RELATIONSHIP BETWEEN SELF-CONCEPT AND ACADEMIC ACHIEVEMENT: AN EVIDENCE OF FEMALE STUDENTS

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Abstract: This study's goal was to look into the effects of several aspects of self-concept on academic achievement among university students between the ages of 18 and 19. The Self-Description Questionnaire-III was used to gauge self-perception, while college records supplied percentage achievement scores. A chance sampling design was utilised to choose 1470 participants at random. The link between the variables was investigated using Pearson's correlation and regression analysis. The study discovered a considerable positive association between academic self-concept and academic accomplishment, with some contribution from physical self-concept as well. The findings also demonstrated a substantial positive relationship between social self-concept and academic achievement, and regression analysis supported these conclusions. The study found that social self-concept is more essential than other factors.

Keywords: self-concept, academic achievement, social self-concept, academic self-concept, physical self-concept.

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Academic achievement is the most important outcome of the formal education system and there is no doubt that it has a vital role in later lives of students (Ahmad, I., Gul, R., 2022). Researchers are always interested in how social, emotional, physical factors may intensify it. One of the factors is self-concept which is thought to be an important determinant of academic achievement (Cho & Kim, 2019). Similar to effective learning, effective teaching involves a series of decisions that are determined by the circumstances. Nonetheless, despite all of this, students' academic performance and personality development are lacking. The fundamental cause of this is the pupils' disrespect for their own self-concept, which is the most crucial component of human personality. (Gul & Khilji, 2023; Salameh et al., 2022; Zhou et al., 2022). A person's self-perceptions are referred to as their

self-concept. Current research and theory on self-concept presuppose that people construct their own self-concept in relation to other domains, making self-concept a multidimensional paradigm (Ahmad, Gul, & Zeb, 2022). (Ahmad, Gul, & Zeb, 2022).

In her work, Harter (2012) provides a comprehensive account of the development of self-concept, which begins to emerge around the age of two as children acknowledge themselves as discrete physical entities. Through communication with parents about past events, children begin to form autobiographical memories and an evolving picture of the self. As cognitive and social demands increase, the child's self-concept develops from being based on a few poorly-defined components to a more organized and distinct multi-dimensional construct (Frey, 2018). Adolescents in college experience an increased sense of responsibility and separation from parental control, and self-worth becomes a crucial aspect of their self-concept as they judge their competence through their successes.According to Ahmad, Gul, and Imtiaz (2022) and Rani Gul et al. (2022). A person's self-concept, which is comprised of their perceptions of themselves and determines how they behave, is at the heart of their personality (Bukhari et al., 2021; Rani Gul et al., 2022; Hellmich & Hoya, 2017). A student's view of oneself can affect their academic progress because it is necessary for someone to have a positive outlook on themselves in order to function well (Ahmad & Gul, 2021; Gul, Muhammad, et al., 2021).

Self-concept asserts that interactions among one's actions, personal characteristics (such as thoughts and beliefs), and environmental circumstances determine how well one does in life (Bandura, 1997). According to this theory, self-concept is shaped by behaviour and the contexts that a person interacts with. (Bandura, 1997). It is theorised that self-concept influences task selection, effort, perseverance, and accomplishment. In 2021, Gul, Ayub, et al.

According to Marsh and Craven (2006), students who have confidence in their learning abilities are more likely to actively participate, work harder, persevere longer, and achieve higher grades compared to those who doubt their abilities. Self-concept, which has various dimensions such as academic, social, and physical, is an essential factor that influences achievement. Students obtain information from their actual performances, observation of others, persuasion, and physiological responses to evaluate their self-concept. While performance is the most accurate measure of self-concept, the influence of other sources varies. A positive self-concept contributes to success in academic, emotional, and social contexts. Similarly, studies conducted by Ali et al. (2021) and Batool et al. (2022) support the notion that students with high self-efficacy tend to perform better and persist longer than those with low self-efficacy.

 Our entire lives are a cycle of self-concept formation (Skidmore, 2003). According to Hattie (2000) and Zahra (2010), having a favourable opinion of oneself fosters confidence leads to a positive self-image. In contrast, having a negative view of oneself fosters negative self-concept (Ali, et al., 2021; Batool, et al., 2022; Salameh, et al., 2022; Gul, et al., 2020; Hellmich & Hoya, 2017). Adults' self-concepts are situation-specific, in contrast to adolescents' undivided and comprehensive self-concepts suitable to many academic activities (Batool, et al., 2021; Gul, et al., 2022; Woolfolk, 1998). "Self-concept is a dynamic construct that changes over time and is influenced by several factors, including prior behavior and performance, the behaviors of others towards oneself, and expectations held by others. Poor academic performance, retention, public reprimands, or suspension can lead to low self-concept. Self-concept has multiple facets, with academic, social, and physical subcomponents. Students may have different opinions about their abilities in each of these subcomponents.Self-concept and performance have a mutual relationship, and a student with a realistic, accurate, and rich self-concept is more likely to make the right choice in deciding the disciplines of study and educational institutions. (Reference sources: Pastorino & Doyle-Portillo, 2013; Zahra, 2010; Reynolds, 2006; Ormrod et al., 2016; Marsh et al., 2006)

1. ACADEMIC SELF-CONCEPT
Prior to the 1980s, researchers did not take into account the multidimensionality of self-concept, according to Marsh (1988), which created uncertainty in the field. Marsh created the Self-Description Questionnaires (SDQ) based on Shavelson et al(1976) .'s self-concept paradigm to

address this. With SDQ-I for elementary school students, SDQ-II for high school students, and SDQ-III for late adolescents and young adults, the SDQ assesses many facets of self-concept for various student age groups.

The Shavelson et al. (1976) model's multidimensionality, which proved crucial in the development of novel self-concept measuring instruments that in turn led to modifications in self-concept theory, as a result, became the largest legacy of the original theory (Gul, et al., 2021; Bukhari, et al., 2022; Ahmad, et al., 2003).A person's overall self-awareness of his or her abilities in various academic contexts is referred to as academic self-concept. A person who has a strong academic self-concept tends to put in more effort and persist in their academic work, choose more challenging coursework, have higher educational goals, and are more likely to graduate from high school and attend university later on according to Gul, et al., 2021.Dambudzo (2005), the academic self-concept has a substantial impact on how people behave in academic settings and is relevant to views of the factors that affect academic achievement. Academic achievement, academic motivation, and attitudes towards learning and education are all positively correlated with self-concept (Choi 2005; Marsh & Craven, 2006; Valentine & DuBois, 2005).

Sanchez and Roda (2007) came to the conclusion that academic self-concept accurately and favourably predicts both general successes and success in the humanities. Dambudzo (2005) as a result, their academic achievement, depend greatly on parents, teachers, peers, and intrinsic drive.

2. PHYSICAL SELF-CONCEPT

It includes how we perceive our physical appearance, including factors such as sex, height, weight, clothing, and living environment (Huitt, 2009). In addition, it encompasses aspects such as physical fitness, beauty, physical strength, and overall physical self-worth (Gill et al., 2017). Body image is a crucial component of self-schemas, which are cognitive maps of the self, and it influences an individual's expected self and actual somatic styles (Kjaldman, 2006).

According to Dambudzo (2013), a student's physical self-concept can play a role in improving their academic performance. MBBS students between the ages of 18 and 21 who participated in a study by Agarwal et al. (2013) found no connection between physical self-concept and academic success. Guerrieri (2011) found a link between academic success and elements of physical health, including body composition, exercise, and sedentary behaviour. Furthermore, studies have demonstrated that social self-concept might affect academic success.Social Concept

Positive relationships result in academic success, and social self-concept has an impact on how kids perceive themselves in learning and other contexts. It develops in society rather than at home (Kaur & Kaur, 2009). The social component of self-concept measures how effective, respected, and appreciated by others learners believe they are in social situations. For a student, it also describes how much they feel welcomed, and able to handle any circumstance (Bukhari, et al., 2021; Gul, et al., 2021) The learners' social self-concept is influenced by these aspects. Despite the fact that we may not be aware of it, we are all familiar with social self-concepts. Many of us aspire to be viewed by others as successful, smart, and beautiful. In other words, it is the idea of how we want other people to perceive us. Adults have social self-concepts that include desires to appear approachable, successful, sophisticated, etc. to others (Gul, et al., 2022). However a study by Zahra revealed that social self-concept was unrelated to academic success (2010). Marsh (1992) and Jansen et al. (2015) revealed were unrelated to academic success. Dedun (2013), however, discovered a requirement for payment.On contrary, To improve a student's academic achievement, Dedun (2013) emphasized the importance of considering their social relationships.

In Pakistan the education system is comprised of six levels: The preschool, which is for ages 3-5 years, where the principles of Maria Montessori and the play way method are utilized (Gul, et al., 2021). The second level of the education system is primary, which starts from class one until grade 5th, where play way, recitation, and reading methods are used, in the middle level which is also known as the elementary level comprised of three grades i.e., from class 6th to 8th. At high school grades, 9th and 10th are taught where project methods, interactive lectures, and laboratory

methods are utilized (Gul, et al., 2020). After doing their matriculation i.e., accomplishment of grade 10th students is then enrolled for college education which starts from 11th grade to 14th grade, the postgraduate colleges offer Master programs as well. The university education also offers parallel programs where the honors degree is for undergraduates and graduate and post-graduate courses are offered (Ahmad, et al., 2022; Zhou, et al., 2022).

Childhood and adolescence are when some of the most significant changes in one's identity occur. The development of one of these is self-concept. Defining oneself through exterior traits gradually gives way to defining oneself through internal characteristics (Santrock, 1998). Adolescents frequently adopt new behaviours and ways of thinking that lead to increased independence, self-sufficiency, and expression of familiarity with others. Finding ways to assist students succeed in the classroom without also looking into ways to improve their perceptions of themselves as learners can be challenging at times (Hellmich & Hoya, 2017). In addition, without helping them identify strategies to enhance their academic achievement, it is nearly hard to help them improve their self-concept.

Pakistan is an intensely patriarchal society where low female enrollment in the education sector at all levels is still a very predominant concern. A reason for this may be women who are a susceptible cluster are less prospective to enter as much education as males. If they somehow attend an educational institution, they face different barriers i.e., cultural, access to extra coaching, and priority to get an advanced degree- as due to limited resources merely boys are preferred to get higher education or technical and professional education, by parents which may affect female students' personalities and consequently their self-concepts, thus this study was a need (Ahmad et al., 2022; Gul, et al., 2022). Thus the following research questions were developed:

To examine the correlation between academic self-concept and academic achievement in female college students

How physical and social self-concepts impact academic achievement.

To address these research questions, three hypotheses were developed:

H1 posited that the academic self-concept and academic achievement scores have a positive relationship.

H2 suggested that students with high physical self-concept scores would have high academic achievement scores;

H3 proposed that high social self-concept among students would result in high academic achievement

3. METHODOLOGY

Participants

The population comprised 15538 bachelor's degree female students of ages 18-20 years (M = 19; SD = 1.67) registered in 27 Graduate and Postgraduate women's colleges located in two districts. They were students in the third and fourth year of college (13th and 14th grade), the largest cohort of whom were in the 14th grade (52.4%). For sample selection, a systematic random sampling technique was adopted, every 9th student in the list prepared from the lists taken from 27th graduate and postgraduate students were selected as the sample, which made it about 1700 female students in total. It was a lengthy list where there were no chances of biased selection as the list was replaced by registration numbers assigned in the new list prepared for linear systematic sample selection done by using K= N/n formula.   As the criteria of the sample selection was to choose students of third and fourth year of college therefore the systematic random sampling was best suited for the study to get a representative group unbiasedly using the admissions lists of the department.

4. INSTRUMENTATION

Self-Description Questionnaire III (SDQIII) was used, consisting of 136 items and an 8-point self-rating scale and piloted on 500 female graduate-level students to determine reliability and factor

loadings. The instrument was modified to suit the needs of adolescent participants and was available in English.

To assess the single factor structure of the SDQIII, a confirmatory factor analysis was performed, which indicated a good model fit with acceptable limit fit indices, including x2/df = 2.03; RMSEA = .082, RMSEA 89% CI [.057–.065]; CFI = .92; TLI = .93; IFI = .91; RFI = .90; SRMR = .067. Construct validity was supported by AVE = .50 and CR = .887 value. Consent was obtained from students before administering the scale, they were aware of the objectives of the study and their voluntary participation in the data collection.

5. DATA ANALYSES

To start the statistical analysis, descriptive statistics such as mean scores, standard deviation, and score ranges were calculated for the students. Afterwards, a correlation matrix was employed to explore the relationship between academic achievement and various dimensions of self-concept. Furthermore, regression analysis was conducted to identify the impact of different dimensions of self-concept on academic achievement. This is a dependable approach to determine the relationship between variables of interest (Mills & Gay, 2019).

Table 1
Descriptive Statistics of all variables (N = 1470)

Variables	Min	Max	Mean	S.D
Academic Self Concept	27.00	80.00	38.8	7.4
Physical Self Concept	26.00	77.00	58.9	8.9
Social Self Concept	30.00	71.00	66.4	7.7
General Self Concept	3.00	15.00	6.8	3.24
Academic Achievement	43%	87%	74%	24%

Table 1 shows the descriptive of the self concept, where the scores of the social self concept are more scattered around the mean.

6. RESULTS

Table 2
Pearson Correlation between demographic Variable and Dimensions of Self Concept

Respondents' Characteristics	GSC		ASC	SSC	PSC
Area					
Urban	.50		.57	.49	.35
Rural	.53		.54	.47	-.34
Marital status					
Married	.57		.53	.42	.53
Unmarried	.54		.42	.57	-.46
Regional groups					
Potohari	.45		.43	.47	.33
Pathan	.56		.56	.53	.23
Punjabi	.45		.52	.54	.26
Urdu speaking	.46		.43	.36	.27
Academic year					
13th grade	.45		.43	.40	.26
14th grade	.52		.47	.42	-.28
Socioeconomic status					
High	.52		.43	.49	.35
Medium	.50		.45	.37	.32
Low	.49		.45	.32	.19

Note: GSC=General Self-Concept, ACS=Academic Self-Concept, SSC=Social Self-Concept, PSC=Physical Self-Concept, p<.05

Table 2 depicts that the relationship is positive most of the time, except with physical self-concept, where it is low and negative with rural, unmarried and 14th-grade female college students.

Table 3
Correlation Matrix of all Variables (N = 1470)

Variables	I	II	III	IV	V
Academic Self-Concept	-				
Physical Self-Concept	.53*				
Social Self-Concept	.46*	.45*			
General Self-Concept	.57*	.59*	.36*		
Academic Achievement	.53*	.48*	.47*	.54*	-

Note. *p<.05, Boldface shows Alpha Coefficient Values

The reliability statistics for the instruments included in this study indicate that the scales used are highly reliable, with alpha values ranging from .87, .79, .83 and .82.

Table 4
Hierarchal Regression Analysis for Dimensions of General Self-Concept

Variables	B	95% CI for B		SE B	ß	t
		LL	UL			
Constant	11.60	4.72	6.03	1.48		7.82*
Academic Self-Concept	.800	.292	.683	.086	.048	4.92*
Physical Self-Concept	.409	.372	.414	.115	.232	3.55*
Social Self-Concept	.999	.34	.59	.124	.499	8.02*
General Self-Concept	9.86	.33	.52	.135	.371	6.72*
R^2 =.23 F=73.57* ΔR^2= .22						

Table 4 shows the relative contribution of different dimensions of General Self-Concept in the aforementioned variance. According to the results, Social Self-Concept contributed maximum (ß=.49, t=8.02 and p<.05), whereas, the dimension of Academic Self Concept contributed minimum (ß=.048, t=4.92 and p<.05).

7. DISCUSSION

The research has verified and extended the self-concept theory, and also the relationship between general self-concept and academic achievement is strengthened. Harter (2000) was of the view that the researcher must be culturally sensitive because the research on the self-concept may result differently if adopted for varied cultures. The present research is novel in the way that it was conducted on women which is the bounded segment of a conservative society, where young girls wear a veil even if they attend educational institutions. They are a vulnerable group, and have less access to education as boys. The female enrollment is low compared to males whereas, female dropout rates are much higher. In fact, men have a literacy rate of around 67% versus women who have a literacy rate of 42% (Bizenjo, 2020).. This is because negative self-concept in adolescence has been linked to a variety of maladaptive behavioural and emotional issues. The study was motivated by the students' subpar college-level academic performance (Kombe et al., 2016; Marsh, 2018). The author suggests that students' self-concept can be improved by providing challenging but achievable tasks, avoiding comparison, and building a supportive relationship with teachers and parents. Cognitive therapy and counseling can also be used to enhance physical self-concept. Moreover, parental attitudes play a crucial role in developing children's self-concept, and

appreciation for good deeds can improve their social self-concept. Finally, the author notes that the relationship between self-concept and academic achievement is reciprocal, with each variable affecting the other.

The results are in line with the theory established for academic self-concept (ASC) and achievement are mutually reinforcing (Marsh & Martin, 2011). The results are also supported by the study of Sanchez and Roda (2007), who concluded that academic self-concept effectively and positively predicts general achievement. Here it is necessary to mention that while creating competition among students one should consciously deploy the process because comparison and competition lead to the development of a negative self-concept in low-performing students, for this purpose the tasks may be individualized (Rosman & Mayer, 2015). Students should be provided with tasks that are challenging but do not prove to be impossible. A task should be of a moderate difficulty level, so the students may succeed in accomplishing it with effort.

While sharing results with students the grades may be shared in private, not public, to avoid failure giving chances of redoing the assignments, similarly giving choice to students in the selection of questions for assignments and tests. Because teachers are typically important people in their students' lives, it has been found that having close relationships with them improves their academic and social skills as well as their self-concept. The messages of academic inadequacy cause low self-esteem, so the teachers may aim to present more examples of achievement than failure. As a result, it is important to give tasks while considering pupils' mental capacities. are also backed by Sanchez and Roda's (2007) research, which came to the conclusion that academic self-concept accurately and favourably predicts overall accomplishment. In the second hypothesis, it was posited that the students having a high physical self-concept would have higher academic achievement scores. Again, the results showed the trend that the academic self-concept has a significant positive relationship with academic achievement. The regression analysis also supported the direction of relation, physical self-concept has a relatively more contribution to academic achievement. The findings of Dambudzo's (2005) study correspond with the results of the present study. According to the researcher's findings, participating in sports can have a beneficial impact on academic performance. Additionally, adolescent girls may be more vulnerable to the effects of body image on self-concept, which can ultimately affect their academic achievement. These ideas were supported by studies conducted by Dembo & Seli (2012) and Mostert (1995). A teacher can enhance the physical self-concept of students by using such techniques as cognitive therapy and counselling (Moller et al., 2014). Through this therapy and thorough counselling, the negative and inaccurate thoughts are eliminated to enhance students' physical self-concept consequently, adding to their academic success.

The last hypothesis of the study anticipated that the high social self-concept of students results in high academic achievement of students. Resultantly, correlation vetted again that social self-concept has a significant positive impact on academic achievement. Similarly, the regression analysis in also confirmed the hypothesis. Therefore, it is beyond doubt that the social self-concept plays a relatively more responsible for the enhancement of academic achievement as compared to any other facets of general self-concept. Downey et al (1998) found the same, he concluded that learners who were sensitive to peer rejection declined in academic functioning over time, which may inevitably affect performance in all areas of life (McGrath and Repetti, 2000). Kim (2019) found that there is a strong connection between the social self-concept and academic performance of teenagers in secondary school. The presence of support and encouragement from parents, teachers, and peers was discovered to be a significant factor in this relationship. Without such support, academic performance was observed to decline. Support and encouragement were identified as motivators. Furthermore, the relationship between social self-concept and academic achievement was found to be reciprocal. These results contradict Marsh's (1992) research which suggested that non-academic self-concepts, including social self-concept, did not have a significant correlation with academic achievement. The results from this study align with the aforementioned research, which was predominantly conducted on a mixed group of students. The notion of efficacy is elemental to Bandura's theory of social cognition, which emphasizes the role of observational

learning and social experience in personality development (Hallahan & Kauffman, 2003; Gul, R., Tahir. Ishfaq, U., Batool, T. 2021, batool & Tahit.T.2021.n.Gul& Tahir T.2021)

There may arise a question in the minds of readers "what causes what?" The answer is the relationship is reciprocal, with each variable affecting the other. Consequently, learners have to do well in schools to have a positive self-concept about their academic abilities and a positive self-concept is a necessary prerequisite for doing well as a learner. The positive social and physical self-concepts upsurge the desire, confidence, and inspiration to succeed (Reynolds, 2006). Kernis, 2013 observed the persistent and significant relationship between self-concept and academic achievement and believed that any change in one seems to be associated with a change in the other.

According to Mcgrath and Repetti (2000), parents' general attitudes towards their children's performance and the value they place on academic achievement have a significant correlation with their children's perceptions of their competencies and academic achievement. As students get older, the importance of social self-concept may decrease as teenagers gain more confidence in their social relationships. This may not have an apparent effect on academic achievement, as observed in this study. To improve students' social self-concept, teachers and parents can appreciate children for their good deeds and provide opportunities for grouping based on ability, which can decrease comparison and competition among students (Schmidt et al., 2017).

Teachers should collect and correlate current demographic and personality data to make student profiles supplemented by motivation and self-concept measurement tools, in this way they will be able enough to work on self-concept development and the resultant student retention rate. The results of the study are likely to assist educators to improve students' academic achievement and self-concept if there appears to be some association between the two in a country where the success rate in university exams and retention rate, particularly in women's colleges are considerably low. The study results, therefore, are likely to be significant for students, teachers, parents, and society at large to promote higher education among females.

8. LIMITATION AND FUTURE STUDIES

The current study is limited to college-level female students only. Therefore, the generalization of results towards the broader student community may be conducted consciously. The self-concept of female students is revealed only, future research may also be conducted on measuring and comparing the self-concept of male and female students.

The study examined the direct relationship between different dimensions of general self-concept and academic achievement. Further study can explore the moderating and mediating factors. Similarly, a further comparison might be undertaken at the start of a course and then at the end (pre-test post-test design) to explore any differences which have arisen. As the study was cross-sectional in nature, where the presence or absence of an outcome or exposure is determined at a specific point in time, so the present study cannot report causal relationships between variables.

9. CONCLUSIONS

The study found that there is a significant positive relationship between academic self-concept and academic achievement, as well as a contribution of physical self-concept to academic achievement. The social self-concept was found to have a more significant positive impact on academic achievement compared to other aspects of general self-concept. Regression analysis was used to validate these findings. The study concludes that the social self-concept plays a crucial role in enhancing academic achievement, with support from parents, educators, and peers. Improved academic achievement can lead to better relationships with significant others, resulting in even higher academic achievements. The researcher also noted that increasing students' self-concept can enhance college retention, which is a significant issue in developing countries

10. CONFLICT OF INTEREST

The corresponding author declares on behalf of all authors that there are no conflicts of interest or disclosures to make public. We have not received money from any organisation to carry out this research.

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