

## Self-esteem as a predictor of students' academic achievement in the colleges of education

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### Abstract

The quality of students' academic achievement (AA) determines the effectiveness in the College of Education (CoE). In the educational sector, resolving low confidence or attachment issues that affect AA may necessitate addressing self-esteem. The main purpose of the study was to examine self-esteem (SE) as a predictor of students' AA in the CoE in Ghana. The descriptive cross-sectional survey design within the positivist paradigm was employed. Multi-stage sampling procedures were used in the sample selection process. In all, 325 students were selected from six CoE to participate in the study. The questionnaire was used to collect data from the respondents and was tested using inferential statistics (Structural Equation Model, and Moderation analysis). The findings showed that SE predicted students' AA. The result discovered that gender does not moderate the relationship between SE and AA of the students.

**Keywords:** Academic Achievement (AA); CoE; Gender; Self-Esteem (SE).

## 1. Introduction

The quality of students' academic achievement (AA) determines the effectiveness in the College of Education (CoE). In the educational sector, resolving low confidence or attachment issues that affect AA may necessitate addressing self-esteem (SE) (Bennett, 2003). It is worth noting that other elements, such as SE, may assist students in achieving AA. The importance of SE as a construct in supporting positive AA has been contested and studied (Sirin & Sirin, 2004). Every student in a school setting, regardless of ethnicity or financial class, has to have a positive sense of SE (Van Den Berg, Mond, Eisenberg, Ackard, and Neumark-Sztainer, 2010). Students must have SE to feel accomplished, competent, and confident in their academic endeavors, as well as freedom and control.

SE is defined by Neff and Vonk (2009) as one's total evaluation of oneself, whether positive or negative. It expresses how capable and deserving of existence a person considers himself or herself to be. SE is just one's opinion of one's skill and value. Woolfolk (2005) defines self-esteem as an emotional act that adds up the value or worth, we place on our self-assessments. Because it incorporates how people believe about their strengths and faults. SE is regarded to be less malleable than self-concept. SE is a thorough sense of worth or capacity as an individual, as well as a broad sense of self-acceptance, kindness, and self-worth (Flett, Besser, Davis, & Hewitt, 2003). SE is frequently utilized as a predictor of happiness or well-being in general (Cheng, & Furnham, 2003). AA is a source of self-worth. A person's SE and confidence are boosted by good academic scores. According to Abdel-Khalek, SE is an essential part of mental health and student AA (2007). People who have a high sense of SE are happier, more optimistic, and have higher AA than those who have a poor sense of self-worth. In the face of challenging tasks, people with high SE are more likely to persevere than those with low SE.

Students with high SE, according to Lavoie (2012), can positively influence others' opinions and behavior; they approach new situations positively and confidently; they have a high level of frustration tolerance; they accept early responsibilities; they communicate positive feelings about themselves; they succeed in having good self-control, and they believe that the things they are experiencing are the result of their behavior and actions. Students with low SE, on the other hand, feel worthless, inadequate, and emotionally unstable, leading to life unhappiness and scholastic failure (Ha, 2006). Depression, violence, an inability to overcome problems, and poor AA have all been linked to low SE. (Stavropoulos, Lazaratou, Marini & Dikeos, 2015). College students who report emotional maltreatment have worse SE than those who do not, according to Weber (2001). Some students' poor AA in the CoE could stem from a lack of SE.

### 1.1. Related research

#### 1.1.1. Identity Theory and Self-Esteem

A set of meanings that describe the understandings, sentiments, and expectations that are ascribed to the self as a holder of a social position is referred to as an identity (Stets & Burke, 2005). In an identity-control system, these meanings serve as standards or reference levels. According to Stets and Burke (2005), each identity-control system has four key conceptual elements. Identity standard, comparator, output, and input are the four elements. Individuals can use identity norms as a guide to maintain meanings and expectations. Perceptions of self-relevant meanings in the social environment are entered into the system as inputs. These perceptual inputs are compared to meanings in the standard by the comparator. The system's output is meaningful behavior that attempts to change the situation to maintain a match between self-relevant perceptions of the situation and meanings in the standard. This is the process of self-validation.

The role identity (self-verification process) provides behavior that corresponds to self-relevant meanings in the circumstance and the identity standard's meanings and expectations. The acts taken to accomplish this are referred to as role behaviors, and these behaviors form the social structure in which

the role is enmeshed. Perceptions of behaviors that are relevant to the identity that the individual is attempting to verify thereby become relevant to that identity's verification (Cast & Burke, 2002).

The implication of the theory is when a CoE student believes that in his function as a student, he should be doing his academic work, he will act in ways that reflect that, and meanings in the scenario that is relevant to the verification of that identity. Again, because it is relevant to the authentication of that identification, such a student will begin to pay attention to the amount of time he spends on his academic work. The main "objective" in identity theory is to align observed meanings in the circumstance with internal meanings of the identity standard, emphasizing a strong link between goals and accomplishments. Students with a high sense of self-worth are thought to have a higher AA. As a result, it is reasonable to consider self-esteem as a direct result of academic achievement.

The relationship between SE and AA has received a great deal of study (Neff, & Vonk, 2009). Some researchers investigated the relationship between SE and AA and discovered that having a high level of SE aids AA. In some studies, there was also no link between SE and AA (Pullmann & Allik, 2008). Cvencek, Fryberg, Covarrubias, and Meltzoff (2017), for example, looked at the self-concept, SE, and AA of minority and majority elementary school students. The findings revealed that both majority and minority students have high SE. Minority primary school children showed a worse academic self-concept and AA than the majority.

In a study of pre-university students, Mohammad (2010) looked at the link between SE and AA. The findings indicated that a high level of SE is a significant factor in predicting student AA. Arshad, Zaidi, and Mahmood (2015) studied university students' SE and AA. Purposive sampling was used to choose a total of 80 students. The Rosenberg SE Scale and the AA Rating Scale were used to assess' SE and AA. Correlation and t-test were used to test the hypothesis. SE and AA were found to have a significant connection ( $r=0.879$ ,  $p.01$ ). Twinomugisha (2008) researched university students. A total of 37 people took part in the research. The findings of this study revealed that SE and CGPA had a positive link ( $r=.048$ ).

Other studies also showed no link between a SE and AA. Gifford, Briceno-Perriott, and Mianzo (2006) investigated the relationship between success motivation, SE, and locus of control, as well as university students' AA. The independent variables did not predict students' AA, according to the results of multiple regression analysis. Naderi, Abdullah, Aizan, Sharir, and Kumar (2009) looked into SE, gender, and AA. Rosenberg SE Scale was completed by 153 students in total. The study found that SE and AA have no link, according to the results of the study.

Goodarzi investigated the SE levels of male and female athletic students et al. (2008). A total of 282 students were used in the investigation. According to the data, female athletes expressed higher SE, pleasure, and life satisfaction than male students. Female students expressed higher SE than male students, even though both groups achieved the same level of SE. Sadaat, Ghasemzadeh, and Soleimani (2012) set out to investigate university students' SE and AA. According to the findings of a study including 370 students, there was a substantial difference in SE between male and female students. Male students, on the other hand, scored higher than female students.

Tamini and Valibeygi (2011) investigated the effects of gender and age on students' SE and its dimensions. The study's sample size was 206 students (101 females and 105 males) who were chosen randomly. Data was gathered using the SE Scale. An independent t-test was performed to compare the mean scores of female and male students, and the results revealed that male students had significantly higher total SE ratings than female students.

Some research, on the other hand, discovered no gender differences. For example, Mohammad (2010) wanted to see if there were any variations in SE between boys and girls. The data was collected using a random sampling method. There was no significant difference in SE between males and females,

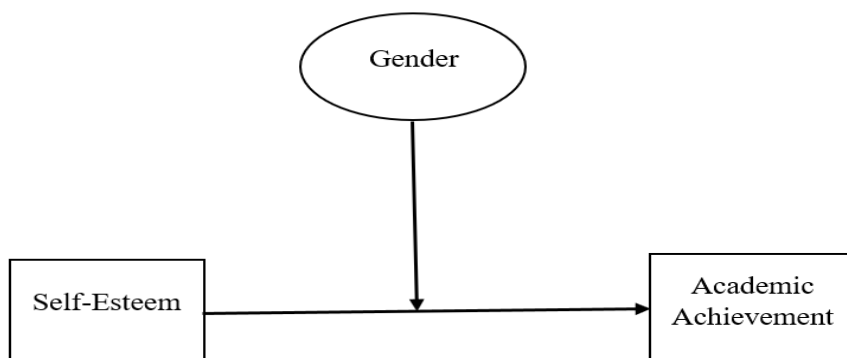
according to the findings. Sadia (2013) investigated gender inequalities in university students' SE. The study enlisted the participation of 120 students (60 males and 60 females). The approach of convenience sampling was adopted. The findings indicated that there were no significant variations in SE levels between male and female students.

### 1.2. Purpose of study

These studies produced contradictory results, implying that more study with a diverse demographic and larger sample size is needed to produce new conclusions. SE has been connected to a range of factors, including academic success, in the majority of research. In truth, Western industrialized culture has amassed a wealth of information on SE. Ghana has produced a small number of research papers with students from the CoE. However, according to the researcher's understanding, there are few studies on SE among CoE students. Ghana has unique qualities in terms of geography, history, language, religions, culture, and child-rearing practice, among other things, and how Ghanaian people respond to questions may differ from how people in the Western world respond to questions due to cultural differences, among other things. SE as a predictor of AA in Ghana's CoE requires more research. The main purpose of this study was to examine self-esteem (SE) as a predictor of students' AA in the CoE in Ghana.

The investigation proposes a link between SE and AA based on the literature evaluated. The model describing the relationships between the variables is shown in Figure 1. The association between SE and AA is thought to be moderated by gender.

**Figure 1: Relationship between SE, gender, and AA**



### Hypotheses

1. **H0:** SE will not predict students' AA in the CoE in Ghana.  
**H1:** SE will predict students' AA in the CoE in Ghana.
2. **H0:** Gender will not moderate the relationship between SE and students' AA in the CoE in Ghana  
**H1:** Gender will moderate the relationship between SE and students' AA in the CoE in Ghana

### 2. Materials and methods

The study employed a cross-sectional descriptive survey design. As proposed by Amedahe (2002), this approach allows for the collection of data to test hypotheses or answer questions about the current status of the persons under research. Cohen, Manion, and Morrison (2007) advocate this methodology for generalizing from a sample to a population so that conclusions can be drawn about some of the population's features, attitudes, and behaviors. Through recording, coding, analyzing, and reporting the conditions, the design has the advantage of evaluating perceptions, attitudes, and behaviors in their

natural setting without the need for external manipulations. Individuals reporting from their perspective and understanding are the greatest judges of self-esteem concerning academics. This is backed up by Best and Khan (2009), who claim that surveys are the best way to study social phenomena.

The study also used a quantitative approach to look into CoE students' self-esteem about AA. This paradigm permits a sample of the population to be used as a sample in the data collection process of asking questions (Fraenkel & Wallen, 2003) and the findings to be extrapolated to all students in the Ghanaian CoE. The quantitative technique from the positivist paradigm was allowed due to the nature of the phenomena, as it aids in the depiction of relationships, cause and effects, and social reality to any research phenomenon regardless of the researchers' perspective (Gay, Mills & Airasian, 2009). This study meets the criteria for measuring social reality using a questionnaire. It also encourages the use of inferential statistics for data analysis, as the variables of concern lend themselves better to inferential statistical analysis in an attempt to uncover the current actuality of the objectives.

### **2.1. Sampling**

The study's target population was all Ghanaian CoE students. In Ghana, there are forty-six (46) CoE (Institute of Education, 2021). There are five zones in which public CoE are located namely, Northern Zone has 10 CoE, the Ashanti/Brong Ahafo Zone have CoE, the Volta Zone also have 7 CoE, the Eastern/Greater Accra Zone has 9 CoE, and the Central/Western Zone which also have 7 CoE. The accessible population for the study was level 300 students from 6 CoE in Ghana which amount to 2,160 (Institute of Education, 2021). In the selection procedure, multi-stage sampling techniques were applied. The overall number of CoE to be picked from each of the zones was determined using a proportionate sampling technique. Following that, the CoE was chosen using simple random sampling. To determine the total number of students to pick from the CoE, the proportionate sampling technique was utilized once more. Thereafter, simple random sampling specifically, the table of random numbers was used to select the students. All 325 students were selected based on Krejcie and Morgan's (1970) sampling size determination table.

### **2.2. Data Collection Instrument and Analysis**

Rosenberg's (1964) SE Scale was adopted and used in the study. The scale has a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Students' achievement test scores were taken from the Institute of Education, University of Cape Coast. Structural Equation Model (SEM) and Process Analysis by Hayes were used to test the hypotheses.

#### **2.2.1. Pre-Testing**

Pre-testing was carried out to validate the instrument, that is, to determine whether it was valid and dependable for the main data collection. The researchers used 150 students who were not part of the study for pre-testing the instrument. The reliability coefficient of the scale was .86.

#### **2.2.2. Validation of the Scale**

The scale was eventually tested. Confirmatory Factor Analysis (CFA) and a covariance-based Structural Equation Model (SEM) were used to validate the model. When it comes to completing a CFA, this type of SEM is effective. As a result, a previously identified scale was used and verified using CFA for this study. Before the final data collection, items with low factor loadings (i.e., less than .30) were discarded (Pallant, 2010). Additionally, convergent validity was determined using an AVE of .50 or higher (Fornell & Larcker, 1981).

### 3. Findings

#### 3.1. Confirmatory Factor Analysis on Self-Esteem Scale

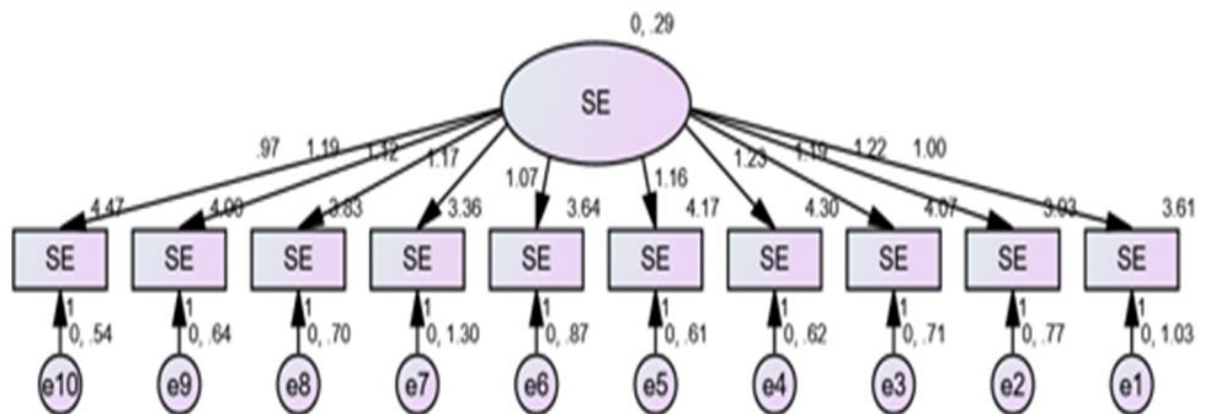
This section presents the results on the SE scale. The details of the CFA are presented in Table 1.

**Table 1: Item loadings, AVE, and Composite Reliability of NS**

Dimensions	Items	Loadings	AVE	CR
Self-Esteem needs	SE10	.600	.38	.71
	SE9	.746		
	SE8	.595		
	SE7	.479		
	SE6	.578		
	SE5	.638		
	SE4	.736		
	SE3	.689		
	SE2	.599		
	SE1	.485		

SE1 – SE10 = questionnaire items

As indicated in Table 1, all of the items had factor loadings greater than .30, hence they were kept. These items were kept because their factor loading was higher than the required loading .30 (Pallant, 2010). All of the Average Variance Extraction (AVE) values for the dimension in Table 1 were less than .50, indicating that the dimension lacks convergent validity. AVE was also used to test convergent validity (Fornell & Larcker, 1981). It can also be seen that all of the Composite Reliability (CR) values were above .50, indicating that the dimensions are more reliable. In the end, the ten elements were kept for the data gathering. The hypothesized model is shown in Figure 2.



**Figure 2: Self-Esteem Scale**

#### 3.2. Demographic/Background of the Respondents

The study requested each respondent to indicate his or her background characteristics since these characteristics and attributes could influence their responses. Table 2 presents the results of the analysis of the respondent's gender.

**Table 2**  
*Gender of students*

Subscale	Frequency	Percentage (%)
Male	200	61.5
Female	125	38.5
Total	325	100.0

Source: Field data, 2021

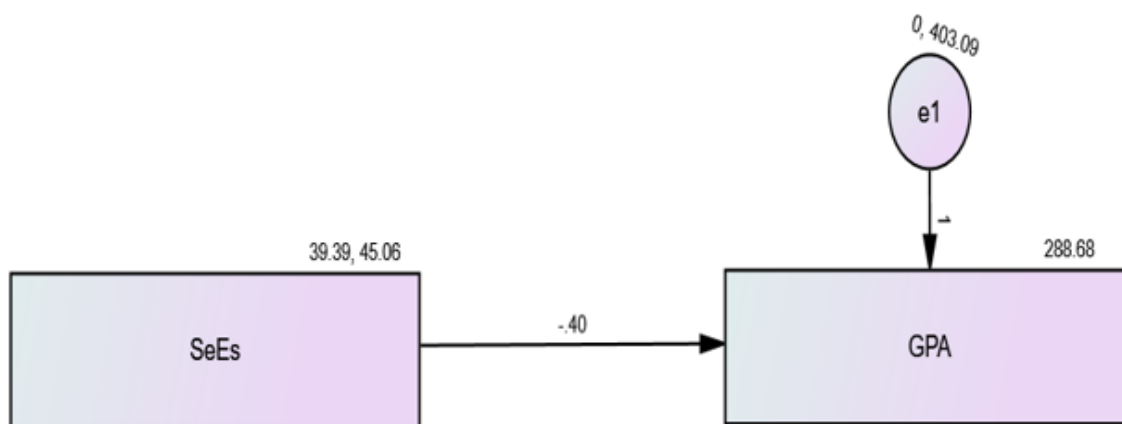
Inferring from Table 2, out of the 325 respondents who were involved in the study, 200 were males representing 61.5% while 125 were females representing 38.5%. Thus, the majority of the respondents were males. This, therefore, reinforces the clarion call to improve upon the ratio of girls as compared to boys in the CoE.

### 3.3. Hypothesis One

H0: Self-esteem will not predict students' academic achievement in the CoE in Ghana.

The main aim of the hypothesis was to examine how self-esteem will predict students' academic achievement in the colleges of education. SEM path analysis with 5000 bootstrap samples, with bias-corrected accelerated confidence intervals, was performed. The exogenous (predictor) variable was self-esteem [SeEs] which was measured continuously. The criterion variable was an academic achievement which was measured using students' achievement test scores. Details of the results are presented in Figure 3 and Table 3.

**Figure 3** :Path model for self-esteem and academic achievement



From Figure 3, self-esteem predicts students' academic achievement by  $-0.40$ , with mean and error variances of  $(39.39, 45.06)$  for self-esteem [SeEs] and  $288.68$  intercepts for academic achievement (GPA). Table 1 presents the results of the test of significance prediction.

From Table 2, self-esteem explained 18% of the variance in academic achievement. Self-esteem is a significant predictor of academic achievement,  $B = -0.40$ , Boot 95%CI  $(-0.727, -0.073)$ . This result ( $B = -0.40$ )



implies that self-esteem positively predicts students' academic achievement. The result indicates that an additional increase in self-esteem would lead to a -.40 increase in academic achievement by students.

**Table 3: Regression Model for Self-Esteem and Academic Achievement**

Model	B	SE	CR	95% Confidence Interval	
				Lower	Upper
(Constant)	288.680	6.650	43.480	275.597	301.762
Self-Esteem	-.400	.166	-2.407	-.727	-.073

Source: Field data, 2021

\*Significant,  $p < .05$ ;  $R^2 = .018$

Generally, based on the results, it can be said that higher self-esteem would lead to a higher level of students' academic achievement.

### 3.4. Hypothesis Two

H0: Gender will not moderate the relationship between self-esteem and students' academic achievement in the colleges of education in Ghana.

The hypothesis aimed to examine the moderating role of gender on the relationship between self-esteem and students' academic achievement in the colleges of education in Ghana. The data was analyzed using Hayes PROCESS Macro. The analysis made use of 5,000 bootstrap samples with a 95% confidence interval. Gender was the moderator; the predictor variable was self-esteem and academic achievement was the criterion variable. The results are presented in Tables 4 and 5.

**Table 4: Model Summary**

R	R-Square	F	df1	df2	P
.3487	.1216	14.8136	3.0000	321.0000	.0000

Source: Field Data, 2021

In the model summary, the R Square value was .1216 which accounted for 12.16% of the variance in the self-reported academic achievement of the students. It was again, revealed that the model summary was significant,  $F(3, 321) = 14.8136$ ,  $p = .0000$ . Table 5 present the results for the regression model.

**Table 5: Moderating Role of Gender on the Relationship between Self-Esteem and Students' Academic Achievement**

Variable	B	SE	t-value	p-value	BootLL	boot
(Constant)	287.7955	7.6690	37.5269	.0000	276.7076	302.8835
Self-Esteem	-.2455	.1942	-1.2638	.2072	-.6276	.1367
Gender	-6.5256	13.5650	-.4811	.6308	-33.2131	20.1618
Self-Esteem *Gender	-.1740	.3366	-.5171	.6054	-.8362	.4881

Source: Fiel data, 2021

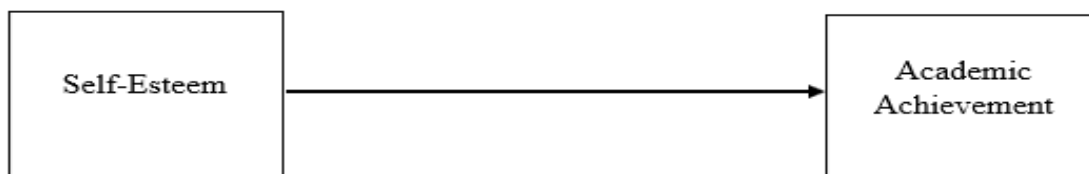
\*Significant,  $p < .05$

From Table 5, further analysis revealed that gender does not moderate the relationship between self-esteem and academic achievement of the students [ $b = -.174$ ,  $SE = .337$ ,  $BootCI(-.8362, .4881)$ ]. In



other words, if a person has higher self-esteem, the person is highly predisposed to higher academic achievement regardless of gender. We, therefore, present our model in Figure 3

**Figure 4:**Final observed model



#### 4. Discussions

The study results revealed that self-esteem predicts students' AA in the CoE. The results are in line with Arshad, Zaidi, and Mahmood (2015) who studied university students' self-esteem and AA. Purposive sampling was used to select a total of 80 students. The Rosenberg Self-Esteem Scale and the Academic Achievement Rating Scale were used to assess self-esteem and AA. Self-esteem and AA were found to have a significant connection. The study results are in support of the claims made by Abdel-Khalek (2007) who stated that self-esteem is an important aspect of mental health and student AA. People with high SE are happier, more optimistic, and achieve greater AA than those with low SE. People with high SE are more likely to persevere than those with low SE in the face of difficult tasks. According to Lavoie (2012), students with high SE are capable of positively influencing others' opinions and behavior; they approach new situations positively and confidently; they have a high level of tolerance for frustration; they accept early responsibilities; they communicate positive feelings about themselves; they succeed in having good self-control and they believe that the things they are experiencing are the result of their behavior and actions. It is considered that when a person is in this state, his or her chances of succeeding in school increase dramatically as this study results postulate.

Gender does not moderate the association between students' SE and AA, according to the study. The implication is that both male and female students have a similar link between SE and AA. However, regardless of gender, it can be argued that students with strong self-esteem perform better in academics. This is in line with research undertaken by Mohammad (2010), and Sadia (2013), all of which sought to determine whether boys and girls have different levels of academic SE. Their findings revealed that there were no significant differences in SE between male and female students.

#### 5. Conclusion

The study revealed that students with high SE are better able to handle unpleasant events, cope successfully with academic tasks or obstacles, accept happy moments, participate in close relationships, and increase their AA. The study also found that gender does not significantly moderate the relationship between SE and AA. This implies that the influence of SE on AA is similar for both male and female students. One possible explanation for these findings is that male and female students place a higher value on boosting their SE and having a favorable attitude toward school, which has a positive impact on their AA.

Although the study found that students' SE predicted their AA, the study recommended that a series of seminars being held in the CoE to help students (male and female) establish and increase their SE. It is assured from the study findings that, the higher their SE, the higher their confidence and AA.

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