

Relationship between Physical Self Concept, Self-Esteem and Body Fat Percentage among University Students

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Abstract

The aim of this study was to examine the relationship between Physical Self Concept, Self-Esteem and Body Fat Percentage among university students. Methodology 186 students (100 male and 86 female) were selected from the various departments of the Kashmir university age ranged from 22-30 years. To measure the physical self concept, physical self description questionnaire (PSDQ) was used, which consists of 11 variables which include strength, body fat, physical activity, sports competence, coordination, health, appearance, endurance, flexibility, global physical concept and physical self-esteem. For the measurement of self-esteem, Dr. Morris Rosenberg self-esteem scale was used, which consists of 10 item likert type scale with items answered of four response categories from "strongly agree" to "strongly disagree". For the measurement of body fat percentage, body mass index (BMI) formula was used i.e.; $\text{weight}/(\text{height})^2$. The Pearson's coefficient of correlation with significant level at ($p < 0.05$) was used to examine the correlation between the variables. Result: - The findings revealed that in both the groups (boys and girls) no significant correlation between the body mass index and physical self concept was found ($r = .003$). However, it was found that significant correlation between physical self concept and self-esteem in both the groups (boys and girls).

Keywords: Physical Self concept, Self-Esteem, Body Fat Percentage, Body Mass Index.

Introduction

Self- concept is a person's perception of his/her own personality traits. It is mental picture you have about yourself, based on your ideas, perceptions, stories and feelings about who you are? Today with the modern sporting activity, it is not enough for a player to concentrate on physical, physiological and technical preparation on a long term basis, but also to concentrate on psychological preparation for the competition. Sports competition is becoming tougher day by day often, however a lack of physical skill is not the problem rather lack of mental skills is the cause of poor performance (Weinberg and Gould 1999). Self – concept has been considered as an important factor influencing the motivation level of an individual. Thus, the status of a person's self – concept or perception of ability either enhances or diminishes the person's desire to participate or to continue participating in an activity. White (1959) proposed that self-concept is associated with a basic "mastery" of competence motive that impels the individual to engage in mastery attempt.

Marsh and his colleagues (Marsh, 1987; Marsh and Shavelson, 1985 ;) have provided the best empirical support to date for the multi-dimensionality of the self-concept, as proposed by Shavelson et al. (1976). The self-perception within the hierarchical framework and provides the means for explaining how each domain is structured and contributes to global self-concept.

Self-esteem includes the individual's general appraisal of himself/herself and his judgment about his/her worthiness (Karaaslan, 1993; Baser et al. 1998; Taysi, 2000; Izgic et al. 2001). The concept of self-esteem was first handled by William James. According to James, the degree of self-esteem can be determined by the level of self-harmony and the rate of success or desire (Guney, 1982).

Self-esteem is the degree to which a person perceives a positive or negative attitude towards him/ herself or how much an individual feel as

self-sufficient, safe or important. Inadequate self-esteem is known to have an extreme rigorous life philosophy, insidiousness, passive behaviors, psychosomatic diseases and aggressive behaviors (Cuhadaroglu, 1986).

In this study, the self-esteem levels of the students of Kashmir university has been examined according to gender, age, body mass index, education department, class, sporting situation and sport scene variables. The body fat percentage (BFP) of a human or other living being is the total mass of fat divided by the total body mass, multiplied by 100; body fat includes essential body fat and storage body fat. Essential body fat is necessary to maintain life and reproductive functions. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen.

The BFP is a measure of fitness level, since it is the only body measurement which directly calculates a person's relative body composition without regard to height or weight. The widely used BMI provides a measure. BMI has been correlated with other body composition measures, is noninvasive and convenient for both screening and large field work studies (Lynch, Wang and Wilcken, 2000; Dietz and Bellizzi, 1999).

Overweight in adults is defined as a BMI of 25 to 30 kg/m² and obesity as greater than 30 kg/m². In youth they are defined as cut-off points which passes through 25 and 30 at the age of 18 (Cole et al. 2000)

Methodology

The study has been conducted on the sample of 186 students (86 female and 100 male) which were selected from various departments of Kashmir university age ranged from 22-30 years. Variables like physical self concept which include strength, body fat, physical activity, sports competence, coordination, health, appearance, endurance, flexibility, global physical concept and global self-esteem were measured by physical self description questionnaire (PSDQ) given by Marsh, Richards, Johnson, Roche and Tremayne 1994 (SIMONS & DAMME 2019). Dr Morris Rosenberg Self-esteem scale were used to measure the self-esteem variable of this study. Body Mass Index (BMI) was used respectively to assess the body fat percentage of the selected subjects. Pearson's product moment coefficient of correlation with significant level at (P<0.05) was used to examine the

correlations between physical self concept, self-esteem and body fat percentage of the selected subjects.

Results

Descriptive statistics of physical self concept variables, self-esteem and body mass index of subjects has been given in table1.

Sr. No.	Variables	Male Mean SD	Female Mean SD
1.	Strength	13.8 2.9	11.6 3.21
2.	Body Fat	12.1 3.8	14.0 2.8
3.	Physical Activity	16.3 4.3	21.1 4.7
4.	Sports Competence	14.4 3.1	9.9 4.1
5.	Coordination	21.4 4.3	19.3 5.0
6.	Physical Health	19.6 5.8	19.7 4.7
7.	Appearance	13.2 2.9	11.7 3.8
8.	Endurance	14.9 3.2	10.6 3.4
9.	Flexibility	12.7 3.04	10.1 3.6
10.	Global Physical Concept	14.2 3.0	11.7 3.7
11.	Physical Self-Esteem	20.4 3.8	19.8 4.5
12.	Body Mass Index	20.7 3.0	19.5 3.3
13.	Self-Esteem	18.8 3.5	18.5 3.9

The results in the table 1 depicted that the mean of strength of male and female students was 13.8 and 11.6 respectively, whereas the mean of body fat was 12.1 and 14.0, for physical activity was 16.3 and 21.1, for sports competence was 14.4 and 9.9, for coordination was 21.4 and 19.3, for physical health was 19.6 and 19.7, for appearance was 13.2 and 11.7, for endurance was 14.9 and 10.6, for flexibility was 12.7 and 10.1, for global physical concept was 14.2 and 11.7, for global self-esteem was 20.4 and 19.8, for body mass index was 20.7 and 19.5 and for self-esteem it was 18.8 and 18.5 respectively.

Figure 1: Means of physical self concept variables, self-esteem and body mass index of male and female students

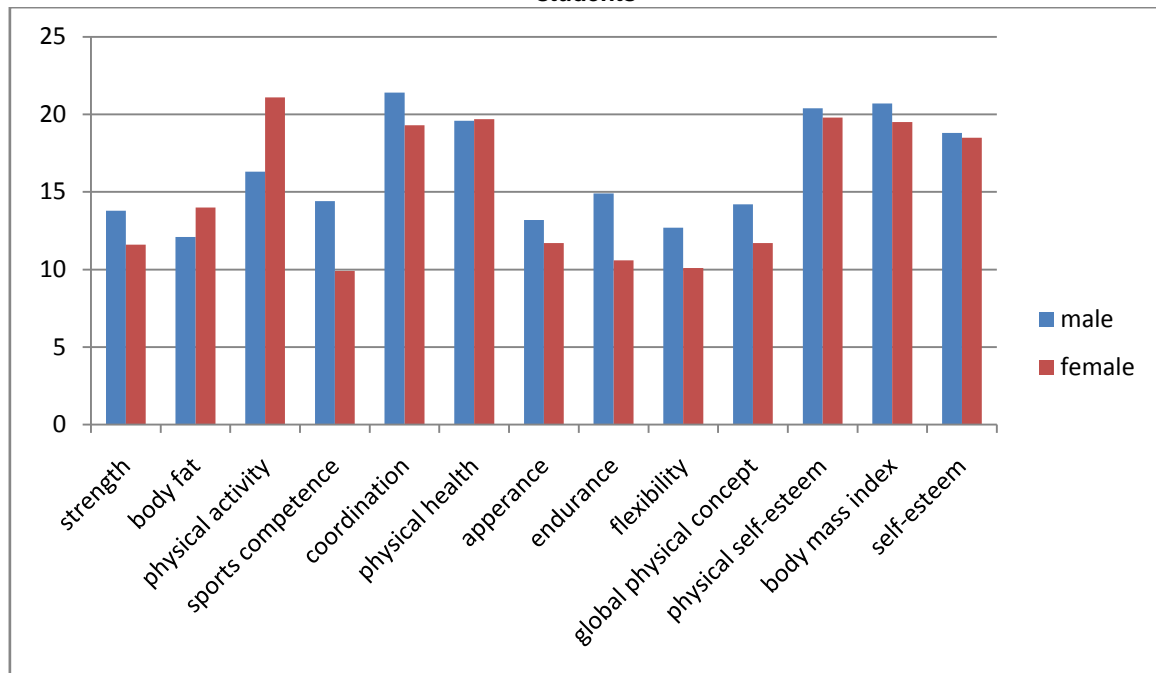
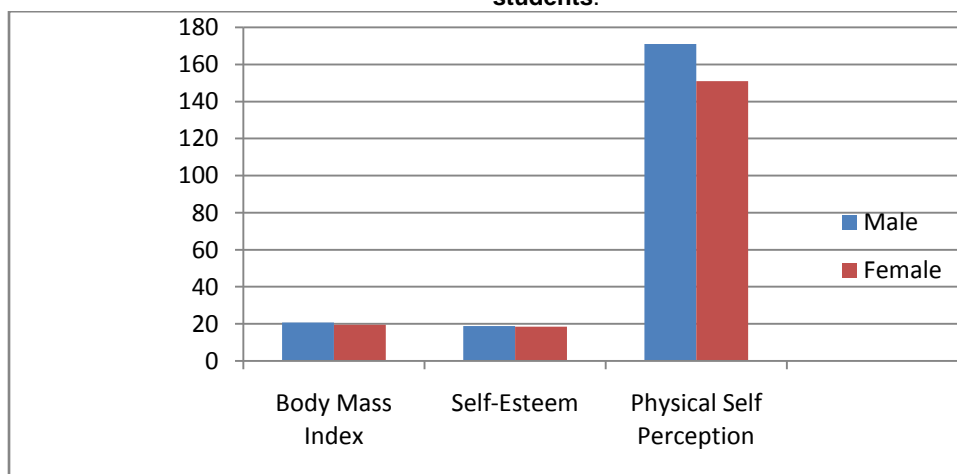


Table 2: Descriptive Statistics of BMI, Self esteem and Physical self concept of male and female University students

Sr. No.	Variables	Male		Female	
		Mean	S.D.	Mean	S.D.
01.	Body Mass Index	20.7	3.01	19.59	3.30
02.	Self-Esteem	18.8	3.59	18.53	3.93
03.	Physical Self-Concept	171.0	23.9	150.9	23.7

The results in the table 2 depicted that the mean of body mass index of male and female students was 20.7 and 19.59. Whereas, the mean of self-esteem of male female students was 18.8 and 18.53 and for physical self concept it was 171.0 and 150.9 respectively.

Figure 2: Means of physical self concept variables, self-esteem and body mass index of male and female students.



Analysis of coefficients of correlation among the main study variables of male university students has been

given in table 3 and shown in figure 3.

Table 3: Coefficients of correlation among the main study variables of male university students

Sr. No.	Male Students		
	Variables	Variables	R
01.	BMI	Self-Esteem	.034
02.	BMI	Physical Self – Concept	.003
03.	Physical Self –Concept	Self-Esteem	.463*

***= Significant difference at 0.05 level “R” < .205 (df =99)**

Table 3 indicated that there were statistically significant relationship between physical self concept and self-esteem variables of male university students (r = .463). The values for these variables are found significant at 0.05 level of significance. Whereas coefficient of correlation between BMI and self-

esteem variables of male university students (r = .034) and the values of BMI and physical self concept variables of male university students (r = .003) were not found to be statistically significant.

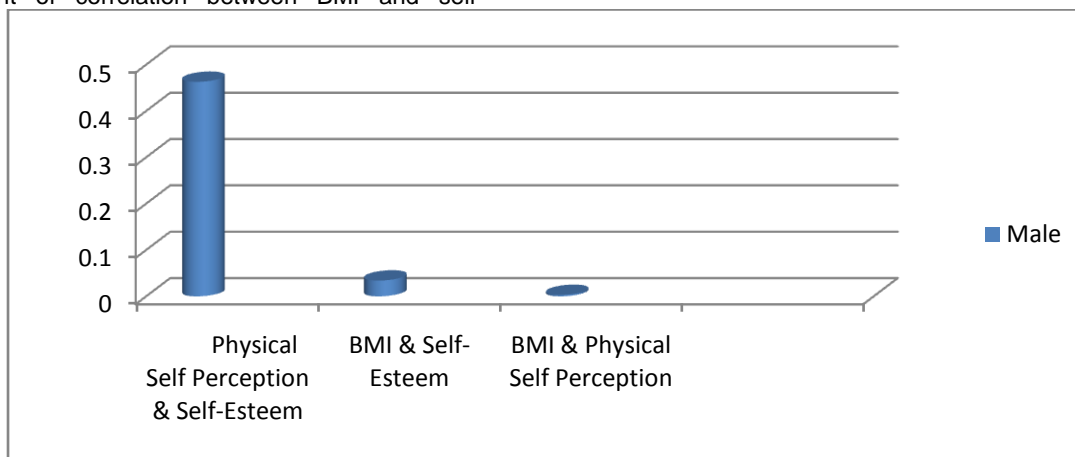


Figure 3: Coefficients of correlation among the main study variables of male university students

Analysis of coefficients of correlation among the main study variables of female university students has been given in table 4 and shown in figure 4.

Sr. No.	Female Students		
	Variables	Variables	R
1.	BMI	Self-Esteem	.056
2.	BMI	Physical self-Concept	.008
3.	Physical Self -Concept	Self-Esteem	.394*

***= Significant difference at 0.05 level “R” < .217 (df =86)**

Table 4 indicated that there were statistically significant relationship between physical self concept and self-esteem variables of female university students (r = .394). The values for these variables are found significant at 0.05 level of significance.

Whereas coefficient of correlation between BMI and self-esteem variables of female university students (r = .056) and the values of BMI and physical self concept variables of female university students (r = .008) were not found to be statistically significant.

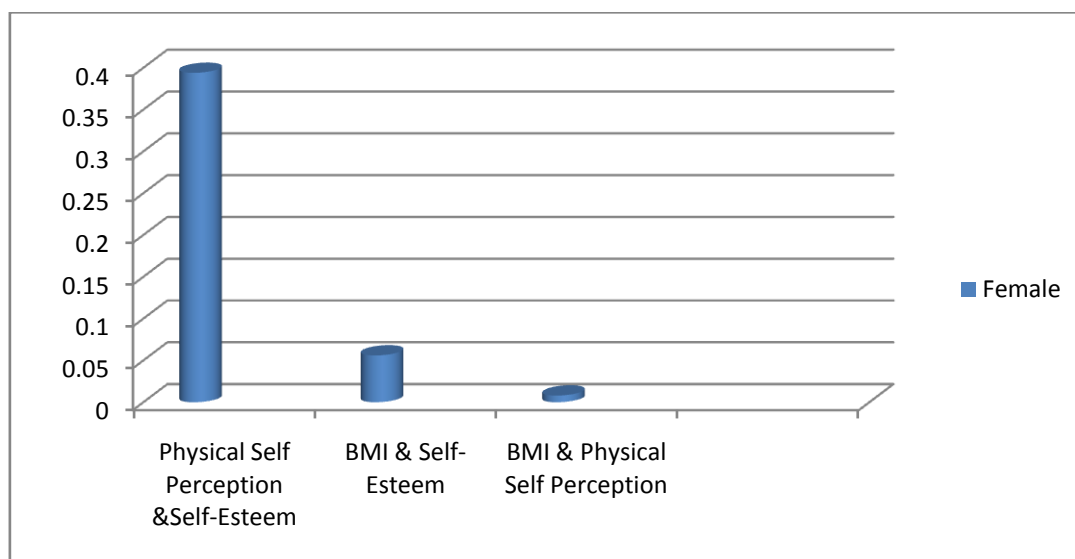


Figure 4: Coefficients of correlation among the main study variables of female university students

Discussion

The study's results have signified that physical self concept and self-esteem are relevant; it means that any increase in self concept will amplify self-esteem and these results are correspondent with the researches results of Kaplan et al. (1995) and Dishman et al. (2006). These two components have a momentous role in personality. Thus in terms of these studies result people with high self-concept and self-esteem respect themselves, have high adaptability, are capable in initiating good motive relation with others, take part in sports and are endowed with high self confidence. The result for over-all data suggests that there is significant positive correlation between physical self concept and self esteem scores which is in concordance with these studies conducted by Bratovic et al. (2015) & Ashtiani et al. (2007).

The findings of the current study was in congregant with a study by Agarwal et al. (2013), Cuddihy et al. (2006) and Cracium et al. (2010). They found that there was a statically no relationship between body mass index and physical self-concept. Our findings were also supported by Becerra et al. (2015), Al- Shehri et al. (2016), Habib et al. (2015) and Hesketh et al. (2004). They conducted various studies to assess the relationship between body mass index and self-esteem and observed no relationship between these two domains.

Conclusions

1. In males no significant relationship was found between the variables of BMI and Self-Esteem.
2. No significant relationship was also found between the variables of BMI and Physical Self Concept among male university students.
3. In the variables of Physical Self Concept and Self-Esteem of this study, significant relationship was found among male university students.
4. In female no significant relationship was found between the variables like BMI and Self-Esteem & between the BMI and Physical Self Concept.
5. In the variables of Physical Self Concept and Self-Esteem of this study, significant relationship was found among female university students.

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