



RESEARCH PAPER

**Relationship between Body Image, Body Mass Index and Self Esteem
among Obese and Non Obese Female Adolescents**

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ABSTRACT

Purpose of this research was to study the relationship between body mass index, body image dissatisfaction and self-esteem among obese and normal weight female adolescents in district Attock. This research also aimed to study differences among obese and non-obese female adolescents on self-esteem and body image. The population of study was female adolescents. Sampling technique used for selection of sampling was purposive sampling. Sample size of this research was 200 female adolescents. Survey method was used to collect data from sample. Statistical Package for Social Science (SPSS) software was used for obtaining results of this study. Finding of this study shows that there is significant positive correlation between body image dissatisfaction and body mass index. It indicates a significant negative correlation among body mass index, self-esteem and body image dissatisfaction. Results of this research indicate that obese female adolescents have more body image dissatisfaction and low self-esteem as compared to non-obese female adolescents.

Keywords: Adolescence, Body Image, Body Mass Index, Self-Esteem

Introduction

Body mass index is a value derived from the mass and height of the person. It is a physical measurement used to assess the individual total amount of fat. Body mass index (BMI) is a person's weight in kilograms divided by the square of height in meters (Anitha & William, 2010). Body image is a concept that has many dimensions and is formed how individual perceives himself or herself. Body image is a mental picture about one's body. It involves cognitive, behavioural and emotional components. The moment child is born she starts forming body image. It is built through the interaction between individual, people in surroundings and environment. With time children start developing an image of 'ideal body' in their minds. This phenomenon then becomes most prominent in adolescence. Adolescence is the time when individual becomes most concerned about their ideal body. Females are most concerned about fulfilling the beauty standards set by the people around them. Adolescence is also the time when most of the bodily and pubertal changes are being taken place. Research has shown that the intense concern of body image can cause unfavourable outcomes such as poor health status, anxiety, depression, low self-esteem, and poor quality of life which eventually lead to body shape dissatisfaction (Miles, 2009). Self-esteem can be defined as self-evaluation. This evaluation can be positive or negative. Females are more severely scrutinized. When individual faces criticism and negative evaluation at the hands of other individuals can leads towards low self-esteem and psychological distress. Sometimes individual starts inward internalization of those ideals and beliefs which leads towards feeling self-worthlessness and shame. Obese females with higher body mass index have higher degrees of body image dissatisfaction and low levels of self-esteem indicating that self-esteem and body image are interlinked. The main aim of this study is to evaluate relationship between self-esteem and body image dissatisfaction among female adolescents. Two groups were made on the basis of body mass index. Overweight

females have low self-esteem and high body image dissatisfaction as compared to normal weight females.

Body image has been a central key concept in a person's life. Female having distorted body image has strong chances of developing low self-esteem. This also increases the chances of developing eating disorders and psychological distress. These views and beliefs are inculcated in one's mind from the time he/she is born. These values and norms then become the part of our belief system which then impacts the developing schemas of individual. When hormonal and pubertal changes starts it is very natural that females start to gain weight a little which makes them feel the need to lose that extra weight. They feel the need to conform to the expectation of society so they believe that they should be on strict diet to lose weight. Role of parents, media and peers has been very significant in developing concerns regarding one's body and appearance. Body image dissatisfaction then leads female to develop feelings of insecurity which further results in low self-esteem. Self – esteem is often strongly linked with psychological and emotional feelings. Females are more sensitive regarding their beauty ideal. On media brands sell the physical beauty and attractiveness for selling their products. This often puts an undue pressure on female to achieve that ideal. It can effect individual in a negative way. Adolescents are often more critical regarding their body size and appearance and shape.

Literature Review

There is a strong literature in support of lower self-esteem and body image dissatisfaction. Body image dissatisfaction can result in increase in concerns regarding their beauty ideals made in their minds. Body mass index, self-esteem and body image dissatisfaction have been investigated indirectly. Negative body image is associated with negative or low self-esteem (Lawrence & Thelen, 1995; Clay, Vignoles & Dittmar, 2005). Self-esteem refers to a positive or negative attitude toward self that makes the person feel that he is a person of worth (Rosenberg, 1965). Feeling of belonging or being needed, sense of being accepted and a feeling of being a competent person are important aspects of self-esteem. A person with a low self-esteem demonstrates self-rejection, self-dissatisfaction, and self-contempt, lacks self-respect, and paints a disagreeable self-picture (Glasser, 1969). Adolescence is that time of life where individual wants to get attention of everyone and also wanted to be accepted and appreciated by others. In pursuit of getting that attention and approval from others adolescent at times gets harsh on him or her. There are also many hormonal and pubertal changes taking place during this time so individual feels little emotional and hyperactive. When a child is born she starts observing and learning from environment. All that is happening around that child impacts him/her in building of schemas. So all the concepts and beliefs discussed around him/her plays role in inculcating those values and also plays role in developing the notions about it. According to a research conducted by Seok and Park in 2021 it is revealed that there is a correlation between body image and self-esteem. As the body image dissatisfaction of individual increases self-esteem decreases. Concept has been studied a lot and it has been observed that adolescent's self-esteem is strongly linked with kind of body image being made. So it can be understood that body image dissatisfaction can result in lowering of self-esteem in an individual. There is another research conducted by Ahadzadeh, Rafik-Galea, Alavi, & Amini, in 2018 which indicates a strong correlation between body image dissatisfaction and body mass index. As individual gains more weight increases body mass index increases and thus body image dissatisfaction increases which ultimately leads to low self-esteem and negative self-evaluation. It has also been observed that females are more subjected to attainment of these beauty ideals. There are number of factors in an environment which plays a very significant role in developing our body image. These beauty standards and ideals set by our society forces an individual to comply with those ideals.

Adolescence is also the time period where individual wants the approval and recognition from others. So in order to achieve that acceptance from others females

burdened themselves for achieving those ideal yet unrealistic beauty standards. As mentioned above there is a literature that supports that an individual's self-esteem is strongly linked with their body image satisfaction. Culture also plays a very crucial role in developing our opinions and beliefs about it. The kind of society where we live the ideal for a female has been build that a beautiful female would be tall, lean, fair complexion and clear skin. It is expected from females to fulfil those standards. Then any female who failed to comply with those ideals and standards set by society is then criticized by people around her. Then increase usage of media has also played a noteworthy role in making our beliefs even stronger. With constant exposure to fake ideals that we get to see everywhere around us then unconsciously feeding our minds to fit in those ideals to be approved by society.

Following are the hypotheses of research.

- H₁. There is a significant positive correlation between body image dissatisfaction and body mass index.
- H₂. There is a significant negative relationship between self-esteem and body image dissatisfaction.
- H₃. There is significant mean score difference between normal weight and obese female adolescents on self-esteem and body image dissatisfaction.

Material and Methods

This present research is correlational in nature. Cross sectional method is used. Body mass index and body image is the independent variable whereas self-esteem is dependent variable. Body mass index was calculated by researcher. Age, weight, height and BMI were asked in the demographic information. Sample size for this research is 200 female adolescents. For this research there were two groups of these female adolescents i.e. obese and normal weight female adolescents. Two groups were made on the basis of score of body mass index. During this research each group consists of 100 females. Females between ages of 13 to 19 years were included in the sample. Females less than 13 years and more than 19 years of age were not included in sample. Data was collected through survey method. Questionnaires were distributed among participants. Body shape questionnaire and Rosenberg self-esteem scale was administered on participants. Before that participants were informed about the research. Then participants were encouraged to ask any question if they have. Before proceeding further consent was taken from participants. Participants participated in the research willingly. Participants were also made sure about confidentiality. After data collection all the participants were thanked for their cooperation. All ethical guidelines were followed. Personal information will not be shared with anywhere. The data collected was analysed through SPSS software in order to study the hypotheses proposed.

Instruments

Demographic Sheet

Demographic sheet consists of name, age, education, weight, and height and body mass index. In demographic sheet basic information was asked from participant about herself. Participants were asked to fill in their information.

Body Shape Questionnaire

Body image was evaluated by Body shape Questionnaire (BSQ) developed by Cooper, M.J. Taylor, Z. Cooper & C.G. Fairburn (1986). It is a self-report measure of the body shape preoccupations. Short version of this scale is used. It consists of sixteen items. Each item is scored 1 to 6 with Never symbolize 1, rarely symbolize 2, sometimes symbolize 3, often symbolize 4, very often symbolize 5 and always symbolize 6. Reliability of the tool of BSQ was 0.96-0.97 by Cooper et al. Cutting scores are as follows as less than with 38 indicates no concern with shape, 38 to 51 indicates mild concern with shape, 52 to 66 indicates moderate concern with shape and over 66 indicates marked concern with shape.

Rosenberg Self Esteem Scale (RSES)

Self Esteem was evaluated by Rosenberg self-esteem scale was developed by Rosenberg in 1965. It is a 10-item scale. It measures global self-worth by evaluating both negative and positive responses about the self. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. Its scoring is done by giving "Strongly Disagree" symbolize 1 point, "Disagree" symbolize 2 points, "Agree" symbolize 3 points, and "Strongly Agree" symbolize 4 points. Reliability of this scale was 0.84. Higher scores indicate higher self-esteem. In this scale few items are reverse coded. Items 2, 5, 6, 8, 9 are reverse scored. Participants were asked to choose the option that best describes them.

Results and Discussion

Table 1
Frequencies of demographic variables of participants

Variables	Categories	f	%
Age	14-16	45	22.5
	17-19	155	77.5
Weight	45-60	82	41
	61-75	55	27.5
	76-90	63	31.5
Height	5.0-5.2	118	59
	5.3-5.6	82	41
BMI	Normal Weight	100	50
	Overweight	100	50

Table 1 shows the frequency distribution of sample according to age, weight, and height and body mass index. Sample consisted of 200 female adolescents. According to this table higher number of participants were from 14 to 16 age group (f = 45, 22.5%) in comparison to 17 to 19 years age group (f = 155, 77.5%). Higher numbers of participants were from 45 to 60 kilogram weight category (f = 82, 41%) as compared to 61 to 75 kilogram (f = 55, 27.5%) and 76 to 90 kilogram weight category (f = 63, 31.5%). There was also higher number of participants from 5.0 to 5.2 height (f = 118, 59%) as compared to 5.3 to 5.6 height (f = 82, 41%). Sample was divided into two groups based on their body mass index. Equal number of participants were taken from both groups normal weight (f = 100, 50%) and Overweight (f = 100, 50%).

Table 2
Psychometric Properties for RSES (Rosenberg Self Esteem Scale) and BSQ (Body Shape Questionnaire)

Scales	k	<i>a</i>	<i>M</i>	<i>SD</i>	Range
Body Shape Questionnaire	16	.93	55.2	19.3	30-96
Rosenberg Self Esteem Scale	10	.95	23.8	2.3	17-28

Table 2 shows the psychometric properties for Rosenberg self-esteem scale and body shape questionnaire. This table shows that the scales have adequate reliabilities which make them suitable for use in this research. Cronbach's *a* value for Body Shape Questionnaire was .93 which indicated good internal consistency. Cronbach's *a* value for Rosenberg Self Esteem Scale was .95 which indicated good internal consistency.

Table 3
Correlations for Body Image Dissatisfaction, Body Mass Index and Self Esteem

Variables	BMI	BID	SE
Body Mass Index	--		
Body Image Dissatisfaction	.92***	--	
Self Esteem	-.24***	-.17*	--

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3 revealed that there is significant positive correlation between body image dissatisfaction and body mass index ($r = .92, p < .001$). There is significant negative correlation between self-esteem and body mass index ($r = -.24, p < .001$). There is significant negative correlation between self-esteem and body image dissatisfaction ($r = -.17, p < .05$).

Table 4
Mean Comparison of Females of Normal Weight and Overweight BMI on Self Esteem and Body Image

Variables	Normal Weight		Obese		<i>t</i> (198)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Body Image	37.42	6.16	73.03	8.80	33.12	.000	4.6
Self Esteem	24.37	2.06	23.26	2.36	3.54	.000	0.5

Table 4 shows significant mean differences on body image with $t(198) = 33.12, p < .001$. Results shows that female adolescents from overweight body mass index exhibited higher scores on body image dissatisfaction ($M = 73.03, SD = 8.80$) compared to the females from normal weight body mass index ($M = 37.42, SD = 6.16$). Cohen's *d* was 4.6 which show large size effect. There are significant mean differences on self-esteem with $t(198) = 3.54, p < .001$. Cohen's *d* was 0.5 which indicates medium size effect.

Discussion

The idea of ideal body or beauty is a widespread concept in our society. Everyone is running after to achieve that ideal. There are number of factors which have contributed in building our minds towards this notion. The type of culture in which we live females are more subjected and expected to meet those ideals. This the reason why females are most worried about their body size, shape and appearance. This research is aimed at finding out the relation between body image dissatisfaction, body mass index and self-esteem among female adolescents. When individual has body image dissatisfaction it leads towards building negative views about his/her own body which can then results in low self-esteem and negative self-evaluation. Individual also starts doubting about oneself. Overweight individuals tend to experience negative affective feelings toward their body and are more likely to have a sense of dread with how others see them in social situations than their

normal weight counterparts (Virk, & Singh, 2020). There is significant negative correlation between body image dissatisfaction and self-esteem among female adolescents. It indicates that as body image dissatisfaction increases in an individual self-esteem decrease. While there is significant positive correlation between body image dissatisfaction and body mass index. This indicates that increase in body mass index is linked with increased body image dissatisfaction. Results also reported that female adolescents with higher body mass index tend to have low self-esteem and more body image dissatisfaction as compared to female adolescents with normal weight. Hence results proved our hypotheses correct. This whole phenomenon of body image also plays role in developing one's views about oneself. There are number of mechanisms used by individuals to cope with criticism. But sometimes individual find themselves unable to cope and fall prey to that criticism and scrutiny done by others. Be it any culture and society the concept of body image has been strongly linked with adolescence. Emergence and involvement with all kinds of media has really affected peoples' view on attaining that ideal body size, shape and appearance. For this reason many people even go for surgeries to achieve that ideal. This trend is increasing day by day. Females wanted to be thinner.

Conclusion

Females are often subjected to a lot of scrutiny regarding those beauty ideals. So any female who is overweight failed to comply that ideal has to face criticism and pressure from people around her. Our culture has also linked the success and happiness of life with ideal body size, shape and appearance. Regarding ideal body size and weight people are concerned with just beauty and appearance while completely ignoring the importance of a healthy lifestyle. On media we get to see models with thin and unachievable body sizes which make others to want to get that body size. Ignoring the fact that it only sets false and unrealistic standards for ordinary individual. The increasing obsession with achieving these beauty ideals has made people it a state of constant stress and worry. There is need to develop effective and applicable strategies to emphasize the importance of realistic body ideals. Body image dissatisfaction is more common in late adolescence as compared to early and middle adolescence. This indicates the role of age in effecting individual's beliefs about body image.

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