

## ORIGINAL ARTICLE

# The Relationship of Body Image Perception, Self-esteem and Academic Performance in University of Cyberjaya (UoC) Undergraduates

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## ABSTRACT

**Introduction:** Body image satisfaction is vital as once the person is content, they'll be happier, confident, motivated, and can have the correct perspective towards success. Studies conjointly showed that disadvantaged self-perception might bring down self-appraisals, therefore negatively influencing educational performances. Therefore, this study aims to determine the correlation of body image, self-esteem, and academic performance amongst University of Cyberjaya (UoC) students. **Methods:** A cross-sectional study was done by using simple random sampling. The respondents that met the criteria's received self-administered questionnaires online. The data was analysed using SPSS version 23. **Results:** From the findings, it is discovered that male students had more satisfaction (53.6%) compared to females (37.9%). Females showed higher academic performances (31.7%) compared to males (21.4%). There is an important association between body image perception and self-esteem towards academic performances, however, there is no association among self-esteem and body image perception. **Conclusion:** It can be concluded that most students with a higher body image satisfaction had higher self-esteem and achieved a higher academic performance.

**Keywords:** Body image perception, Self-esteem, Academic performance, Gender, Malaysia

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## INTRODUCTION

Today's society, body shaming is a serious issue affecting both male and female around the globe. Body shaming is defined as "the act of insulting a person's body type by expressing or insulting judgments about their body form and size" by the Oxford Learner's Dictionary (1). People are now being criticized due to their physical appearance in the aspect of their shape, size and colour. Body-shaming affects a remarkable 94% of female and 84% of male, as per bullyingstatistics.org (2).

Body image is an individual's self-perceptions on his or her own physical appearance, leading to either satisfaction or dissatisfaction (3). A favourable body image or healthy body image is distinguished by feasible perception and satisfaction of the person's size and shape. In contrast, a body dissatisfaction or

unhealthy body image is characterised by embarrassment, unhappiness, or nervousness about how the individual appears, and people that fall into this category may not have a clear understanding of their body form (4).

Teenagers are prone to body image issues due to fast physical development and bone structure changes. University students are believed to be concerned about one's own self-perception regarding body image impressions since they wanted to attain or keep a healthy weight figure. Body image satisfaction is important as when a person is pleased, he is happy, more comfortable, focused, and has the correct attitude toward success. Having body image disturbances are significant because they lead to a lot of physical, mental and social problems.

Deprived self-perception can lead to lower self-appraisals, which can have a detrimental impact on academic performances (5).

Surveys show majority of people are unhappy with their look. Women, on average, exhibit higher degrees

of unhappiness with their bodies than males, although sexuality and age, as well as psychological factors such as self-esteem and the internalization of body ideals, impact on these gender differences. Women usually seek to lose some weight, but males are fairly wanted between to lose or gain weight and be more muscular at all ages. Body dissatisfaction is significant as a danger to health, well-being, and also because it is associated with various health-related behaviours, some that can present as significant health risks. The twenty-first century has seen that there is an increase in academic study or research on perception of body image carried out by researchers from a range of disciplines worldwide who are trying to understand these issues (6).

Just like with body image concerns, self-esteem has been shown to be an essential influence in academic accomplishment. Past research on the correlation between self-esteem and academic success has found that, despite disparities in academic self-evaluation, students' self-representations are unaffected by their grades at school (7).

There has been few research on body image perception in Malaysia, particularly among undergraduates. Despite the fact that a study conducted at Universiti Kebangsaan Malaysia revealed that self-esteem is one of the most important elements influencing a person's student achievement, it is less important than other contributing elements such as stress and body issues. The findings of this study revealed a favourable connection relation between self-esteem and Cumulative Grade Point Average (CGPA) of second-year university students from the faculties of medicine and health science. (8). Therefore, this research was conducted to analyse body image perception, and self-esteem to the academic performances among undergraduate students at University of Cyberjaya.

## MATERIALS AND METHODS

### Study location

The study was conducted at University of Cyberjaya, Cyberjaya, Selangor. The university is comprised of multiple faculties with numerous students of various ethnicities, mainly consisting Malays followed by Chinese, Indians and others.

### Type of study

Cross sectional study.

### Duration of study

The study was conducted in ten months duration from 19th September 2020, and was completed on the 3<sup>rd</sup> July 2021.

### Sample Population

The respondents that were involved in this questionnaire are the students from University of Cyberjaya. The inclusion criteria were; age 19 to 24 years old, male or female degree students, students who have at least finished one semester, and had consented to participate the study. The exclusion criteria were; has chronic diseases, students who haven't finished a semester, and postgraduate students. Non respondent criteria included not voluntary or unable to give consent.

### Sampling Frame

All students in University of Cyberjaya.

### Sampling Unit

Individual who had fulfilled all the inclusion and exclusion criteria from the sampling frame of University of Cyberjaya and are also voluntarily to be involved in the questionnaire.

### Sample Size

Formula to calculate sample size,  $n$ . With  $p$  as anticipated population proportion from previous study,  $Z$  as confidence level 95%,  $m$  as margin of error, and non-respondent set at 10%.

$$n = \left(\frac{Z}{m}\right)^2 * p(1 - p)$$

$$p = 0.372, Z (1-\alpha/2) CI of 95\% = 1.96, m = 0.07 \\ = 183.46 = 183$$

The maximum sample size, including the 10% of non-responders, is 201.

### Sampling method

Simple random sampling where undergraduate students from various faculty in University of Cyberjaya,  $n=3074$  that fulfilled the criteria (inclusion and exclusion) and also volunteered to be involved, were given a questionnaire where instructions are given for all the different sections. All participants received the same body image measures, and current CGPA academic performance were measured. And finally, data collection and statistical analysis were done.

The data was filtered from any repetition of the same responders by obtaining their matric card numbers as their identification.

### Approval

The written form of consent of all respondents were obtained, which had contained an explanation of the nature and purpose of the study. All the respondents had the choice whether or not they want to take part in this study. The respondents were assured of the anonymity of the collected information. The

information plus with research data were ensured confidentiality and were not given to any third party. The data and information of the research were only accessible to the students involve as researchers as listed in the front page and the supervisor, Dr. Wahid Abdullah Salem Wajih.

Research data will be saved up to ten years in the university record upon completing the study. Documents such as consent forms, printouts that contains personal identifying information (PII) were stored securely and handled only by authorized staff members as a confidential document.

### **Instrument**

Online questionnaires which included three parts; A - Sociodemographic data including respondent's CGPA, B - Body Shape Questions (BSQ -16a), and C - Rosenberg Self-Esteem Scale. The questionnaires were disposed of upon the completion of this study and was not given to any other party for any use other than this study.

### **Questionnaire**

#### **PART A** (Sociodemographic data)

Included sociodemographic data like age, gender, course of study, year of study, BMI, height, self-evaluated weight, and current/Latest CGPA.

#### **PART B** (Body Shape Questionnaire)

Body Shape Questionnaire (BSQ-16a) contained 16 components with inner consistency of alpha Cronbach's coefficient values (0.93-0.97). Feedback was graded using a 6-point Likert scale; each of them is counted from "Never" which had a scoring of 1 to "Always" which had a scoring of 6. The score was created by adding all of these 16 components. The total is the score for all 16 components (16-96). People who were more worried about their weight and shape is likely to have higher BSQ total.

#### **PART C** (Rosenberg Self-Esteem Scale)

This contained 10 components which contained sentences such as "I am content with myself" or "I have many of good traits". Respondents counted their self-esteem with a 4-point Likert scale (strongly agree, agree, disagree, and strongly disagree). The internal consistency was high,  $\alpha = 0.89$ . Subjects with higher scores showed higher self-esteem.

### **Data analysis**

SPSS version 23 was used for statistical analysis. Descriptive variables were shown in numbers and also in percentages. To decide the relationship between categorical variables, Pearson's chi-square test was done. Continuous variables were shown as means with 95% CI and SD.

To decide the association between continuous variables, Pearson correlation was done. To study the means of independent continuous variables, independent sample t-test was done. Multivariate analysis was done by means of multiple logistic regressions. Result of this was shown as odds ratio and 95% CI. What is treated to be statistically significant is a two-sided p value less than 0.05 ( $\alpha < 0.05$ ).

## **RESULT**

### **General respondents**

The response rate was 100% with 201 respondents.

### **Distribution of study respondents by sociodemographic factors**

Majority of the respondents are females (72.1%), compared to males (27.9%). Most of the respondents are 22 years old (32.4%), while the fewest are 19 years old (7.0%). In terms of academic performance, majority of the respondents are average (50.7%), while fewer are below average (20.4%). In terms of BMI, majority of the respondents are within normal range (69.1%), while fewer are obese (7.5%).

### **Prevalence of body image perception by gender**

Males showed a higher prevalence of satisfying body image perception (53.6%) compared to females (37.9%). Females showed a higher prevalence of dissatisfying body image perception (62.1%) compared to males (46.4%). P-value is 0.044, so there is significant association between body image perception and gender as the  $p < 0.05$ .

### **Prevalence of body image perception by BMI**

Underweight respondents showed a higher prevalence of satisfying body image perception (46.4%). Overweight respondents showed a higher prevalence of dissatisfying body image perception (68.4%). P-value is 0.761, so there is no significant association between body image perception and BMI as the  $p > 0.05$ .

### **Prevalence of academic performance by gender**

Females showed a higher prevalence in academic performances at above average (31.7%) compared to males (21.4%). P-value is 0.133, so there is no substantial relationship among academic performance and gender as the  $p > 0.05$ .

### **Prevalence of academic performance by BMI**

Obese respondents showed a higher prevalence in academic performances at above average (46.7%), compared to overweight (26.3%), normal (28.8), underweight (21.4). P-value is 0.243, so there is no substantial relationship among academic performance and BMI as the  $p > 0.05$ .

**Table I : Distribution of study respondents by sociodemographic factors**

SOCIODEMOGRAPHIC DATA	FREQUENCY (n)	PERCENTAGE (%)
<b>GENDER</b>		
Male	56	27.9
Female	145	72.1
<b>AGE</b>		
19 years old	14	7.0
20 years old	26	12.9
21 years old	25	12.4
22 years old	65	32.4
23 years old	48	23.9
24 years old	23	11.4
<b>CGPA</b>		
Below average (<3.0)	41	20.4
Average (3.0 – 3.5)	102	50.7
Above average (>3.5)	58	28.9
<b>BMI</b>		
Underweight (<18.5)	28	13.9
Normal (18-24.9)	139	69.1
Overweight (25-29.9)	19	9.5
Obese (>30)	15	7.5

**Table II : Prevalence of body image perception by gender**

Body image perception	Gender		P value
	Male	Female	
Satisfying, n (%)	30 (53.6)	55 (37.9)	0.044
Dissatisfying, n (%)	26 (46.4)	90 (62.1)	
Total, n (%)	56 (100)	145 (100)	

Significant P value less than 0.05.

**Association of self-esteem and body image perception**

The association between self-esteem and body image perception was determined using Pearson Chi-square test. The P value is more than 0.05, which showed that it is statistically insignificant. We fail to reject the null hypothesis. Hence there is no association present.

**Association of self-esteem and academic performance**

Pearson Chi-Square Test decided the relation between self-esteem and academic performances amongst the respondents. The P value is less than 0.05, which showed that it is statistically significant. We reject the null hypothesis. Hence there is an important association among self-esteem and academic performances.

**Table III : Prevalence of body image perception by BMI**

Body image perception	BMI				P value
	Under-weight	Normal	Over-weight	Obese	
Satisfying, n (%)	13 (46.4)	60 (43.2)	6 (31.6)	6 (40.0)	0.761
Dissatisfying, n (%)	15 (53.6)	79 (56.4)	13 (68.4)	9 (60.0)	
Total, n (%)	28 (100)	139 (100)	19 (100)	15 (100)	

Significant P value less than 0.05.

**Table IV : Prevalence of academic performance by gender**

Academic performances	Gender		P value
	Male	Female	
Below average (CGPA<3.0), n (%)	16 (28.6)	25 (17.2)	0.133
Average (CGPA 3.0-3.5), n (%)	28 (50.0)	74 (51.0)	
Above average (CGPA>3.0), n (%)	12 (21.4)	46 (31.7)	
Total, n (%)	56 (100)	145 (100)	

Significant P value less than 0.05.

**Table V : Prevalence of academic performance by BMI**

Academic performances	BMI				P value
	Under-weight	Normal	Over-weight	Obese	
Below average (CGPA<3.0), n (%)	5 (17.9)	33 (23.7)	1 (5.3)	2 (13.3)	0.243
Average (CGPA 3.0-3.5), n (%)	17 (60.7)	66 (47.5)	13 (68.4)	6 (40.0)	
Above average (CGPA>3.0), n (%)	6 (21.4)	40 (28.8)	5 (26.3)	7 (46.7)	
Total, n (%)	28 (100)	139 (100)	19 (100)	15 (100)	

Significant P value less than 0.05.

**Association between body image perception and academic performance**

This study showed that there is a significant relationship among body image perception and academic performance. The P value is less than 0.05, which showed that the data is statistically significant.

**DISCUSSION**

This study has found that the prevalence of body dissatisfaction among undergraduate students is 57.7% with female students (62.1%) compared to male

**Table VI : Association of self-esteem and body image perception**

Self-esteem	Body image perception		Total n (%)	P value	Chi Square (df)
	Satisfying	Dissatisfying			
Low, n (%)	8 (29.6)	19 (70.4)	27 (100)	0.152	2.048 (1)
Normal, n (%)	77 (44.3)	97 (55.7)	174 (100)		

Significant P value less than 0.05.

**Table VII: Association of self-esteem and academic performance**

Self-esteem	Academic performances			Total n (%)	P value	Chi square value (df)
	Below average (CGPA<3.0), n (%)	Average (CGPA 3.0-3.5), n (%)	Above average (CGPA>3.5), n (%)			
Low, n (%)	12 (44.4)	9 (33.3)	6 (22.2)	27 (100)	0.004	11.181 (2)
Normal, n (%)	29 (16.7)	93 (53.4)	52 (29.9)	174 (100)		

Significant P value less than 0.05.

**Table VIII : Association between body image perception and academic performance**

Body image perception	Academic performances			Total n (%)	P value	Chi square value (df)
	Below average (CGPA<3.0), n (%)	Average (CGPA 3.0-3.5), n (%)	Above average (CGPA>3.5), n (%)			
Satisfying, n (%)	12 (14.1)	34 (40.0)	39 (45.9)	85 (100)	<0.001	20.997 (2)
Dissatisfying, n (%)	29 (25.0)	68 (58.6)	19 (16.4)	116 (100)		

students (46.4%) being dissatisfied with their body which is consistent with a study done in Malaysia by (9) focusing on the issue of body dissatisfaction among undergraduate students with the result obtained showing that female students (76.9%) were more dissatisfied with their body than male students (76.5%). It is also in accordance with a study from (10), and it is believed that men compared to women tend to value their appearance less and have relatively higher levels of body appreciation.

To further elaborate on body image dissatisfaction in regards to BMI, previous study showed that underweight respondents have a higher prevalence of dissatisfying body image perception (92.9%), however the p-value is 0.713 which signifies that the data is insignificant (17). This study showed that overweight respondents showed a higher prevalence of dissatisfying body image perception (68.4%), and p-value also showed no significant association between body image perception and BMI. This is most probably due to the point of determination of a person's satisfaction or dissatisfaction in their own body is more towards how they perceive by comparing their shape, size, and features to their ideal type, instead of the actual body mass.

Previous study showed that obese respondents had the highest prevalence of academic performance at above average (39.34%), but p-value showed no significance (18). This study also found that obese respondents showed a higher prevalence in academic performances at above average (46.7%), and p-value showed no substantial relationship among academic performance and BMI. This is most probably due to other factors like academic background, overall attitude towards studying, that played a more significant role in influencing the academic performance instead of BMI.

Results also showed that female students (31.7%) compared to male students (21.4%) has high prevalence of high academic performance with no significant association between academic performance by gender ( $p>0.05$ ) agreeing with a descriptive analysis of students' CGPA done in Pahang, Malaysia (11), which comprised of 805 (46.3%) male students and 932 (53.7%) female students' data who had enrolled in the bachelor programme, obtained from cohorts done in the year 2011, 2012 and 2013. The female and male students have a median entry CGPA of 3.17 and 3.09 respectively. This concluded that there was no significant difference in CGPA results by gender.

Another study supporting our finding was done (12) comprising of 3421 first year students' data in Perlis, Malaysia, (z-score = 0.41, 1.18, 1.69 respectively) value is less than z-critical = 1.96. Thus, yielding the conclusion there are no significant differences in achievement among gender. This study concluded that other factors like academic background, overall attitude towards studying, played a more significant role in influencing the academic performance instead of only gender.

Furthermore, it is reflected in the study that those students who were appreciative or feel well satisfied with their physical presentation of their body have better academic performances (45.9%) compared to those who are dissatisfied with their body image (16.4%) with  $p > 0.05$  similar to a study done in Portugal (13), with a sample size of 1037 males and 2653 females university students. The result obtained had shown that body image satisfaction had a positive correlation with medium range total effect on academic achievement ( $p$ -value = 0.01). The result concluded the relevance of body image influenced in academic achievement. However, it is inconsistent with a study done in Pakistan (14) among undergraduates towards correlating body image and its impact on academic achievements as the conclusive findings supported the high-grade achievers (CGPA  $> 3.5$ ) were less influence or distressed of their body image as compared to medium (CGPA 3.0-3.5) and lower grade achievers (CGPA  $< 3.0$ ). The result of the study clarifies body image affects academic performances due to the students who prioritise more on their own body image so much until they neglect their studies that will in turn affect their academic performance.

Besides that, in agreement with (8), a study among university students in Malaysia done for the purpose of examining the relationship between self-esteem and the students' academic performance among the second year undergraduates had found that, association between self-esteem and academic performance is well established with results presented that students with higher self-esteem will project a better result in their academic ( $p < 0.05$ ) similarly found in our study that student with high self-esteem (29.2%) have higher academic performances compared to those with low self-esteem (22.2%) with  $p < 0.05$ . Another study supporting our finding was done among university students in Pakistan where the individuals involved were administered Rosenberg Self-Esteem Scale and Academic Performance Rating Scale to evaluate their self-esteem and academic performance status. It was proven that there exist a significant establishment ( $r = 0.879$ ,  $p < 0.01$ ) between self-esteem and academic performance (15). This study shows significant association between self-esteem and academic performance ( $p$ -value 0.004). This is because self-esteem greatly affects academic performance

by lowering their confidence thus limiting their involvement in studies or educational activities.

However, there is no relevant association between self-esteem and body image perception with  $p$  value of 0.152 and it is not consistent with a cross-sectional study that had been done to test the existence of a correlation between self-esteem, BMI and body image unsatisfactory, as subjective factors among university students based on their inclusion criteria which includes being young, female and Romanian (16) as they found that self-esteem and body image unsatisfactory were significantly correlated with  $p < 0.05$ . There was a statistically relevant relationship between BMI and body image unsatisfactory ( $r$  (158) = 0.56,  $p < 0.05$ ). Based on the statistically proven data which showed significant relevancy of the relationship between self-esteem, body image dissatisfaction and BMI, it can be further summarised that self-esteem has a better correlation with body image (subjective parameter) than with objective and relatively stable measurements such as BMI (16). The results of the study are probably due to the sample size in the targeted data collection being smaller as compared to other studies that had been done.

## CONCLUSION

In conclusion, the results this study have shown significant findings in terms of association of body image perception and self-esteem towards a student's academic performance which are consistent to several published studies regarding the same topic. However, the only exception being the correlation between self-esteem and body image perception itself, showing insignificant findings which contradicts to some previous studies' conclusion.

Further studies can still be conducted to elaborate on its association in regards to time and evaluating other factors that may influence the final outcome. This is due to several limitations in this study such as the usage of a cross-sectional study design, process of data collection was done through an online questionnaire and lastly, the large time gap between the data assessment and participants' latest academic performance (CGPA) was not considered in the analysis thus allowing the possibilities of confounders influencing the results.

All in all, this study definitely shed some light onto how self-esteem and body image perception can influence an individual's academic performance. As we all know, higher education does not only comprise of written exams, it also includes a series of presentations and group-work which requires a lot of self-esteem in order to succeed. Therefore, this study was able to instil awareness on the importance of a healthy body image perception including a

better overall self-esteem level to achieve higher performance in academic thus promoting better countermeasures and improvements to fully support such findings in a better student environment.

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