An Analysis of Students' Academic Self-Concept in English as Predictor of their Academic Performance

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ABSTRACT

The main concern of the current work was to analyze the academic self-concept (ASC) of students in English as a predictor of their performance. For this purpose, overall, 288 students representing both genders enrolled in grade 10 were the respondents of the study. A Likert scale method was administered to find students' extent of academic self-concept to further correlate it with their obtained marks in English in the final exam of the 9th class. A demographic-based analysis was conducted under both descriptive and inferential statistics. Mean score, Standard Deviation, Pearson's Product Moment Correlation Coefficient, Independent sample t-test, and ANOVA were the major data analysis techniques involved in the analysis carried over SPSS. After analysis, a positive and significant relationship was explored between these two variables. The gender-based difference in both variables was found to be insignificant. A reasonable extent of the self-concept of respondents was also evident. The study concludes that a conducive learning environment is provided to students in academic courses and subjects keeping in view their academic self-beliefs so that they may enable themselves to identify their potential, goals, and ambitions for that particular subject and ultimately excel in it. Undoubtedly, students' healthy self-concept stimulates them for high-level performance.

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1.   Introduction

Academic performance works within a dynamic process through which students' multidimensional development is possible. The core purpose of measuring students' performance is to explore their extent of proficiency and command in any educational or academic area. Across the world, academic performance or achievement is measured through various measures of formative, summative, and paper-pencil tests commonly designed by students' own teachers or instructors or some external paper setters. The result of academic achievement is expressed in grades, percentages, marks, or CGPA. Ultimately, students' mastery of concepts, philosophies, theories, formulas, arithmetic, and language is measured and interpreted accordingly (Lone & Lone, 2016).

The exploration of factors affecting students' academic performance has always been a focal point of attention for researchers in education, educational psychology, teaching and learning. There are numerous factors that influence students' academic achievement. Academic achievement determines the success or failure of students in the concerned field. However, various determinants are involved in predicting and causing variance in academic achievement. Other than motivation, study habits, and learning styles, some personal factors

are also involved whose influence cannot be ignored. These personal factors can be related to students' self-beliefs based on their conceptions regarding their own physique, morality, sociability, and academics. One such personal factor based on students' beliefs and conceptions about academics is termed as academic self-concept (Akukananwa, Ogechi, Nnachetam, & Nnamdi, 2017; Franklin, Debb, & Colson, 2017).

Students continuously assess, presume, and evaluate their academic potential, abilities, and skills in the academic life and learning process. While doing so, they are actually satisfying their academic selves. However, they find it positive most of the time while finding it negative sometimes for a few subjects or any domain of that subject. However, whether positive or negative, their attitude affects their academic performance and achievement. If they have a healthy academic self-concept, it works as a tool for enhancing their continuous active involvement in their studies and learning. Whenever they think positively about their performance, skills, liking and disliking of any subject, it raises their inner motivation to an enhanced level that meets all the requirements for their social and mental well-being needed for studies (Galugu, 2019).

Academic self-concept is one of the students' self-perceptions, and its variation and regulation highly influence them. Their academic self-concept is critical in motivating them to be well-adjusted with schoolwork and assignments, face the pressure of exams, and work harder in school. Even when they enjoy or do not enjoy their schoolwork, they are captured by their academic self-concept. Moreover, academic self-concept demonstrates students' specific attitude towards their academic skills for any subject based on which they can improve their performance (Jaiswal & Choudhuri, 2017). Ramadhan (2017) denotes academic self-concept as a psychological construct of learners through which students can state their perception regarding their capability in a specific academic domain.

Arens, Jansen, Preckel, Schmidt, and Brunner (2021) postulate academic self-concept as a mental representation of students' general capabilities and specific abilities in various academic domains. Furthermore, self-concept of ability and perceived cognitive competence have also been employed for the nomenclature of academic self-concept. The conceptualization of this academic self-belief stems from research on self-esteem and self-views in different life domains. Ample research has documented the predictive nature of self-concept for students' self-esteem, motivation, task choice, and achievement in academic contexts. Students' self-beliefs in their academic abilities predict how they are able or not to perform in academic contexts (Gorges & Hollmann, 2019).

Self-belief in academics determines and predicts students' achievement in the future and their desired attainment level for subjects. Likewise, their aspiration to perform well to meet their expectations for academic outcomes and future careers are highly dependent on their strong belief in academic competence and academic inclination. Their positivity towards themselves academically causes them to attain desirable academic outcomes in any field like language, mathematics, and sciences. However, the formation of ASC is not the result of overnight changes as learners' experiences play a pivotal role in its formation. So, it becomes more differentiated due to one's experiences. Therefore, warranted changes in students have been reported by various research studies (Kavanagh, 2020).

Academic self-concept has two perspectives; one is when academic self-concept is measured as related to any multidimensional subject, while another perspective is uni-dimensional, in which academic self-concept is measured broadly by taking the overall performance of students rather than limiting it to any specific subjects (Dramanu & Balarabe, 2013). According to Wimmer, Lackner, Papousek, and Paechter (2019) under academic self-concept, students appraise their academic traits, academic abilities, and potential needed to perform well in their studies. They satisfy their self-efficacy and academic self-awareness. In this way, they pass through a self-evaluative process. In view of Reynolds, Scott, and Nussbaum (1980) as cited in Ramadhan (2017) ASC covers seven different domains of students' academic beliefs characterized as students' effort for grades, study habits, peer appraisal, self-confidence, satisfaction with school work, self-doubt about academic potential and self-reflection against already set standards.

Various experts of languages believe that students' self-beliefs are powerful source of affecting their performance in learning any language. In case of learning English which has become a dominant place across the world for communication, students' performance is highly affected by fluctuation of their self-regarding beliefs in English. Listening, speaking, reading and writing are major components in English class and if students' perform well in these skills it upraises their academic self-concept for English (Du, 2012).

Researchers have also been in search of finding an association between ASC and performance of those students who are taught any language. Correlational, causal comparative and Meta-analysis have also been carried out for this purpose. Valentine (2002) through their Meta-analysis of 55 longitudinal studies unveiled a highly significant and positive relationship between academic performance and academic self-perception. The conclusion of this Meta – analysis supports reciprocal effect model that both variables affect each other reciprocally.

Many research studies have been carried out around the world to investigate the effects of academic self-concept in learning English on other variables, particularly academic achievement and performance. Concerning vast impact of English learning and self-concept, it is necessary to find out how the self-concepts of learners affect their performance in English. Internationally, the construct of academic self-concept has been discussed by many researchers to explore its relationship with performance in various school subjects. However, in Pakistan very few attempts have been made to highlight the extent of self-concept of students for English language and later correlating it with their performance. Therefore, the present study was carried out keeping in view the various demographics like gender, sector of school, students' academic group as students of Humanities and Science group. So that a demographic picture be highlighted for these correlating variables. Importance of English is undeniable in schools of Pakistan as it is a compulsory subject in secondary and higher secondary classes. Furthermore, after completion of higher secondary level to pursue higher education, medium of instruction is also English.

Students' self-beliefs whether high or low for their sociality, morality, esteem, physique and academics play an influential part in their lives. In academic scenario, their self-perception regarding various courses taught at school level especially when it is about second language learning like English, their performance is highly affected by fluctuation of their academic self-concept. The major concern of the present endeavor was also to highlight academic self-concept of students to explore it as a predictor of their performance in English. In Pakistan, English is second language although it is taught as a compulsory subject to pass the exam at secondary level. Therefore, it is considered as a leading source of good and bad result of students in exams conducted by Board of Intermediate and Secondary Education. Although, various research studies have been carried out to highlight the causes of high and low performance of students in this subject like sometimes teachers' are blamed for not being competent to teach English or they lack proper teacher training for teaching English. But still in our country we have lack of such researches which may bring into attention the reasons those are in real spirit related to students' self-beliefs that are also responsible for their high and low performance in English. The Research Questions are;

- What is the extent of academic self-concept of students regarding English?
- What is the difference in academic self-concept and achievement of students?
- What are the demographic differences (Gender, Sector of school as Public or Private and Academic Group as Humanities and Science) in academic self-concept of students?
- What is the association between students 'academic self-concept regarding English and its performance?

2.   Literature Review
The emergence of the idea of an academic self-concept reminds us of our self-concept that is orchestrated by various ideas, dreams, ambitions, desires, attitudes, and outlooks about ourselves. However, keeping in view the diverse nature of human beings, it was presented under a multidimensional model by Shavelson, Hubner, and Stanton (1976) as in Deeba and Shah (2016) to depict various dimensions of self. This model reveals various facets of our self, covering global self/general self-concepts which was further broken down into academic, social, emotional, moral and physical self-concepts. Considering the diverse nature

of school subjects, academic self-concept was subdivided into academic self-concept for school subjects such as English, History, Mathematics, and Science (Deeba & Shah, 2016).

In view of Arens et al. (2021), the model proposed by Shavelson et al. (1976) invoked a surge in research to empirically validate the assumptions of the multidimensional and hierarchical structure of ASC. Therefore, the structure of ASC was deeply investigated under five models.

- Model of higher-order factors
- Marsh/ Shavelson Model;
- Marsh/ Shavelson Nested Model
- Exploratory structural equation modelling-based bi-factor representation
- Model of First Order Factors

Theoretical models of ASC theorize it as a multidimensional and hierarchical with a broad coverage of ASC in which a subject-specific self-concept is ordained at the top (Gorges & Hollmann, 2019). Three of the most important theoretical models in academic self-concept, are as followed;

- The internal/external frame of reference (I/E) model that relates Mathematics and verbal achievement to corresponding measures of academic self-concept;
- The reciprocal effects model (REM) explores relations between academic achievement and academic self-concept over time
- The big-fish-little-pond effect (BFLPE) finds the negative effect of school-average achievement on ASC (Marsh et al., 2018).

To conclude the link of self-concept and academic performance under these models (Herrera, Al-Lal, & Mohamed, 2020) reviewed the REM as the most theoretical, organized, and pragmatic model claiming mutual connection of academic self-concept and performance producing advancement in each other.

Academic self-concept is one's self-evaluation of his or her academic performance and has been importantly considered in educational research because of its robust relationship with academic motivation and achievement over time. Nne and Ekene (2021) operationally defined academic achievement as the "overall measure of students' cognitive, social, emotional, and creative outcomes that represent an indication of success or failure in the academic context in any academic domain". Academic self-concept and academic possible selves are related but distinctive constructs. Research found that there is a significant correlation between students' academic self-concept and future educational aspirations However, academic self-concept and academic possible selves are different in several ways as academic self-concept is past-oriented and stable while academic possible selves are future-oriented and malleable (Lee, 2021).

In view of Meshkat and Hosseini (2015) to explore the predictive nature of academic self-concept various studies have been conducted. The results show that ASC is a substantial predictor of students' academic performance. Contrary to it, causal nature of relationships between these two variables has also been examined. The debate confirms that academic self-concept and achievement have a reciprocal relationship. Therefore, variations in one variable may lead to fluctuation in the other. A substantial amount of data helped educators answer the two major questions: whether self-concept is a cause or an outcome of academic achievement and whether correlations between both are positive, negative, or insignificant.

Various researchers of those countries whose native language is not English, and it is taught as second language worked on academic self-concept of students in English to reveal its association with performance of students. Du (2012); Emmanuel, Adom, Josephine, and Solomon (2014) and Dramanu and Balarabe (2013) all carried out their studies regarding academic self-concept and students' performance in English. A significant and positive relationship emerged after analysis of data of these studies. It was concluded that students' self-concept regarding English be maintained by teachers by using various motivational techniques, verbal, social and tangible reinforcers. Teachers make them feel in a comfortable and conducive learning environment for the acquisition of second language. Resultantly, we

can expect that their academic self-concept be enhanced. In this way, they perform well in target language by putting all their efforts to show competencies for improving English speaking in a fluent manner, opting for advanced academic writing, having good pronunciation and showing less anxiety for English.

To be efficient in language learning is highly dependent on students 'motivation, hard work and strong self-belief to perform well. However, second language learners feel themselves unable to properly and efficiently express their ideas in a target language. They are overwhelmed by this situation. Lack of command over accent, pronunciation, academic writing and phrasing make them feel themselves inferior to excel in target language. All of this leads to damaged or unhealthy academic self-concept in language (Meshkat & Hosseini, 2015).

3.   Methodology and Procedure of the Study
Methodology and procedure opted for the study will be covered under the following aspects as

- Research Design
- Population and Sample
- Instrumentation
- Data analysis

A correlational research design was thought appropriate to answer the aforementioned research questions of the study as mainly study was concerned to explore interplay of both constructs.

To draw the sample from the population, cluster sampling technique was opted. For this purpose, firstly four clusters of the schools were created according to their locality in each zone of overall District Multan and then randomly schools were included in sample based on zone of the school. At the second step, students were chosen randomly from each selected school keeping in view the equal ratio of public private sector, male and female schools. In this way, total 16 schools were selected and 18 students were selected from each school. There were total 288 respondents of the study.

To correlate students' performance in English with the their academic self-concept for English, their marks in English in final exams of Ninth class out of seventy five were obtained from authorities of the sampled schools with prior permission.

A self-developed Likert type five-point academic self-concept scale ranging from strongly agree and strongly disagree was administered in the study. There were total 29 item in the scale having eighteen positive and eleven negative items. The scale covered items related to four language skills, students 'anxiety for English, their understanding level for English class and their efficacy in English.

For the validation of the scale, a pilot study was conducted to further refine it before its administration. Mistakes were removed as indicated by experts of the field of assessment and few items were redesigned keeping in view the understanding level of the students as some students indicted high vocabulary level and long items. Accepting the suggestions as suggested by experts, the scale was refined and finalized to administer on a large current study sample. Cronbach's Alpha was used to check its reliability with the help of SPSS. The value of Cronbach's Alpha was 0.961. For the analysis of the data, as descriptive statistics, Mean scores and Standard Deviation was employed. On more advanced level, as inferential statistics, Pearson's Product Moment Correlation Coefficient, Independent sample t-test and ANOVA were used.

4.   Study Results
Table 1 shows students' demographic information who participated in the research study. The number of male and female students was equal. Similarly, the number of students selected from the private and public sector was also the same. Science students were 96.2%, and students from Humanities group were only 3.8%.

The self-concept of average students is above average (M=66.46, SD=18.51), and the self-concept of Private sector school students was highest. The self-concept of public sector school students was lowest among others. Mean score of female students was higher as compared to their male counterparts. Two-way ANOVA was conducted to find a statistically significant difference in mean scores of self-concept for gender and sector of school. There was a statistically significant difference in mean scores of Male Public school students and Male private school students (p<.001).

Table 1: Demographic information and extent of self-concept

Variables	N	%	Self-Concept		Academic Achievement	
			M(SD)	95% CI	M(SD)	95% CI
Gender						
Male	144	50.0	65.37(19.04)	63.18-67.57	63.30(18.60)	61.15-65.44
Female	144	50.0	67.55(17.97)	65.47-69.62	67.05(19.71)	64.77-69.32
Sector						
Public	144	50.0	60.50(18.34	58.4-62.6	55.75(17.30)	53.8-57.7
Private	144	50.0	72.42(16.74)	70.5-74.4	74.59(16.24)	72.7-76.5
Academic Group						
Humanities	11	3.8	54.04(21.94)	51.51-56.58	49.94(18.63)	47.79-52.09
Science	277	96.2	66.95(18.24)	64.85-69.06	65.78(19.03)	63.58-67.97
Total	288	100	66.46(18.51)	64.32-68.60	65.17(19.22)	62.95-67.39

Figure 1: Mean Scores on Self-Concept for Gender and Sector
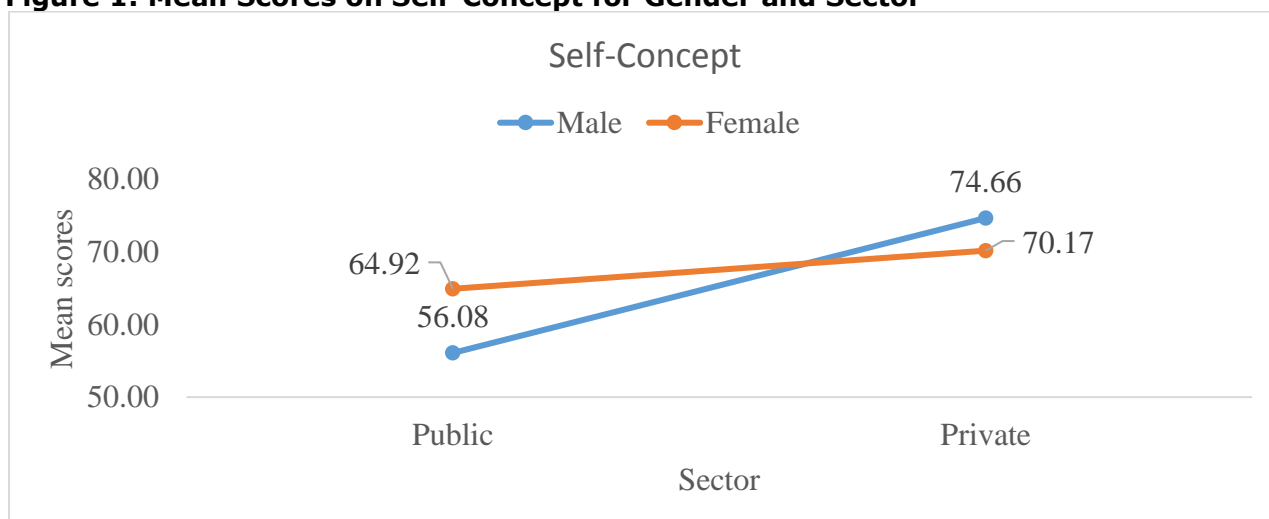
Mean scores of self-concept of Male Public school students (*M*=74.66, SD=16.37) were lower than Mean scores of self-concept of Male private students (*M*=56.08, SD=16.37). There was no statistically significant difference in mean scores of Female Public school students and Female private school students on self-concept (p=0.264). Mean scores of self-concept of Female Public school students were similar to mean scores of self-concept of Female private students. There was a statistically significant difference in mean scores of Male Public school students and Female Public school students (p=0.012). Mean scores of self-concept of Male Public school students (*M*=56.08, SD=16.37) was lower than Mean scores of self-concept of Female Public school students (*M*=64.92, SD=19.22). There was no statistically significant difference in mean scores of Male Private school students and Female Private school students (p=0.402). Mean scores of self-concept of Male Private School students were similar to mean scores of self-concept of Female Private school students.

Two-way ANOVA was conducted to find a statistically significant difference in mean scores of academic achievements for gender and public and private schools students. There was a statistically significant difference in mean scores of academic achievements of Male Public school students and Male private school students (p<.001). Mean scores of academic achievements of Male Public school students (*M*=54.6, SD=16.11) were lower than the Mean scores of academic achievements of Male private students (*M*=71.98, SD=16.87). There was a statistically significant difference in mean scores of Female Public school students and Female

private school students' academic achievements (p<.001). Mean scores of academic achievement of Female Public school students (M=56.89, SD=18.45) were different from the Mean scores of Academic achievement of Female private students (M=77.20, SD=15.26). There was no statistically significant difference in mean scores of Male Public school students and Female Public school students (p=0.846). There was no statistically significant difference in mean scores of Male Private school students and Female Private school students (p=0.241). Mean scores of academic achievements of Male Private school students were similar to Mean scores of self-concept of Female Private School students.

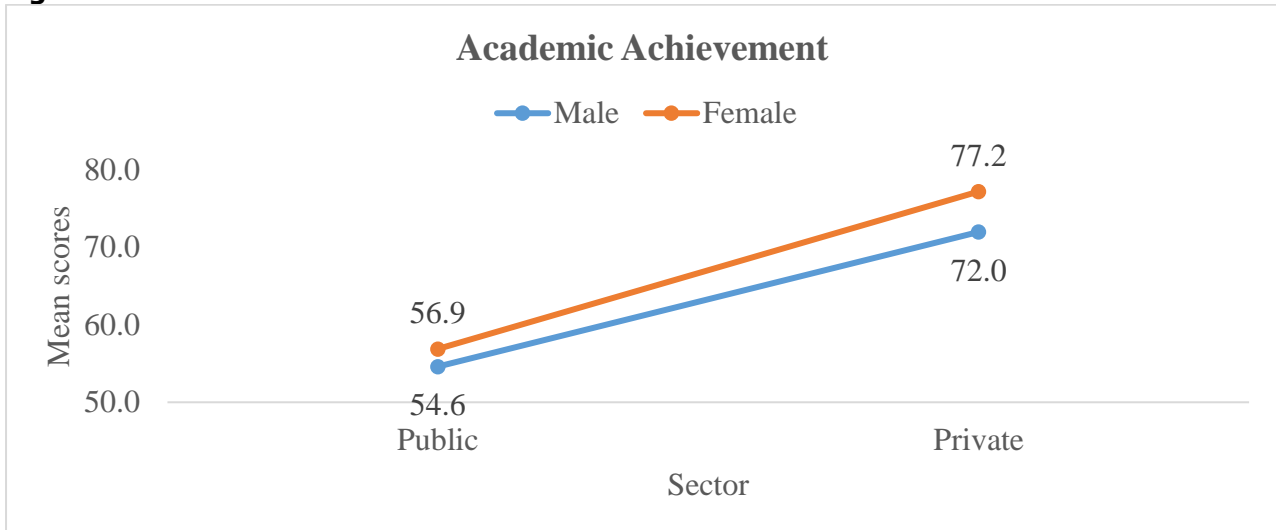**Figure 2: Mean Scores on Academic Achievement for Gender and Sector**

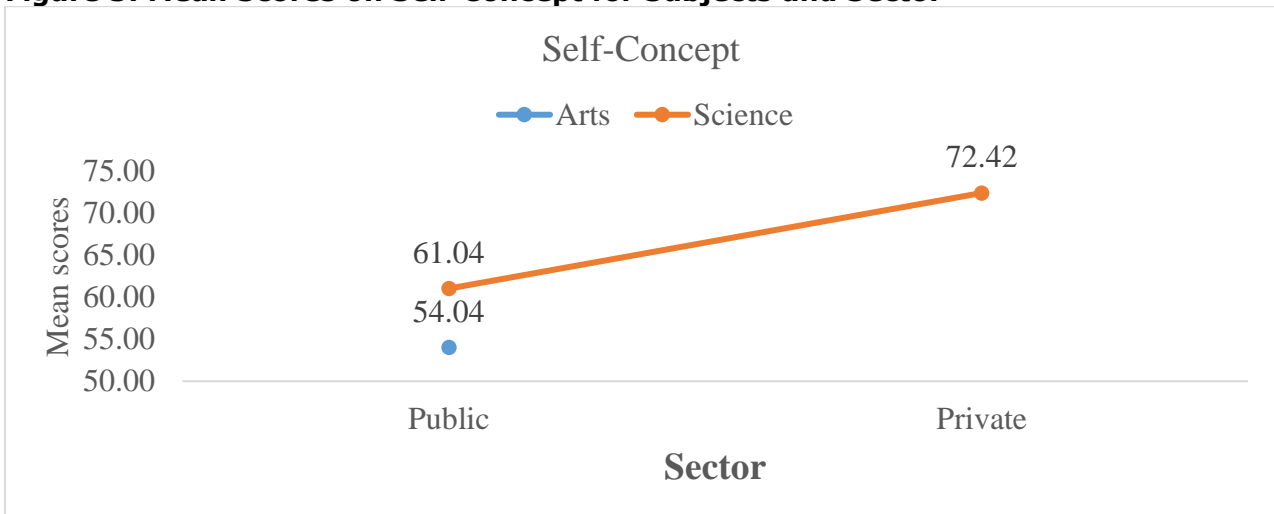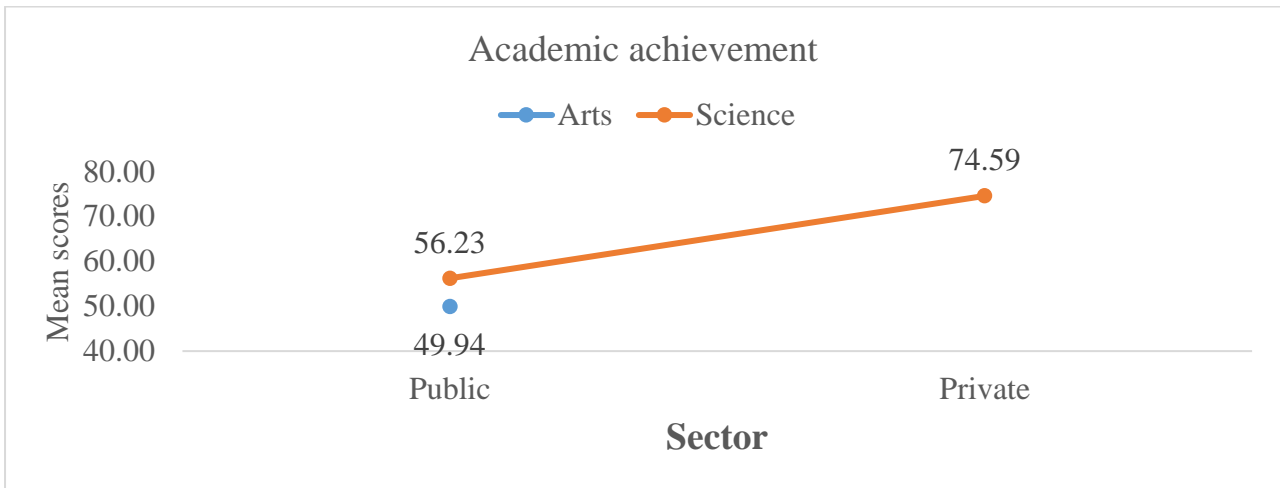**Figure 3: Mean Scores on Self-Concept for Subjects and Sector**

**Figure 4: Mean Scores on Academic Achievement for Subjects and Sector**

One-way ANOVA was conducted to find a statistically significant difference in mean scores of Academic Achievement for Sector and science students. There was no statistically significant difference in mean scores of students of humanities group of Public school and Public Science school students (p=.456). There was a statistically significant difference in mean scores of Public Humanities school students and Private Science school students on Academic Achievement (p<0.01). Mean scores of Academic Achievement of Public Humanities school students (*M*=49.94, SD=18.63) was lower to Mean scores of Academic Achievement of Public Science students (*M*=56.23, SD=17.17). There was a statistically significant difference in mean scores of Public Science school students and Private Science school students (p<.001).Mean scores of Academic Achievement of Public Science school students (*M*=56.23, SD=17.17) was lower than Mean scores of Academic Achievement of Private Science school students (*M*=74.59, SD=16.24).

Figure 5: Mean Scores on Academic Achievement and Self-Concept for Gender
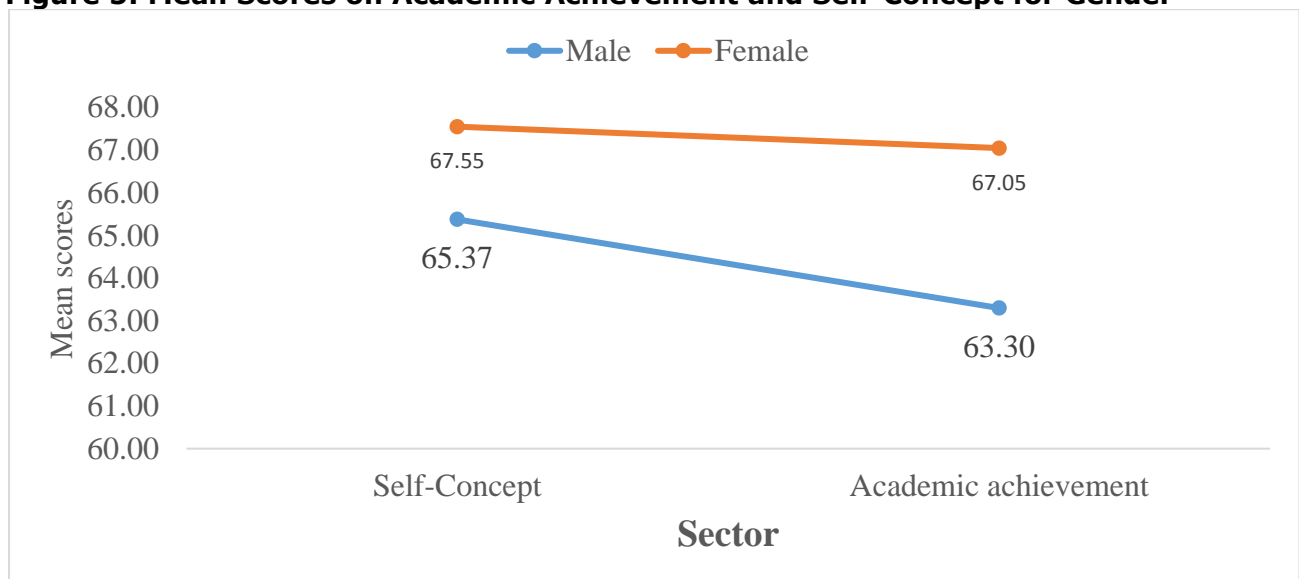
Independent samples t-test was conducted to compare male students and female students on Self-Concept and Academic Achievement. Results reflect no statistically significant difference in mean scores of male students and female students on Self-Concept and Academic Achievement (p>.05).

Figure 6:   Pearson's Coefficient of Correlation between Academic Achievement and Academic Self-Concept

Correlation between Self-Concept and Academic Acheivement
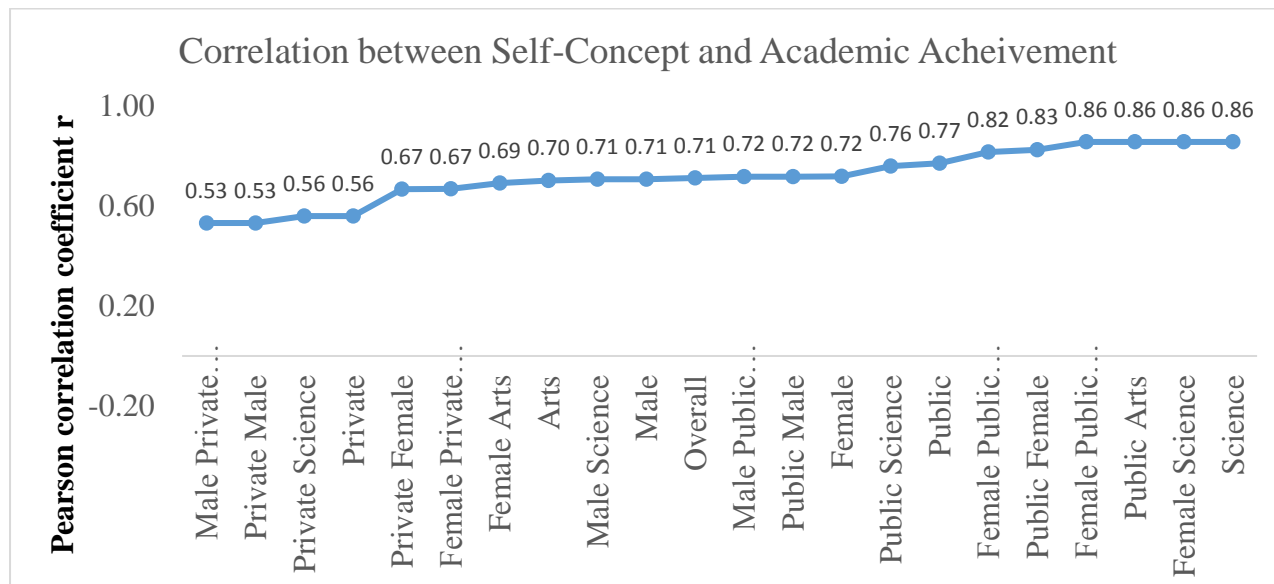
There was statistically significant positive and strong correlation between academic achievement and self-concept in all demographic variables. The range of correlation is 0.53 to 0.86.

5.   Discussion

The present study was conducted to explore students' academic self-concept as predictor of their performance in the subject of English. A significant however, positive and strong relationship was emerged after analysis of data. Results are consistent with study results by Jaiswal and Choudhuri (2017) who also found a positive correlation between these two constructs. The study results by Lone and Lone (2016) are also in line with result of the present study as their study show that there is a significant relation between self-concept and academic achievement among students. They presume after this result that students' improved academic self- concept predicts their improved academic achievement and vice versa. Similarly, Nne and Ekene (2021) also found a significant interplay between these variables.

The results of present study are in accordance with outcomes by Ramadhan (2017) who also established a significant association between ASC and performance of students. Her respondents' performance in English was also influenced by their ASC as confirmed by Linear Regression. She also claims that ASC works as a dominant predictor of students' high and low performance. Meshkat and Hosseini (2015) established a significant association between students' performance in test of English and their academic self-concept. The study results carried out by Ude and Onah (2017) presented a positive association between students' academic self-concept and their performance. In the context of Pakistan Ajmal and Rafique (2018) also explored a strong strength of association between these two variables. It was also a positive interplay like the results of the current study.

Contrary to it Nne and Ekene (2021) explored an insignificant low interplay and negative strength of correlation between academic self-concept and performance of students. Moreover, Jaiswal and Choudhuri (2017) found gender differences in academic self-concept and performance of students. Regarding academic self-concept, Matovu (2012) supports two parameters as dominating in affecting performance of students those are gender and students' academic group as Humanities and Sciences. However, analysis of the current data echoed no statistically significant gender based difference in mean scores of studied variables. Outcomes are consistent with study results by Hamed, Hussin, and Jam (2017) and Akukananwa et al. (2017) who also found a low and negative correlation between academic self-concept and students' performance in English.

6.   Conclusion

Qalavand, Srarvazad, Kalanzadeh, Bakhtiarvand, and Roshani (2013) claim that in language learning academic self-concept may direct learners' performance in general and their command over grammar and composition in particular. However, dominance of few other

internal and environmental determinants is undeniable like their intrinsic and extrinsic motivation for learning second language, their attitude towards the target language they are going to learn and the social context in which they going to master that second language.

To sum, various factors are involved in success and failure of students in English and self-concept is one of those crucial factors. If students find themselves confident, efficacious, competent and comfortable for learning English, they are motivated to engage themselves for this subject. Undoubtedly, students' outlook for their academics like their strong conviction regarding their potential in any course, anxiety and motivation level, competencies altogether affect positively or negatively their performance. However, to learn a foreign language is always stressful for students. In this scenario, they only need a high level of self-concept and esteem to deal competently with listening, speaking, reading and writing. Students' healthy and strong academic self-concept supports them to perform well. However, teachers should also play their key role while identifying students' self-perceptions and self-awareness regarding their academics in a discreet manner. On the basis of identification of extent of students' self-beliefs, they can be assigned various tasks that may help to upraise their performance.

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Appendices

Table 1:   Mean scores of self-concept and academic achievement across Gender and Sector

Variables	Male		Female		Total	
	Public M(SD)	Private M(SD)	Public M(SD)	Private M(SD)	Public M(SD)	Private M(SD)
Self-Concept	56.08(16.37)	74.66(16.93)	64.92(19.22)	70.17(16.35	60.50(18.34)	72.42(16.74)
Academic achievement	54.61(16.11)	71.98(16.87)	56.89(18.45)	77.20(15.26)	55.75(17.30)	74.59(16.24)

Table 2: Pair wise comparison gender and sector

Study Variables	Comparison	Mean diff.	SE	p
	Self-Concept			
	Male Public with Male Private	-18.58	2.88	<.001
	Female Public with Female Private	-5.25	2.88	0.264

Male Public with Female Public	-8.841	2.88	0.012	
Male Private with Female private	4.49	2.88	0.402	
Academic achievement				
Male Public with Male Private	-17.37	2.79	.000	
Female Public with Female Private	-20.31	2.79	.000	
Male Public with Female Public	-2.278	2.79	.846	
Male Private with Female Private	-5.22	2.79	.241	

*p<.05, **p<.01. ***p<.001

Table 3: **Mean scores of self-concept and academic achievement across Sector and Academic group**

Variables	Public		Private	Total	
	Arts M(SD)	Science M(SD)	Science M(SD)	Arts M(SD)	Science M(SD)
Self-Concept	54.04(21.94)	61.04(18.00)	72.42(16.74)	54.04(21.94)	66.95(18.24)
Academic achievement	49.94(18.63)	56.23(17.17)	74.59(16.24)	49.94(18.63)	65.78(19.03)

Table 4: Pair wise comparison sector and Academic groups

Study Variables	Comparison	Mean diff.	SE	p
	Self-Concept			
	Public Arts with Public Science	-6.99	5.50	.413
	Public Arts with Private Science	-18.37	5.49	.003
	Public Science with Private Science	-11.38	2.11	<.001
	Academic achievement			
	Public Arts with Public Science	-6.29	5.26	.456
	Public Arts with Private Science	-24.65	5.24	<.001
	Public Science with Private Science	-18.36	2.02	<.001

*p<.05, **p<.01. ***p<.001

Table 6: **Mean scores of self-concept and academic achievement across Gender and Academic group**

Variables	Male	Female		Total	
	Science M(SD)	Arts M(SD)	Science M(SD)	Arts M(SD)	Science M(SD)
Self-Concept	65.37(19.04)	54.04(21.94)	68.66(17.24)	54.04(21.94)	66.95(18.24)
Academic achievement	63.30(18.60)	49.94(18.63)	68.46(19.19)	49.94(18.63)	65.78(19.03)

Table 7: Pair wise comparison sector and Academic groups

Study Variables	Comparison	Mean diff.	t	p
Self-Concept	Male Science with Female Arts	11.33	1.883	.062
	Male Science with Female Science	-3.29	-1.504	.134
	Female arts with Female Science	-14.62	-2.65	.009**
	Arts with Science	-12.91	-2.29	.023*
Academic Achievement	Male Science with Female Arts	13.36	2.295	.023*
	Male Science with Female Science	-5.16	-2.27	.024*
	Female arts with Female Science	-18.52	-3.08	.002**
	Arts with Science	-15.84	-2.71	.007**

*p<.05, **p<.01. ***p<.001

Table 8: Mean scores of self-concept and academic Group

Variables	Male M(SD)	Female M(SD)	Mean diff.	t	*p. value*
Self-Concept	65.37(19.04)	67.55(17.97)	-12.91	-2.285	.023*
Academic achievement	63.30(18.60)	67.05(19.71	-15.84	-2.71	.007**

*p<.05, **p<.01. ***p<.001

Table 9: Correlation between self-concept and academic achievement

Variable	r	Variable	r
Male Public Science	.719**	Private Male	.533**
Male Private Science	.533**	Private Female	.669**
Female Public Science	.817**	Male Science	.709**
Female Public Arts	.858**	Female Science	.858**
Female Private Science	.670**	Female Arts	.693**
Public Science	.761**	Public	.772**
Public Arts	.858**	Private	.561**
Private Science	.561**	Science	.858**
Public Male	.719**	Arts	.703**
Public Female	.827**	Male	.709**
Overall	.714***	Female	.720**

Table 4.10: Two-way ANOVA: Self-Concept and demographic variables

Tests of Between-Subjects Effects
Dependent Variable: Self-Concept

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13763.25ª	3	4587.8	15.4	<.001
Intercept	1272104.17	1	1272104.2	4271	<.001
Gender	340.39	1	340.4	1.1	.286
Sector	10222.86	1	10222.9	34.3	<.001
Gender * Sector	3200.0	1	3200.0	10.7	.001
Error	84588.7	284	297.8		
Total	1370456.12	288			

a. R Squared = .140 (Adjusted R Squared = .131)

Table 4.11: Two-way ANOVA: Academic Achievement and demographic variables
Tests of Between-Subjects Effects
Dependent Variable: Academic Achievement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	26731.6ª	3	8910.558	31.895	<.001
Intercept	1223221.78	1	1223221.784	4378.420	<.001
Gender	1012.50	1	1012.500	3.624	.058
Sector (Public, Private)	25563.12	1	25563.117	91.501	<.001
Gender * Sector	156.06	1	156.056	.559	.455
Error	79342.54	284	279.375		
Total	1329296.00	288			
Corrected Total	106074.22	287			

a. **R Squared =** .252 (Adjusted R Squared = .244)