

# Relationship between Academic Self- Concept and Academic Achievement of Undergraduate Students

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## Abstract

Present study aims at assessing the correlation between academic self-concept and academic achievement of under graduate students. A sample (n = 76) of undergraduate students enrolled at University of Karachi was utilized for the purpose of study. The study adopted descriptive correlational research design. A validated Academic Self Concept Scale (ASCS) developed by Liu and Wang (2005) was administered to gather data. Respondents were also asked to report their Grade Point Average of previous semester to evaluate the level of achievement. For analyzing the data, the descriptive statistics were applied to find the levels of academic self-concept and academic achievement. Furthermore, Independent sample t-test and Correlation (r) was ran to analyze the differences in male and female respondents and the correlation of the variables respectively. The study concluded that the mean scores of academic self-concept for undergraduate students was 3.76 while their GPA score was 2.62. Moreover, the results indicated a positive and very weak relationship between the variables (r = 0.08, P< 0.001) with no significant difference among genders. In line with the obtained results, it is recommended that the academic self-concept and academic achievement must be concurrently emphasized to the benefit of students.

**Keywords:** Academic Self-concept; Academic Confidence; Academic Achievement; Academic Effort; Undergraduate Students.

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## **1. Introduction**

According to Combs and Snygg (1959) [1] what a person thinks and his pattern of behavior is largely regulated by the concepts a person holds about himself and his innate abilities. Self-concept that has acquired and still grasps considerable attention in various arenas including education, social services, child development, health and sports, and management, is described as a person's self-image shaped by the experiences and interpretation of his own surroundings [2]. It is a deep rooted and fundamental concept in social sciences and psychology. Self-concept is differentiated into two categories namely academic self-concept and non-academic self-concept. Academic self-concept is confined to the disciplines of mathematics, English, history and science. However, nonacademic self-concept consist of social, emotional and physical self-concept additionally global self-concept. Self-concept is vital as an outcome plus an intervening variable that elucidate outcomes, which sequentially influence individual's perception of the self. Self-concept is gaining much popularity in the educational field and of the many factors that can influence a child's academic development and achievement, past research has reported self-concept as one of the crucial factors. Academic achievement widely pertains to the oral, reading, writing, sciences, social sciences, mathematical, thinking skills and aptitudes that enables student to be successful in school and in society in wider [3]. Over the past decades, many people, chiefly educators have presupposed without any reluctance that achievement is strongly related to self-conceptions of achievement [4]. Implicit assumption is that being self-assured of your abilities in academic areas promotes academic achievement. A great deal of studies reveal the positive interconnection of self-concept and achievement [5], whereas many findings have revealed achievement to be more linked with academic self-concept. Student's sense of subjective efficacy is lowered by diminished self-concept which in turn lowers the academic performance. A student who has acquired a picture of himself as someone who cannot achieve much, fails to fully exert himself in the learning process and thus, he comes to achieve none or very little. The focus of attention in the relationship between the two variables transpires from the persuasion that academic self-concept hold driving characteristics that lead to alterations of academic achievement [5]. Academic self-concept has not been conclusively supported as a key predictor of academic achievement. It is, however, logical, that optimistic self-concept would promote a positive educational experience and therefore influences academic achievement, but researches have not shown any decisive support [6] [7]. Shafique (2002) claimed that academic achievement and academic self-concept were closely linked [8]. Coetzee (2011) found no interrelationship between academic self-concept and academic achievement for students in the first and fourth year yet found substantial correlation among the variables for students in the second and third year of study at university level [9]. Regardless of the numerous research studies no decisive ruling emerges about the degree of correspondence between academic self-concept and academic achievement. Therefore, the current study is undertaken to ascertain the interconnection between academic self-concept and academic achievement for undergraduate students.

### ***1.1 Relationship of self-concept and academic achievement***

A review of literature reveals that the linkage between self-concept and academic achievement has been studied with various and contrasting results. A good number of researchers have ascertained that the self-concept have a crucial role in academic achievement, therefore, this relation has grown in importance [10]. In this vein of thought, Nelson (1970) reported a low but positive links between self-concept and achievement in addition to

intelligence [11]. Sharma (1981) also concluded that self-concept was linked with scholastic achievement [12]. Moreover, Jayaswal (1974) examined the reciprocity between self-concept and academic achievement and found direct ties between them [13]. Sidwai (1971) found that self-concept of academic aptitude is meaningfully in relation with school achievement of elementary school boys [14]. It has been a widely debated topic in research circles that whether self-concept regulates academic achievement or former achievement have an impact on self-concept [15]. Addressing the latter association, Batchman and O'Malley (1977) proved that academic achievement had direct effect on academic self-esteem but self-esteem had no influence on academic achievement [16]. The term self-esteem is an umbrella term used for self-confidence, one's abilities and skills including self-concept. High achieving boys possessed a higher self-concept as compared to boys with low achievement [17]. Positive tie-in of academic achievement on self-esteem but dissociation of self-esteem with academic achievement was concluded by Maruyama and his colleagues (1981) [18]. Carey (1977) found that there is no correlation between self-concept and achievement [19].

### ***1.2 Relationship of academic self-concept and academic achievement***

Liu (2009) studied the students that showed low academic performance had meagre positive academic confidence, and consequently, diminished academic self-concept [20]. Else ways, students with lessened positive academic self-concept consequently resulted in poor academic performance. The appraisal of numerous studies validates that there are direct ties between academic self-concept and academic achievement [21,22,23,24]. Many variables play a part in the associative interrelationship between self-concept and academic achievement. Kurtz (1951) examined that restlessness, instability and lack of confidence were marked among the underachievers [25]. Areepattamannil (2012) studied the intervening role of academic motivation in the linkages between school self-concept and school achievement [26]. Ramkumar (1972) put forward that students from large families, possessed highest self-concept whereas students from small families attained highest achievement scores [27]. Moreover, Uniyal and Shukla (1973) has stated that level of aspiration determines the limitations of academic achievement to some extent [28]. Lewis (1970) reported that high performing boys retained a notable higher self-concept than do low performing boys and high performing girls do not report noteworthy self-concept than do low performing girls [17].

### ***1.3 Objectives***

The guiding objectives of the present study are stated as;

- To identify the levels of academic self-concept of undergraduate students.
- To gauge the academic achievement of undergraduate students. .
- To find out the interrelationship of academic self-concept with academic achievement of undergraduate students.

### ***1.4 Hypotheses***

H<sub>0</sub>: There is no statistically significant relationship between academic self-concept and academic performance

of undergraduate students.

H<sub>0</sub>: There is no statistically significant difference between the academic self-concept of male and female students.

### 1.5 Research Questions

The intention of the study is to discern the interconnection between information seeking skills and self-efficacy for research among postgraduate (Master) students. The following research questions are designed to meet the objectives of study;

- What is the measure of academic achievement of undergraduate students?
- What is the measure of academic self-concept of undergraduate students?
- Is there a substantial divergence of academic self-concept within male and female undergraduate students?
- Is the association of academic self-concept with academic achievement of undergraduate students, statistically significant?

## 2. Materials and Methods

### 2.1 Research design

The present study is a quantitative study and employs correlational research design. A correlational research is used to quantitatively examine a relationship between two variables without the researcher intervention or controlling either of them. The magnitude of relationship is denoted by coefficient of correlation, a number ranging from -1 to +1. Accordingly, correlational research design is employed to ascertain the extent of connection between information seeking skills and research self-efficacy.

### 2.2 Population and Sampling

Population for the study is composed of the undergraduate students enrolled at Faculty of Social Sciences at University of Karachi. A total of participants (N=76) voluntarily responded to fill the questionnaire. A voluntary response sampling occurs when 'a group of individuals is invited to respond, and those who respond are counted.' (Stine & Foster, 2011). From this sample 34 students are male and 42 students are female. The gender distribution of the sample of participants is presented below (Table 1).

**Table 1:** Distribution of participants on the basis of gender

	Frequency	Percent
Male	34	44.7
Female	42	55.3
Total	76	100.0

## 2.3 Instrumentation

### *Academic Self Concept*

The Academic Self Concept Scale (ASCS) constructed by Liu and Wang (2005), a self-report measure of confidence in one's scholastic abilities [29]. The scale consists of two sub scales; (a) academic confidence, and (b) academic effort, each having 10 items. The validity of the Academic Self Concept Scale is .795. The reliability coefficient of the Academic Self Concept Scale is reported as .802.

### *Academic Achievement*

To assess the academic achievement of undergraduate students, their Grade Point Average scores of the previous semester were obtained.

## 2.4 Procedure

In the process of data collection, the researcher personally approached students and requested them to fill the research scale and required demographic information. Due to closure of educational institutions by reason of Covid-19, the researcher found it challenging to reach the desired respondents physically, therefore, the online method was also adapted. Physical forms along with Google forms were distributed to students in reach, and were requested to forward them to others they know of the desired sample of study. The data was analyzed and presented as the result of this study.

## 3. Results

Conforming to the present study as correlational in nature, descriptive statistics, that is, the means, and standard deviation was used to determine the academic self-concept and academic achievement. Furthermore, Pearson product-moment correlation test and independent sample t-test was applied using SPSS 21 to ascertain the interconnection between the academic self-concept and academic achievement and to compare means respectively. The academic achievement of the participants was obtained in terms of Grade Point Average (GPA) of the last semester and was measured using descriptive statistics, that is, through mean and standard deviation. The ranges of mean values along with their interpretations were estimated by the researcher to infer the level of participants' academic achievement. GPA ranging from 0-2.33 is inferred as below average, GPA ranging from 2.34-3.33 is interpreted as average and lastly, GPA falling in the range of 3.34-4.00 is considered above average.

**Table 2:** Mean Grade Point Average (GPA) of the participants

	N	Minimum	Maximum	Mean	Std. Deviation
Grade Point Average	76	.61	4.00	2.6205	.74545

It is evident from Table 2 that the mean of the undergraduate students on Grade Point Average (GPA) is 2.6205

(M= 2.605, SD= 0.745) indicating that the level of academic achievement of participants is interpreted as average. Moreover, female students (M= 2.72, SD= 0.790) have slightly greater academic achievement than male students (M= 2.498, SD= 0.678), however, it is average for both genders.

**Table 3:** Mean Grade Point Average (GPA) of male and female participants

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Grade Point Average	Male	34	2.4979	.67752	.11619
	Female	42	2.7198	.79025	.12194

Descriptive statistics were utilized to obtain the self-concept measure for undergraduate students. The ranges of mean values along with their interpretations were estimated by the researcher to interpret the level of academic self-concept. The values ranging from 0.0-1.0 are deduced as a very low level of academic self-concept; 1.1-2.0, low; 2.1-3.0, intermediate; 3.1-4.0, high and; lastly, values lying in the range of 4.1 to 5.0 will be taken as a very high level of academic self-concept.

**Table 4:** Mean academic self-concept of participants

	N	Mean	Std. Deviation
ASC	76	3.76	.476
Valid N (listwise)	76		

Table 4 illustrates the mean value and standard deviations of academic self-concept for undergraduate students. Computations reveals that collectively, participants’ academic self-concept is 3.76 (M= 3.76, SD= 0.476). Hence, it is inferred that the academic self-concept of the participants of the current study is at high level.

**Table 5:** Mean score at academic confidence component of ASCS

	N	Mean	Std. Deviation
ACACON	76	3.81	.523
Valid N (listwise)	76		

**Table 6:** Mean score at academic effort component of ASCS

	N	Mean	Std. Deviation
ACAEFF	76	3.70	.456
Valid N (listwise)	76		

Furthermore, for the academic confidence component of the research instrument, participants had a mean score of 3.81 (M= 3.81, SD= 0.523) (Table 5). Additionally, on the academic effort component of the scale, participants had the mean score of 3.70 (M= 3.70, SD= 0.456) as shown in Table 6. Thus, in the light of the above results both academic confidence and academic efforts are at high level.

**Table 7:** Mean academic self-concept of male and female participants

	Gender	N	Mean	Std. Deviation	Std. Error Mean
ASC	Male	34	3.82	.440	.075
	Female	42	3.70	.502	.077

**Table 8:** Mean difference in academic self-concept of male and female participants

Independent Samples Test							
	F	Sig.	t	df	Sig. (2-tailed)	(2-Mean Difference)	Std. Error Difference
ASC	Equal variances assumed	.503	.480	1.029	74.307	.113	.110

The mean academic self-concept for male participants is 3.82 (M=3.82, SD= 0.440) and for female participants the mean score is 3.70 (M= 3.70, SD=0.502). The level of academic self-concept for both genders is concluded as high. Independent sample *t*-test was conducted to compare academic self-concept for male and female participants. There were no significant differences in the levels for male (M= 76.35, SD= 8.8) and female (M=74.10, SD=10.043) participants;  $t(74) = 1.029$ ,  $p = 0.480$ . Thus, the results presented in Table 8 suggest no prevalence of gender difference in the level of academic self-concept with the mean difference of 0.113. Hence, the null hypothesis that there is no significant difference between the academic self-concept of male and female students is accepted.

**Table 9:** Pearson r correlation between academic self-concept and academic achievement of undergraduate students

	ASC	Grade Point Average
ASC	Pearson Correlation	.080
	Sig. (2-tailed)	.491
Grade Point Average	Pearson Correlation	.080
	Sig. (2-tailed)	.491

Pearson correlation was administered to ascertain the connection between information seeking skills and research self-efficacy. There is a very weak, positive correlation of academic self-concept and academic achievement, meaning it is statistically significant ( $r = .08$ ,  $n=76$ ,  $p = 0.01$ ) as illustrated in Table 8. Therefore, the hypothesis is rejected.

#### 4. Discussion

The aim of the present paper was to study the association between academic self-concept and academic

achievement of undergraduate students. The findings shows that the correlation between academic self-concept and academic achievement of undergraduate students is ( $r = 0.08$ ,  $p=0.01$ ) which is interpreted as a very weak, positive relationship. These findings are in accord with a significant but weak interrelationship between academic self-concept and academic achievement found by Asma-Tuz-Zahra, Arif and Yousuf (2010) [30]. Moreover, a study conducted by Meerah and Mazlan (2017) with male student-athletes also established a weak yet positive correlation between academic self-concept level and academic achievements [31]. Shahid, Jabeen and Ansari (2016) also confirmed the weak relationship of academic achievement with academic self-concept [32]. From the results of academic confidence ( $M= 3.81$ ,  $SD= 0.523$ ) and academic effort ( $M= 3.70$ ,  $SD= 0.456$ ) of the Academic Self Concept Scale (ASCS), it is concluded that undergraduate students' level is determined as high. Likewise, the level of self-concept among the participants was also reported at a high level ( $M= 3.76$ ,  $SD= 0.476$ ). Previous studies have also had the similar findings, as reported by Shaukat and Bashir (2016) students enrolled in Arts disciplines had significantly higher academic confidence [33]. In a study conducted by Shahid, Jabeen and Ansari (2016), undergraduate students hold an above average, positive self- concept in terms of their academics [32]. The value of an independent sample t-test revealed no significant difference between the male and female undergraduate students,  $t(74) = 1.029$ ,  $p= 0.480$ ) with regard to their academic self-concept. These findings are in line with the results established by Rubie-Davies and Lee (2012) in the research conducted to inspect gender imbalances in self-concept in higher education settings [34]. They found no gender difference for academic self-concept. SarAbadaniTafreshi (2006) also found no influence of gender on self-concept [35]. Furthermore, no differences in with respect to gender for academic self-concept were detected by Çakır, Şahin and Şahin's (2000) in their research study [36].

## **5. Conclusion**

It is concluded from the analysis of the data collected that academic self-concept and academic achievement of undergraduate students is weak and positively correlated. The finding of the present study is in congruence with the outcome of the study conducted by Hossaini (2002) which showed that gender had no effect on the self-concept, and self-concept in turn does not partake in influencing scholastic achievement [37]. Self-concept beliefs may be fostered in students through training and guidance. If the educators work just on students' academic achievement without boosting students' confidence in their scholarly and academic abilities, and vice versa, then, this achievement will not be enduring. Put simply, enhanced academic achievement prompts academic self-concept and better academic self-concept prompts better academic achievement. Thus, educators has no choice but to build up on both variables simultaneously. Moreover, parents and community must ensure to provide all the related social and physical requirements so as to facilitate the development of self-concept to foster and sustain the academic self-concept and academic outcomes. Future research may focus on the factors mediating the interrelationship of academic achievement and academic self-concept. Furthermore, academic self-concept and academic achievement and the role of gender may be dealt with as individual variables in the future studies. However, the results of the study should be carefully interpreted and should not be generalized because of non-probability voluntary responding samples of students at a specific university, by means of self-report measures.



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