



## A COMPARATIVE STUDY ON SELF-ESTEEM, BODY SHAPE CONCERN AND SOCIAL INTERACTION ANXIETY AMONG GIRLS OF SINGLE-SEX INSTITUTIONS AND CO-EDUCATIONAL INSTITUTIONS

**Shruti Poonia**

**Stuti Munjal**

Department of Psychology,  
M.C.M. D.A.V. College for Women,  
Chandigarh, (India)

### Abstract

Education is the ladder that can take a man to the pinnacle of success. It is not limited only to the academic achievement but ensures holistic development of an individual. The kind of ambience an educational institution provides has a direct impact over the personality dynamics of its students and the quality of education imparted to them. This empirical study aims to investigate the difference in self-esteem, body shape concern and social interaction anxiety among girls who have always (school and college both) studied in single-sex institutions and girls who have always studied in co-educational institutions. The study was conducted on a purposive sample of 108 female students from various colleges in Chandigarh. A significant difference was achieved on the two variables, self-esteem and body shape concern. It was found out that the self-esteem of girls from single-sex institutions was higher than those studying in co-educational institutions, whereas, the girls of the co-educational institutions were more concerned about their body image in comparison to their counterpart. No significant difference was observed on the social interaction anxiety between the two sample groups. Correlations between the three psychological variables was also calculated. A non-significant negative correlation was found between self-esteem and body shape concern among girls of single-sex institutions whereas in girls of co-educational institutions, the negative correlation was significant. There was a significant negative correlation between self-esteem and social interaction anxiety in both,

single sex and co-educational institutions. Lastly, A significant positive correlation was achieved between body shape concern and social interaction anxiety in girls of single sex institution whereas a non-significant positive relationship was found in girls of co-educational institutions.

**Keywords:** *Body Shape Concern, Co-Educational Institutions, Self-Esteem, Single-Sex Institutions, Social Interaction Anxiety*

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### Introduction

It is common to witness parents of a girl child facing the dilemma of whether to send their ward to single-sex or co-educational institution. Single-sex institutions caters to the educational needs of only either males or females whereas co-educational institutions are based on mixed-sex education system in which both men and women attend a common institution. Over the years, there have been a lot of debates and discussions about the pros and cons of each type of institution.

On one hand, proponents of women colleges indicate towards research studies that show that these institutions provide a qualitatively superior learning environment to their pupils (Tidball, Smith, Tidball, & Wolf-Wendell, 1999 [1]; Riordan, 1994 [2]; Whitt, 1994 [3]; Sharp, 1991[4]). Women's colleges seem to design classroom conditions in which students are more likely to be actively engaged (Fassinger, 1995 [5]). Moreover, women attending such colleges showcased greater gains in cognitive areas such as academic and intellectual development in comparison to the female students at co-educational colleges and universities (Astin, 1993 [6]; Baxter Magolda, 1992 [7]). Women at single-sex colleges are more satisfied with their overall college experience (Langdon, 2001 [8]; National Study



of Student Engagement, 2003 [9]; Smith, 1990 [10]) and with their communication with the faculty (Astin, 1993, 1977 [11]; Smith, 1990). Finally, Lee and Bryk (1986) [12] revealed that "women of single-sex schools displayed less stereotypical attitudes about male and female sex roles when compared to those who attended coeducational schools."

On the other hand, Robinson and Smithers (1999) [13] stated that "educating both the sexes together is more like real life, and the experience of growing up with the opposite sex makes it easier to move on in the mixed environment of university and employment." (p.25-26). It promotes understanding, knowledge, and mutual respect for each other; understanding of woman's role in the society; respect for women's emancipation struggle for gender equality; learning to work in conducive work environment and to behave maturely in the presence of opposite sex (Marsh, 1991 [14]; Goldstein, 1987 [15]). Students at women colleges tend to be less satisfied with the quality of social life their campus provides (Astin, 1993; Smith, 1990; Smith, Wolf, & Morrison, 1995 [16]).

With this investigation, we attempt to find out the difference in self-esteem, body shape concern and social interaction anxiety among girls who have always studied in single-sex institutions versus girls who have always studied in co-educational institutions. The present paper does not aim to determine if single sex education is superior or inferior for girls in comparison to their co-educational counterpart; rather, this research is investigative in nature and aims to explore some of the gender dynamics occurring within different educational contexts.

### **Objectives Of The Study**

- 1) To assess the levels of self-esteem between girls who have always studied in single-sex institutions and those who have always studied in co-educational institutions.

- 2) To measure the concerns about body shape among girls who have always studied in single-sex institutions and those who have always studied in co-educational institutions.
- 3) To assess the levels of social interaction anxiety among girls who have always studied in single-sex institutions and those who have always studied in co-educational institutions.

### **Hypothesis**

In the present study, It was hypothesized that:

1. The self-esteem of girls of single-sex institutions would be higher than those of co-educational institutions.
2. The body shape concern in girls of co-educational institutions would be higher than those of single-sex institutions.
3. The social interaction anxiety of girls of single-sex institutions would be higher than those of co-educational institutions.
4. In single-sex institutions, there would be:
  - A) significant negative correlation between self-esteem and body shape concern.
  - B) significant negative correlation between self-esteem and social interaction anxiety.
  - C) significant positive correlation between body shape concern and social interaction anxiety.
5. In co-educational institutions:
  - A) significant negative correlation between self-esteem and body shape concern.
  - B) significant negative correlation between self-esteem and social interaction anxiety.
  - C) significant positive correlation between body shape concern and social interaction.

### **Method**

#### **Participants**

This exploratory study was carried out on a purposive sample of 108 girls from various colleges affiliated to Panjab University, Chandigarh. The colleges were selected on the basis of type of institution: single-sex institutions and co-educational institutions. It was ensured that the girls chosen from single-



sex colleges had always studied in single-sex schools as well and likewise for girls from co-educational institutions. Such condition was kept to avoid contamination of the results by selection of girls coming from both the environments, therefore, maintaining the authenticity of the investigation. A sample of 54 girls (Table 1), ranging from 18 to 24 years of age, was selected from each category.

**TABLE 1** shows the sample size of the types of institutions.

TYPES OF INSTITUTIONS	SAMPLE SIZE
Single-sex	54
Co-educational	54
Grand Total	108

### Instruments

#### State Self-Esteem Scale(SSES):

For this investigation, a 20 item State Self-esteem Scale developed by T.F. Heatherton and J. Polivy (1991) [17] was used which was subdivided into 3 components of self-esteem: performance self-esteem, social self-esteem, and appearance self-esteem. Each item was to be answered on a 5-point scale (1= not at all, 2= a little bit, 3= somewhat, 4= very much, 5= extremely). A minimum score of 20 and maximum of 100 can be attained. The total score is calculated by summing up the scores of all the items. Items 2, 4, 5, 7, 8, 10, 13, 15, 16, 17, 18, 19 and 20 are reversely scored. The scale has a high degree of internal consistency (coefficient  $\alpha=0.92$ ).

#### 4.2.2 Body Shape Questionnaire-34 (BSQ-34):

A 34 item original version questionnaire developed by Cooper, Taylor, Cooper & Fairburn (1986) [18] on body shape concern was used. The scoring was on the Likert Scale with 1= Never ; 2= Rarely ; 3= Sometimes ; 4= Frequently ; 5= Very often ; to 6= Always. The overall score was the sum across the 34 items, that is, a theoretical score range from 34 to 204. The final score is calculated by adding up scores on all items with higher scores

indicating higher body shape concern. An examination of the reliability and validity of the BSQ-34 indicated concurrent validity as well as a high 3-week test-retest reliability of 0.88 (Rosen, Jones, Ramirez, & Waxman, 1996 [19]).

#### Social Interaction Anxiety Scale(SIAS):

Mattick and Clark (1998) [20] developed and validated the Social Interaction Anxiety Scale(SIAS) and Social Phobia Scale (SPS), two companion measures for accessing social phobias. SIAS is a self report measure consisting of 20 items that ranges from 0 (Not at all characteristic of me), to 4 (Extremely characteristic of me). The test includes self statements describing one's reaction to situations that involves social interaction in groups. The total score ranges from 0 to 80, with higher scores indicating higher levels of social interaction anxiety. Items 5, 9 and 11 are reverse scored. As per Ferguf, Valentiner, Kim & McGrath [21], scores on the SIAS and SPS have demonstrated good (a) internal consistency (e.g., Cronbach's  $\alpha$  ranging from 0.88 - 0.94; Mattick & Clarke, 1998), (b) three-month test-retest reliability (rs of .92 and .93; Mattick & Clarke, 1998), (c) convergent validity through moderate to strong correlations with scores on other indices of social anxiety (e.g., rs ranging from .53-.77; Hughes et al., 2006 [22]; Mattick & Clarke, 1998), and (d) discriminative validity via individuals who were diagnosed with social anxiety scored significantly higher on these two measures relatively than the individuals who were diagnosed with other anxiety disorders and non-clinical controls (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992 [23]; Peters, 2000 [24]).

#### Procedure

A common questionnaire was made to include the three scales separately which was administered after giving the instructions and clarification of the doubts, if any. A prior consent was taken from each participant of the



study and every effort to maintain confidentiality was made. Statistical analysis was applied to the obtained data.

### Results

The descriptive statistics and t-ratio for the study variables: self-esteem, body shape concern and social interaction anxiety for girls who have always studied in single-sex institutions and co-educational institutions are presented in Table 1. The t-ratio between self-

esteem for the two categories came out to be statistically significant ( $t=0.02$ ,  $p<0.05$ ). The t-ratio between body shape concern for the two groups came out to be statistically significant ( $t=0.04$ ,  $p<0.05$ ). The t-ratio of social interaction anxiety came out to be statistically non-significant for the respective groups ( $t=0.73$ ,  $p<0.05$ ).

TABLE 2 shows descriptive statistics and t-ratios.

GIRLS OF SINGLE-SEX INSTITUTIONS			GIRLS OF CO-EDUCATIONAL INSTITUTIONS		
VARIABLES	MEAN	N	MEAN	N	t
SESS	76.13	54	72.09	54	0.02*
BSQ-34	65.19	54	77.15	54	0.04*
SIAS	23.35	54	24.17	54	0.73

\*\*significant at 0.01 level of significance ; \*significant at 0.05 level of significance

Comparison of means of students of the two sample groups on the three psychological variables

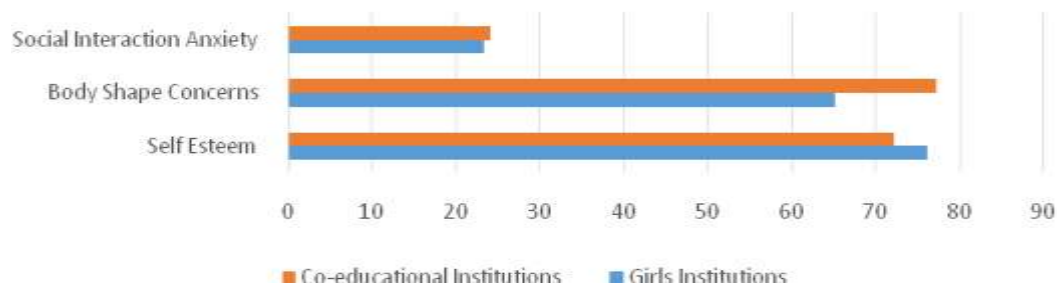


Figure 1 shows the comparison of the means of students of the two sample groups. Correlations between the three psychological variables are presented in Table 3 and Table 4. A non-significant negative correlation was found between self-esteem and body shape concern among girls of single-sex institutions ( $r=-0.20$ ) whereas in girls of co-educational institutions, the negative correlation was significant ( $r=-0.53$ ,  $p<0.01$ ).

There was a significant negative correlation between self esteem and social interaction

anxiety in both, single sex ( $r=-0.46$ ,  $p<0.01$ ) and co-educational institutions ( $r=-0.51$ ,  $p<0.01$ ).

A significant positive correlation was achieved between body shape concern and social interaction anxiety in girls of single sex institution ( $r=0.33$ ,  $p<0.05$ ) whereas a non-significant positive relationship was found in girls of co-educational institutions ( $r=0.16$ ).



TABLE 3: Shows the correlations between the three psychological variables: Self-esteem (SSES), Body Shape concern (BSQ-34), Social Interaction Anxiety (SIAS) among the girls of single-sex institutions

GIRLS OF SINGLE-SEX INSTITUTIONS			
	SSES	BSQ-34	SIAS
SSES	-	-0.20	-0.46**
BSQ-34	-	-	0.33*
SIAS	-	-	-

\*\*significant at 0.01 level of significance ; \*significant at 0.05 level of significance

TABLE 4 shows the correlations between the three psychological variables: Self-esteem (SSES), Body Shape concern (BSQ-34), Social Interaction Anxiety (SIAS) among the girls of co-educational institutions

GIRLS OF CO-EDUCATIONAL INSTITUTIONS			
	SSES	BSQ-34	SIAS
SSES	-	-0.53**	-0.51**
BSQ-34	-	-	0.16
SIAS	-	-	-

\*\*significant at 0.01 level of significance ; \*significant at 0.05 level of significance

## Discussion

The comparative investigation aims to find out differences in self-esteem, body shape concern and social interaction anxiety among girls of single sex versus co-educational institutions. The t-ratio was calculated for the three variables. There was a significant difference between the two sample groups as the girls of single sex institutions scored high on self-esteem ( $M=76.13$ ) in comparison to the girls of the co-educational institutions ( $M=72.09$ ), hence, Hypothesis 1 is accepted. The reason behind the same can be suggested to the apparent lack of sex-role stereotyping otherwise prevalent in co-educational institutions. The probability of women being underrepresented in traditionally male dominated fields like science, mathematics, engineering and technology is less in such institutions (Post Secondary

Institutions in the United States, 2001 [25]). Many have argued that since men are not present at women colleges, women students at single-sex institutions have unique opportunities to engage in the education process (Langdon, 2001 [26]; Sharp, 1991; Neff & Harwood, 1991 [27]; Conway, 1985 [28]; Women's College Coalition, 1981 [29]). In 1990, Cairns found an elevation in self-esteem and internal locus of control for girls in single-sex institutions in Northern Ireland (as cited in Haag, 1998 [30]). Since the women are more empowered in such institutions, it results in higher self-esteem.

A significant difference was also found in body shape concern with girls of co-educational institutions scoring higher ( $M=77.15$ ) than girls of single-sex institutions ( $M=65.19$ ), hence, Hypothesis 2 is also accepted. This result can be attributed to the obvious feelings of





consciousness in presence of the opposite sex. Moreover, in such institutions, it is not uncommon for college students to get engaged in romantic relationship with their peer, hence, contributing to an additional pressure of fitting into the socially encouraged image of an ideal body shape. In India, this body image is mostly represented by a slim, tall and fair girl. Girls usually have the notion of, "I don't want to lose weight because I want to get fit but I want to lose weight to look like her and become popular." While the society's dominant culture values independence and becoming an autonomous being as one matures, girls often establish a sense of identity mainly by relating to others (Chodorow, 1978 [31]; Gilligan, 1982 [32]). A study in adolescents reported that poor body image is associated with low self-esteem and elevated anxiety and that body dissatisfaction has in turn been correlated to eating disorders (Newman, Sontag & Salvato (2006) [33]; Furnham, Badmin, & Sneade (2002) [34]; cited in Hudson 2008 [35]). It can also be assumed that girls in single-sex institutions feel more comfortable with their bodily changes as all their classmates go through similar biological changes at a given period of time establishing a sense of belongingness among the peer group.

There was no significant difference found in the two groups on the Social Interaction Anxiety Scale (SIAS), therefore, Hypothesis 3 is not accepted. The result can be substantiated with the assumption that interaction anxiety is independent of type of college. Since almost all the colleges facilitate an interactive environment, girls from both the sample groups do not feel shy in communicating and voicing their opinions. Students get a lot of exposure in such institutions through regular inter and intra college festivals and several extra-curricular activities that help shed their interaction anxiety, hence, boosting their confidence in the social scenario.

A non-significant negative correlation was found between self-esteem and body shape concern among girls of single-sex institutions ( $r=-0.20$ ) whereas in girls of co-educational institutions, it was significant ( $r=-0.53$ ,  $p<0.01$ ), hence, indicating that girls who have high concern about their body shape have low levels of self-esteem. According to the results, only Hypothesis 5(A) is accepted but not 4(A). Raghuram Macharapu, Sumanth E. Komapalli, Vijay Kumar, Pramod KR Mallepalli, & Ravulapati Sateesh Babu (2017) [36] found the similar results establishing negative correlation between the two variables. There was a significant negative correlation between self-esteem and social interaction anxiety in both, single sex ( $r=-0.46$ ,  $p<0.01$ ) and co-educational institutions ( $r=-0.51$ ,  $p<0.01$ ). Hence, both Hypothesis 4(B) and 5(B) are accepted. Fernandes, Sanyal, & Chadha (2015) [37] conducted a study on relationship between self-esteem and social interaction anxiety in cyber-bullied adolescents and found out that there was a significant negative correlation between the two variables. A significant positive correlation was achieved between body shape concerns and social interaction anxiety in girls of single sex institution ( $r=0.33$ ,  $p<0.05$ ) whereas a non-significant positive relationship was found in girls of co-educational institutions ( $r=0.16$ ). Hence, only Hypothesis 4(C) is accepted but not 5(C). Alex Mc Donald (2013) [38] did not find a significant correlation between social anxiety and body shape concerns within one of his sample groups. His study also found that self-esteem is a predictor of body shape concern but social anxiety is not a predictor.

#### VIII. LIMITATIONS

As per the results of this study mentioned above, the girls of single-sex institutions have a higher self-esteem and less body shape concern in comparison to the girls of co-educational institutions. We cannot generalize these results to be true for all the girls studying in such institutions. The sample is not large



enough to make such an elaborate inference and results may vary in a similar longitudinal study. There was also a dearth of literature examining the variables on a similar sample due to which these results may not be substantiated enough with evidence.

### Recommendations

- ❖ To examine whether the results stand consistent in the long run or not, longitudinal studies can be conducted.
- ❖ To generalize the results to the population, the sample size can be increased.
- ❖ With this investigation, the debate on 'which type of institution is better?', does not end. We need more researches encompassing the changing needs of the students keeping in mind the transforming global scenario.

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