

Impact of Body Weight on Self-Esteem among Undergraduate Young Adult Students of Doctor of Physiotherapy, Karachi

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Author's Contribution

^{1,5} Conception of study

¹ Experimentation/Study conduction

^{3,5} Analysis/Interpretation/Discussion

² Manuscript Writing

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Abstract

Objective: To perceive contingency of low self-esteem associated with relation to the body weight among young adult students of Doctor of Physiotherapy (DPT), Karachi.

Materials & Methods: The research was among young adult understudies of the two sexes (boys and girls) of Doctor of Physiotherapy on both campuses of IPMR of Dow University of Health Sciences (DUHS), Karachi. Concluded an overview through the questionnaire (Rosenberg Self-Esteem Scale) according to the sample size of 298, computed through online open EPI programming. The survey was acknowledged globally and it was a standardized questionnaire. The data was assembled by figuring the BMI among body weight understudies (DPT) and checking the level of self-esteem by Rosenberg Self-Esteem Scale. Data analysis was performed on SPSS version 22.0. The data for this study was obtained in both numbers as well as percentages. The survey was conducted from January 2019 to February 2019.

Results: Normal weight was adjusted to 18.50 till 24.90 – a total of 81 respondents, Overweight was adjusted to 25.00 till 29.90 of 35 respondents, and the obese category was adjusted to 30.00 or more a total of 17 respondents were adjudged to be in this category as per weigh ranges BMI. After analyzing the Chi-Square tabulation, it was found that the highest self-esteem was found in the normal weight BMI category respondents followed by the overweight category, and the lowest self-esteem was found in the obese category. As the table shows that girls have more self-esteem as compared to the boys, although the girls' respondents are more so than the boys' respondents.

Conclusions: It has been concluded that the proportion of the highest self-esteem was found in the normal weight BMI category respondents followed by the overweight category and the lowest self-esteem was found in the obese category.

Keywords: BMI, Stress, Obesity, Body image, Depression, and Self-esteem.

Introduction

Globesity is a term used to describe the major public health problem of obesity and overweight people in both the developing and developed world. It can be considered a pandemic. For the last 20 years in developing countries, the obesity rates have tripled to show a prevalence of 2-10% overall and 10-25% in adults. According to World Health Organization (WHO), Pakistan has around 25.5% of women who are over-weight (BMI \geq 25) and 3.6% who are obese (BMI \geq 30). While the over-weight and obese men in Pakistan are around 18.8% and 1% respectively.¹

The physiologic, economic, and psychosocial consequences of obesity have significant implications for the well-being and health of individuals and the general population.² Body image may be defined as a person's perception and attitude which includes a person's feelings, thoughts, or behavior regarding their own body and appearance.³ Individuals with extreme weight are more probable vulnerable to mental morbidity; self-announced inability and decreased personal satisfaction.⁴ Self-perception includes a person's body-related self-observations and self-mentalities, and is connected to self-esteem, among grown-ups, body fulfillment has been related to satisfaction with individual cooperation⁵⁻⁷ and generally speaking life enjoyment⁸, sound dietary decisions, and physical action execution.⁹

Research to date has indicated that body disappointment in females is a risk factor for the negative impacts, especially in the first two years of adolescence.¹⁰⁻¹¹ Highly Concerned about body weight has been turned into a disturbance in many social systems, especially among girls. The devastating response among the productive changes related to puberty tends to move females encourage a long way as a society and social communities prompt the conventional marking to lean body instead of regular bodyweight precisely vary to particular body form.¹²⁻¹³ Furthermore, poor self-esteem is also linked with concerns about body image. It increases vulnerability in young females and males due to social surrounding stresses, especially in the media which portrays slim females and muscular males. This can progress to body dissatisfaction over time.¹⁴ The health belief model also suggests that susceptibility to disease and perception of weight help with behavioral change intervention.¹⁵ Over-weight and obese adolescents show less interest in physical activities, as well as their attitude towards it, is less positive compared to normal weight people, to make it more amenable physical

activity programs should include exercises that are much more attractive to reverse this situation.¹⁶ Another study have been indicated in their survey that obesity and physical activity has been the main cause of unhealthy image.¹⁷⁻¹⁹ Low self-esteem is relatively well established, although a non-specific risk factor for eating disorders.²⁰

Over-impression of weight among these young is cross-sectionally connected with lower self-esteem.²¹ Nonetheless; weight loss can help in reducing over-weight-related risk. Population with teenage to young adult aged group obesity are at higher risk of some serious medical problems which include adverse lipoprotein profile, high blood pressure, atherosclerotic cerebrovascular, coronary heart disease, diabetes mellitus, colorectal cancer, as well as lower educational attainment and higher rates of poverty.²²⁻²⁴ Self-esteem has been shown more clear relation with age among young men than young ladies, and self-esteem has been considered higher among young men than young ladies and youth.²⁵⁻²⁶

The purpose of this study was to establish the contingency of low self-esteem in the relationship to body weight among young adult students of (DPT) on both campuses of IPMR of DUHS, Karachi.

Materials and Methods

The study has been conducted among young adult group students of both genders (boys and girls) of Doctor of Physiotherapy on both campuses of the Institute of Physical Medicine and Rehabilitation (IPMR) of Dow University of Health Sciences (DUHS), Karachi. A simple random sample technique was used to collect the sample population. The sample size was estimated across the reference article (Rosenberg Self-Esteem Scale) as per the sample size of 298 calculated through the online software Open Epi. A cross-sectional study is the study that uses a set of those who are different from others regarding their concern but allocate related characteristics educational background, social and economic status, and ethnicity in duration was around 12 months.

An absolute sample population of 298 participants 259 females and 39 males were mainly enrolled. The participants were allocated who have been supported by the inclusion standard as assumed to aged group between 21-24 years considered young adult category. The sample data was conducted through the selective questionnaire in written format initialized with an ethical consent form for voluntary participation under the suggested survey. Protocols had been made in

compliance with the declaration of Helsinki allowing the ethical requirement of human rights and resources. Data was collected by the participants in the lecture hall of the relevant Department site DPT students in their 3rd and 4th years at the time of duration of study month of January 2019 till February 2019. Rosenberg self-esteem was applied in this study to quantify the score of self-esteem among the students. A high score on the RSES was correlated with high self-esteem while a score below 15 shows low self-esteem. On the other hand Body, Mass Index Scale (BMI) was used. BMI was utilized as a record of body weight balanced for tallness. Statures and weights were estimated and BMI was figured from the estimation by utilizing the condition $BMI = \text{Weight (kg)} / \text{Height (m)}^2$. Data analysis was performed on SPSS version 22.0. The data for this study was obtained in both numbers as well as percentages. The data for this study were collected from January 2019 to February 2019. The SPSS provides the appropriate result to analyze the one-hand data in order to obtain the answers to research questions.

Results

All data is represented in tabular and graphical form for providing the quantitative results for a more coherent and logical interpretation. Moreover, according to a questionnaire following information gathered by DPT students i.e. demographic data and Rosenberg self-esteem scale

Table 1: Gender

		<i>Freq</i>	<i>Perce</i>	<i>Valid</i>	<i>Cumulativ</i>
		<i>uency</i>	<i>nt</i>	<i>Percent</i>	<i>e Percent</i>
Valid	Female	259	86.9	86.9	86.9
	Male	39	13.1	13.1	100.0
	Total	298	100.0	100.0	

The frequency of participants is based on their gender in percentage and the actual number of participants. A total number of participants were 298, of which 259 were females (86.9%) and 39 were males (13.1%). Data was compiled in SPSS and the results were 100% accurate.

Out of 39 males, the mean was 20.03 and the standard deviation was 4.631. Similarly, out of 259 females, the mean was 19.54 and the standard deviation was 3.747. In total, the mean was 19.60 and the standard deviation was 3.869. The mean stands at 19.60, the median at 20.00, and the mode at 21. Similarly, the

standard deviation was 3.869, the variance was 14.968 and the range was 21.

Table 2: Paired Samples Statistics

	<i>Mean</i>	<i>N</i>	<i>Std.</i>	<i>Std.</i>
			<i>Deviation</i>	<i>Error Mean</i>
Weight	56.09	298	11.454	.664
Total	19.60	298	3.869	.224
Score				
Computed	21.6792	298	4.46875	.25887
BMI				
Total	19.60	298	3.869	.224
Score				

The above table shows the Paired Samples Statistics. To calculate the mean by pairing two variables, we run the T-Test. Pair 1 shows the Mean of Weight (56.09) and Standard Deviation (11.454), Total Score Mean (19.60), and Standard Deviation (3.869). Pair 2 shows the Mean of BMI (21.6792) and Standard Deviation (4.46875), and the Total score has the same values as Pair 1.

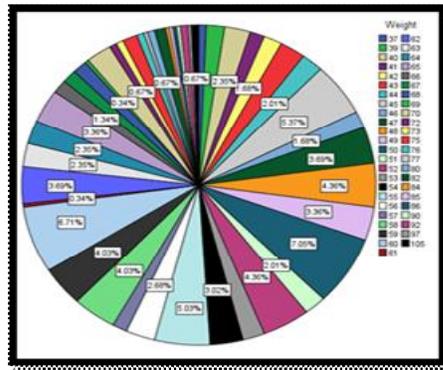


Figure 1:

The pie chart shows the weight disparity of the participants ranging from 37 kilograms to 105 kilograms. As per the results, the participants are varying in weights and almost equally divided among all weights.

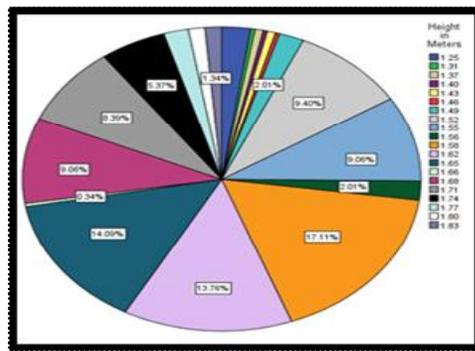
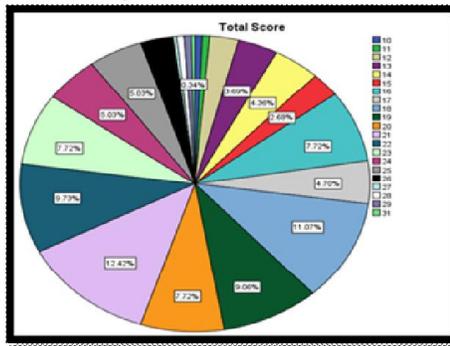


Figure 2:

The pie chart above shows the disparity in participants in terms of height in meters. The range is set from 1.25m to 1.83m. The highest percentages are from 1.58m, the next is from 1.62m. The third largest group is from 1.65m. The rest are varying in height.

The pie chart below shows the total score of the research tabulated above as per Rosenberg Self-Esteem scoring. The middle range scoring is highest, and the upper range is lower.



Count		Total Score																					Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	31	
Gender	Male	1	0	1	2	2	0	4	3	3	2	1	3	2	4	2	5	3	0	1	0	0	39
	Female	1	2	7	9	11	8	19	11	30	25	22	34	27	19	13	10	6	1	1	2	1	259
Total		2	2	8	11	13	8	23	14	33	27	23	37	29	23	15	15	9	1	2	2	1	298

Figure 3:

After analyzing the Chi-Square Tabulation, it was found that the females have more self-esteem as compared to the males, although the female respondents are more so than male respondents. After analyzing the Chi-Square tabulation, it was found that the highest self-esteem was found in the normal weight BMI category respondents followed by the overweight category, and the lowest self-esteem was found in the obese category.

The result was analyzed based on feedback by the respondents in response to question 1 of the questionnaire that how they feel as a person of worth, at least on an equal plane with others. 51.34% responded with Agree, 43.96% with Strongly Agree, and the remaining 4.70% with disagreeing. While the respondents replying to Question 2 how they feel that they have a number of good qualities. 58.39% responded with Agree, 37.58% with Strongly Agree, and the remaining 4.03% with Disagree.

The disparity is shown by the respondents on Question 3 of the questionnaire that how they feel, all in all, they are inclined to feel that they are a failure. 50.67% responded with Disagree, 39.26% with Strongly Disagree, 9.40% with Agree, and only 0.67% strongly agree.

On Question 4 of the questionnaire that they can do things as well as most other people disparity of respondents replied 52.35% with Agree, 41.61% with Strongly Agree, 5.03% with Disagree, and 1.01% with Strongly Disagree.

The disparity of respondents in replying to the next question of the questionnaire was that they do not feel they have much to be proud of. 47.65% responded with Disagree, 25.17% with Agree, 19.80% with Strongly Disagree, and 7.38% with Strongly Agree.

The disparity of respondents shows in Question 6 of the questionnaire that they take a positive attitude towards themselves. 47.65% responded with Agree, 43.62% with Strongly Agree, 7.72% with Disagree, and 1.01% with Strongly Disagree.

The respondents replied to Question 7 that on the whole, they are satisfied with themselves. 47.99% responded with Agree, 40.27% responded with Strongly Agree, 10.74% replied with Disagree, and 1.01% with Strongly Disagree.

While the disparity of respondents on that they wish, they could have more respect for him/ her. 48.32% responded with Agree, 29.53% with Strongly Agree, 16.78% with Disagree, and 5.37% with Strongly Disagree.

The disparity of respondents showed in replying to Question 9 of the questionnaire that they certainly feel useless at times. 38.59% responded with Disagree, 31.88% with Agree, 23.83% with Strongly Disagree, and 5.70% with Strongly Agree.

At last the disparities of the respondents in replying to Question 10 of the questionnaire that at times they think they are no good at all. 35.91% replied with Disagree, 31.88% with Agree, 26.85% with Strongly Disagree, and 5.37% with Strongly Agree..

Discussion

This study aimed at systematically exploring the degree of self-esteem in students with obesity compared to students with normal weight as well as analyzing gender differences in body dissatisfaction across studies.

In other Research, it was found that discontent with body image and physical attributes in girls and boys is usually associated with under-confidence and leads to depression and various other disorders. The research here aims to judge this phenomenon from a gender perspective. As in this study, the participants were belonging to an undergraduate who shows good qualities as well as, girls ranked higher in terms of conditional self-esteem and were more worried about

their weight, but the boy's participants were more concerned about muscles. The boys were, as a result, higher ranked in dependent self-esteem in terms of muscles and the girls in terms of weight.²⁷

Our study shows that as compared to boys, girls were more concerned about their weight and were prone to be dissatisfied with being overweight but being underweight did not particularly bother girls. Girls were more concerned about weight gain than boys. Age variance was also observed, younger students noted less dissatisfaction as compared to middle-aged students. It was assessed that students who were in the overweight category tended to tell their weight was less than actual and were concerned about gaining weight. Respondents who had active lifestyles were reported to have better body image satisfaction than those who led very inactive lifestyles. In the study of Natascha-Alexandra Weinberger, et al., (2016), crosswise over investigations, students with obesity detailed higher body disappointment than ordinary weight students as considered result suggested to be significant if P-value less than 0.005 whereas (polls: $d=0.89$, 95% CI=0.63-1.16, $p<0.001$; outline scales: $d=1.41$, 95% CI=0.57-2.25, $p<0.001$). Meta-regression uncovered a noteworthy relationship between the female sex and higher body disappointment ($b=0.60$, $p=0.007$).²⁸ Overall results show that body image satisfaction varies across gender and that self-esteem is largely linked with body weight status. The studies found that boys were in better shape overall than girls and were noted to have lower self-esteem than girls.

In comparison with other studies done on the same or similar topics, it is noteworthy that variation in respondents' age, occupation, and ethnicity did alter body image satisfaction and self-esteem in relation to body weight. In nearly all circumstances, girls were ranked as more concerned about their bodies than boys and had more tendencies towards poor body shape and weight than boys. Boys were found to be more in shape and less concerned than women in these categories. Overall, it would be a fair assessment to note that conclusively, body image satisfaction and weight-related self-esteem are two aspects that have almost universally the same responses from age and gender dynamics.

This research was done by many authors, in which it was found that the study was focused on the stigma associated with being obese and as a result being made fun of. The respondents in this study were largely first-year medical school students and the results of the study show that those who are overweight suffer from a variety of issues such as low self-esteem, lower

mastery, anxiety, and depression. In addition, the fear of becoming obese is a persistent mental state. Such students, who face the stigma, resort to alcohol and drug use or show tendencies to do so, resulting in growing psychological problems. The study concludes that such stigma can result in deteriorating self-esteem among students who are overweight or obese.

After the analysis of our result, it was found that BMI range from 14.20 to 18.50 – a total of 72 respondents were not included in the tabulated results because they were adjudged to be underweight as per weight ranges BMI. The Chi-square test was used to determine the association between categorical variables. This discrepancy was decided under the initial study design. Normal weight was adjusted to 18.50 to 24.90 – a total of 81 respondents – were adjudged to be in this category as per weight range BMI. Overweight was adjusted to 25.00 till 29.90 – a total of 35 respondents were adjudged to be in this category as per weight range BMI. Obese was adjusted to 30.00 or more – a total of 17 respondents were adjudged to be in this category as per weight range BMI. After analyzing the Chi-Square tabulation, it was found that the highest self-esteem was found in the normal weight BMI category respondents as significantly measured p-value <0.005 followed by the overweight category, and the lowest self-esteem was found in the obese category.

Conclusion

We concluded that with reference to the data analyzed' females have more self-esteem as compared to the males, although the female respondents are more so than male respondents the highest self-esteem was found in the normal weight BMI category respondents followed by the overweight category and the lowest self-esteem was found in the obese category.

Recommendations

Such programs that target weight loss, self-esteem, and mental health can be initiated from the primary level to ensure that boys and girls do not have such issues as they are growing up. This type of research will also be done on school-going boys and girls because they are at growing age and they are more prone to have low self-esteem due to the modern environment and sedentary lifestyle.

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