Multifaceted Exploration of Emotional Intelligence, Self-confidence and Academic Achievement among Female students in Co-educational Institutes of Gujrat, Punjab, Pakistan

Basheer Fatima[1], Dr. Afzaal Afzal[2] & Dr. Waqas Ahmad[3]

[1]Lecturer (Visiting) Department of Psychology, Govt Zamindar Postgraduate College Gujrat, Email: fatimawarraich110@gmail.com
[2]Community Development Officer, Housing Urban Development and Public Health Engineering Department, Punjab, Pakistan, Email: afzaal.afzal2010@gmail.com
[3]Lecturer (Visiting) department of sociology Government College Women University Sialkot, Email: waqasahmad1548@gmail.com

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Corresponding Author:
Dr. Afzaal Afzal
Email:
afzaal.afzal2010@gmail.com

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Emotional intelligence and self-confidence are indispensable factors of individual growth, personality development and resilience in the face of challenges. This study explores the impact of educational setup on self-confidence among college girls, comparing uni-sex and co-educational colleges. The researchers employed a cross-sectional exploratory design to examine the level of self-confidence among college girls in uni-sex and co-educational systems, seeking to determine the influence of the educational setup on students' perceptions. Data were collected from 200 participants from two colleges, one uni-sex and one co-educational, using Rosenberg's Self-Esteem Scale. The data were then analyzed using descriptive, univeriate, and bivariate statistics to uncover insights into the relationship between educational setup and self-confidence. The study's findings indicate that both uni-sex and co-educational systems significantly impact girls' self-confidence and academic achievement. Notably, the co-educational system fostered higher self-esteem among girls compared to the uni-sex college system. Self-confidence levels were influenced by factors such as age, family income, and living areas. The research highlights the need for targeted interventions, particularly in uni-sex colleges, to develop nurturing programs promoting self-esteem, emotional resilience, and leadership, and emphasizes the importance of specialized initiatives catering to students from diverse socio-economic backgrounds.

Introduction

Self-confidence is an essential element of individual growth, determining how people react to challenges and interact with others. It has been described as the faith one has in oneself and the lack of doubt (Sharma et al., 2024). Many individuals struggle with low self-esteem and self-confidence, which can limit their potential for success and happiness. Self-confidence gives individuals the strength to confront challenges and barriers head-on. When they are confident, they are more likely to take on new experiences and persist even in the face of failure, whereas a lack of confidence may discourage them from trying new things or pursuing their goals (Dhillon et al., 2025). Self-confidence reflects an individual's perceived ability to perform effectively in various situations. This confidence is not innate, but rather develops through experiences, self-reflection, and support from others (Lestari, 2024).

The establishment of confidence is particularly significant during adolescence, a stage when students undergo substantial transformations in their educational and social contexts (Pirro, 2024). According to Schunk and Miller, students' self-confidence can actually impact their academic achievement, as it influences their motivation to participate, work hard, and persevere through challenges. Students in higher classes are especially at a critical phase of self-evaluation, which often involves comparing themselves to others and adjusting their expectations to conform to changing standards (McIver et al., 2023). This self-assessment phase can significantly impact students' self-esteem, particularly as they progress through various stages of education. Developing self-confidence during this phase is crucial, as it influences not only academic achievement but also personal development and social adaptation (Gladovic et al., 2024).

The contribution of coeducation versus single-sex education in fostering student confidence remains a topic of ongoing debate (Aldawsari, 2024). Research suggests that coeducation can enhance mutual understanding between genders, promote healthy competition, and boost students' self-confidence. Coeducational environments provide opportunities for students to interact with the opposite gender, developing essential social skills that are valuable in real-life settings (Mitchell, 2022). In contrast, critics of coeducation argue that it can cause distractions and hinder academic focus. Proponents of single-sex education claim that it allows for a more tailored learning environment, catering to the unique learning needs of boys and girls. This study aims to investigate how coeducational and single-sex institutions impact the confidence, self-esteem, and ability of girls to approach challenges with a positive attitude (Ahlburg, 2024).

Literature Review

The debate over whether co-education or single-sex education is more effective has generated a vast body of literature. Some studies suggest that single-sex education may have a positive impact on students' academic performance and self-esteem. For instance, Alice Sullivan et al. (2010) investigated the differences between single-sex and co-educational secondary education and found that single-sex schools were associated with lower truancy rates and better outcomes in terms of relationship development and well-being. In contrast, Woodward et al. (1999) reported that students educated in single-sex schools were more likely to persist in college, graduate, and experience less unemployment compared to their co-educated peers. Similarly, Granlees and Joseph (1993) found that girls from single-sex schools reported higher academic competence and self-perceptions of conduct, whereas their co-educated counterparts excelled in physical appearance and social acceptance.

Conversely, other research suggests that co-education provides a broader and more balanced environment for both sexes. Nwamara and Chigozie (2013) found that both male and female students benefited from co-education, experiencing a superior learning environment, enhanced self-esteem, self-efficacy, and academic expectations. Pahlke and Hyde (2014) conducted a meta-analysis and determined that high-quality research did not support the notion that single-sex education yields better outcomes than co-education. Similarly, Kathryn L.H. (2009) analyzed evidence on the effects of same-sex versus mixed-sex college environments, obtaining mixed results but reporting that there was no significant difference in performance or sex biases to justify a preference for either approach.

Evidence also suggests that single-sex education has a positive influence on gender attitudes and aspirations. Studies by Watson et al. (2002) found that girls in single-sex colleges aspired to higher-ranking professions, particularly in traditionally male-dominated fields such as mathematics, compared to their co-educated counterparts. Similarly, Lee and Bryk (1986) concluded that females from single-sex education held fewer stereotypical views of gender roles, which can help break down conventional barriers to career choices. These findings are consistent with the results of Ogden (2011), who showed that female students in both single-sex and co-educational colleges in urban middle schools made higher academic gains than their male peers. These results highlight the potential benefits of single-sex education in promoting gender equality in educational and career aspirations.

Materials and Methods

This study employs a cross-sectional exploratory design to investigate the level of self-confidence among college girls in uni-sex and co-educational systems, aiming to determine the impact of the educational setup on students' perceptions. The target population comprises college girls enrolled in two colleges: Govt. Degree College for Women (uni-sex) and Govt. Zamindar Postgraduate College (co-educational). A total of 200 girls were selected, with 100 participants from each college, to represent the two education systems.

A convenience sampling method was employed to select participants for ease and convenience. For primary data collection, a 35-item questionnaire based on Rosenberg's (1965) Self-Esteem Scale was utilized, with responses recorded on a 5-point Likert scale. The first section of the questionnaire gathered demographic information, including age and father's income. A pre-test of the research instrument was conducted to ensure the clarity, relevance, and consistency of the questionnaire.

The collected data were electronically processed and analyzed using advanced statistical software, specifically SPSS. Participants' confidentiality was guaranteed, and their responses were used solely for research purposes. Descriptive statistics were employed to report participant demographics and self-confidence ratings. Cronbach's Alpha was used to evaluate the reliability of the measures. The Kolmogorov-Smirnov test was conducted to screen for normality, and an independent-sample t-test was performed to compare self-confidence between the groups. Prior to the t-test, Levene's test was used to verify equal variances.

Results & and Major Findings

This section presents the key findings of the study, which explored the current state of emotional intelligence, self-confidence, and academic achievement among female students in co-educational institutions. The results are based on a comprehensive analysis of primary data collected from the

target population. The findings offer a nuanced understanding of the issues, highlighting areas for improvement and opportunities for reform.

Table 1: Demographic Charactiristic of Participants

Statement		Frequency	Percent	Instrument Reliability statistics	
				Cronbach's Alpha	No. of Items
College System	Uni sex College	100	50.0	.664	35
	Co education	100	50.0		
	Total	**200**	**100.0**		
Family System	Joint	80	40.0		
	Nuclear	120	60.0		
	Total	**200**	**100.0**		

The demographic characteristics of the participants reveal a balanced distribution, with 50% enrolled in a unisex college system and 50% in a co-educational system. In terms of family structure, 60% of participants come from nuclear families, while 40% come from joint families. The reliability of the instrument, as measured by Cronbach's Alpha, was 0.664 based on 35 items, indicating moderate reliability of the instrument used for data collection.

Table 2: Age and Family Income of Participants

Age of participant	N	Valid	199
		Missing	1
	Mean		19.06
	Std. Deviation		.880
	Minimum		17
	Maximum		22
Family Income of Participants	N	Valid	194
		Missing	6
	Mean		32188.14
	Std. Deviation		15961.97
	Minimum		10000
	Maximum		80000
	Range		70000

The age of the participants shows a valid sample of 199 individuals, with a mean age of 19.06 years (SD = 0.880). The age range spans from 17 to 22 years, indicating a relatively young age group. In terms of family income, 194 participants provided valid data, with a mean family income of 32,188.14 (SD = 15,961.97). The family income ranges from 10,000 to 80,000, with a total range of 70,000, reflecting a diverse income distribution among the participants.

Table 3: Percentage, mean and standard deviation of the variables used to measure Confidence of girls

Sr. no	Item	S.D (%)	D (%)	N (%)	S.A (%)	A (%)	Mean	SD
	Self-confidence of the respondents							
1	The participants are satisfied with themselves.	3.0	7.0	17.5	43.5	29.0	3.88	1.003
2	The participants are think that is not good at all.	11.6	31.8	17.7	33.3	5.6	3.89	1.155
3	The participants have a number of good qualities.	2.5	12.0	26.0	37.5	22.0	3.64	1.032
4	The participants are able to do thing as well as most of other people.	3.5	16.0	18.0	41.5	21.0	3.60	1.093
5	The participants are feel does not have much to be proud of.	11.7	27.9	19.3	33.0	8.1	2.98	1.186
6	The participants certainly feel useless.	18.3	38.6	14.7	19.3	8.6	2.663	1.253
7	The participants that he is person of wroth, at least equal to others.	4.5	10.1	18.6	46.2	20.6	3.68	1.052
8	The participants wish that she could have more respect of him.	5.0	6.0	11.1	45.2	32.7	3.94	1.065
9	The participants inclined to believe that he is failure.	26.0	40.5	15.0	12.5	6.0	2.32	1.164
10	The participants have positive attitude towards myself.	3.0	9.1	13.6	46.0	28.3	3.87	1.022
11	The participants can manage to solve difficult if try hard enough.	4.5	3.5	12.6	42.7	36.7	4.04	1.022
12	The participants can find means to get what he wants, if someone opposes him.	11.0	16.5	16.5	39.5	16.5	3.34	1.246
13	The participants are easily stick to his aims and accomplish his goal.	3.5	17.6	22.6	35.2	21.o	3.53	1.114
14	The participants confident that he could deal with efficiently with unexpected events.	4.0	18.0	25.6	35.2	16.5	3.42	1.093
15	The participants solve most problems if invest the necessary effort.	4.5	7.0	19.6	41.7	27.1	3.80	1.059
16	The participants remain calm when facing difficulty because he can rely on my coping ability.	3.5	29.0	13.5	42.0	12.0	3.30	1.116
17	When the participants confronted with a problem, they can usually find several solutions.	1.0	8.0	21.5	53.5	16.0	3.76	0.854

18	If the participants in trouble, they can usually think of a solution.	2.0	5.5	13.0	54.0	25.5	3.96	0.887
19	The participants believed that they are more intelligent than that most individual.	5.5	24.6	27.6	27.6	14.6	3.21	1.135
20	The participants put themselves in a solution that challenges him to learn new things.	6.0	19.1	13.1	40.2	21.6	3.52	1.197
21	Participant enjoys playing games that involve thinking or solving puzzles.	9.0	16.1	14.1	35.7	25.1	3.52	1.275
22	The participants feel that they can make friends with almost anyone.	9.0	29.1	12.6	26.1	23.1	3.25	1.336
23	The participants believed that he has lots of things in common with everyone.	9.3	25.8	22.2	30.4	12.4	3.11	1.193
24	The participants would be exciting to meet a group of people who they don't know.	31.1	25.8	16.2	30.3	14.6	3.08	1.294
25	The participants don't like crowds.	14.1	19.7	13.1	29.8	23.2	3.28	1.385
26	The participants have never had difficulty finding ways to express them.	9.5	16.9	24.0	34.0	16.0	3.30	1.200
27	The participants good at sports.	18.0	39.5	15.5	17.0	10.0	2.62	1.243
28	The participants have always been physical activity.	7.0	24.0	18.0	30.0	21.0	3.34	1.246
29	The participants enjoy the competition in any game that requires physical activity.	8.0	37.0	15.5	25.5	14.0	3.0	1.230
30	The participants don't like to exercise.	14.6	41.7	15.6	21.6	6.5	2.64	1.163
31	The participants have always been happy with the way that I look.	5.0	14.0	13.0	41.5	26.5	3.70	1.151
32	The participants trying to look good are a waste of time.	14.6	28.6	18.1	24.6	14.1	2.95	1.298
33	The participants usually think that they look good in photography of themselves.	10.0	18.5	16.0	34.0	21.5	3.38	1.283
34	The participants feel comfortable being the center of attention.	15.1	23.1	24.6	26.1	11.1	2.95	1.242
35	The participants have never liked mirrors.	26.5	35.5	12.5	16.5	9.0	2.46	1.287

The data on girls' self-confidence reveals strengths in problem-solving and intellectual engagement, with high mean scores for statements such as "I can manage to solve difficult

problems if I try hard enough" (mean = 4.04, SD = 1.022) and "I can usually think of a solution if I'm in trouble" (mean = 3.96, SD = 0.887). However, areas such as self-worth, appearance, and social situations show room for improvement, as indicated by lower mean scores and higher variability in responses. These findings underscore the importance of fostering self-esteem and providing support to address feelings of worthlessness and discomfort in social settings.

Table 4: Normality through One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Confidence
N		175
Normal Parameters	Mean	112.73
	Std. Deviation	11.360
Most Extreme Differences	Absolute	.059
	Positive	.041
	Negative	-.059
Kolmogorov-Smirnov Z		.780
Asymp. Sig. (2-tailed)		.577

The One-Sample Kolmogorov-Smirnov Test was used to assess the normality of the confidence variable in a sample of 175 participants. The test yielded a p-value of 0.577, which exceeds the conventional 0.05 significance threshold, indicating no significant deviation from a normal distribution. Therefore, it can be inferred that the confidence scores are normally distributed.

Table 5: Independent sample t-test of self-confidence with respect to education system

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	d.f	Sig. (2-tailed)
Narcissism	Equal variances assumed	.898	.345	2.675	173	.008
	Equal variances not assumed			2.667	168.853	.008

An Independent Samples t-test was conducted to compare self-confidence levels between uni-sex and co-educational systems, revealing a significant difference. Levene's Test for equality of variances yielded a non-significant result (F = 0.898, p = 0.345), indicating equal variances. Assuming equal variances, the t-test resulted in a t-value of 2.675 (df = 173, p = 0.008). Additionally, the results remained significant without assuming equal variances, with a t-value of 2.667 (df = 168.853, p = 0.008). These findings suggest that the type of education system has a significant impact on self-confidence levels.

Discussion

The findings of this research provide insight into the levels of self-confidence among girls in uni-sex and co-educational college systems. Reliability analysis yielded a Cronbach's alpha of 0.664, indicating moderate internal consistency of the self-confidence scale. Descriptive statistics revealed that the participants' mean age was 19.06 years, with ages ranging from 17 to 22 years.

The participants were evenly distributed between the two educational systems, with 50% from each system (co-educational and uni-sex). Demographic information also showed diversity in family income, with a mean income of 32,188.14 and a range of 10,000 to 80,000. The majority of participants (60%) came from nuclear families, while the remaining participants were from joint families. Additionally, most participants (56%) were from rural backgrounds, while the remaining participants resided in urban locations.

The assessment of self-confidence levels revealed that participants tended to report moderate levels, with some notable trends emerging. For instance, statements such as "I am satisfied with myself" (mean = 3.88) and "I can manage to solve difficult problems if I try hard enough" (mean = 4.04) indicated higher self-confidence. In contrast, statements like "I certainly feel useless" (mean = 2.66) and "I would be excited to meet a group of people I don't know" (mean = 3.08) suggested lower self-esteem. The normality test confirmed that the data were normally distributed (p = 0.577). An independent-samples t-test revealed a significant difference in self-confidence levels between the two education systems (p = 0.008), indicating that the type of college system (uni-sex vs. co-educational) significantly affects girls' self-confidence. This finding suggests that the education environment has a profound impact on female students' self-confidence

Recommendations

Based on the conclusions of this study, several suggestions can be made to further enhance the self-confidence of college girls in both uni-sex and co-educational systems. Firstly, given that the study identified the educational environment as a crucial factor in building self-confidence, colleges should consider implementing special programs that promote self-esteem and personal growth, particularly among students in uni-sex colleges who exhibited lower confidence levels. These interventions could focus on leadership development, public speaking, and social interaction to enhance students' sense of self-worth and autonomy

Furthermore, given that both groups of participants exhibited moderate self-confidence, educators could benefit from incorporating activities and workshops that enhance emotional intelligence, resilience, and problem-solving skills. These sessions could be integrated into the curriculum and extracurricular activities to facilitate the learning of coping skills, particularly in challenging academic or social environments. Additionally, addressing issues such as body image concerns, social anxiety, and self-doubt through counseling services and peer support groups may provide a more comprehensive approach to fostering self-confidence

Finally, the research results suggest that rural students and students from low-income families tend to report lower levels of self-confidence. To bridge the gap between urban and rural students, colleges could offer mentorship programs and community outreach activities. These programs should provide equal opportunities for all students, regardless of their socio-economic status, and encourage participation in self-esteem and personal development activities.

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