, with the Certificate of Malaysian Education in 2014. He is currently an active member of the UOC Medical Check-Up team. His previous extracurricular involvements include being a representative for KASUKMA table tennis, a treasurer for 'Look in the Eyes' Project, and a volunteer at Free Market Serdang.

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