

Academic Self-Concept and Academic Performance of College of Education Students

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Abstract

The study examined academic self-concepts (ASC) and academic performance of College of Education students in Ghana. The descriptive survey design was adopted using a sample of 229 students. An original ASC scale by Liu & Wang (2005) was adopted and used for the study. Independent sample T-test and multiple linear regression were the tools used in testing the hypotheses. The findings of the study showed that there is no statistically significant gender difference in ASC of College of Education students. The study further revealed that ASC did not predict academic performance of College of Education students. The study recommends that, stakeholders such as teachers and parents must consider a variety of factors that can influence the development of a healthy ASC and must also encourage, monitor, and supervise students to put in some effort in their studies because effort promotes academic performance. The study again, recommends that academicians should hold workshops and seminars to students in developing a stronger self-concept so that they can improve their abilities and lead a successful life in the future. Students with low ASC may benefit from counseling sessions in order to enhance their academic standing. It may be suggested that curriculum designers pay attention to the relevance of self-concept and create courses that will encourage students to think critically and thoroughly in order to improve their self-concept.

Keywords: key words, academic self-concepts and academic performance

DOI: 10.7176/JEP/12-24-06

Publication date: August 31st 2021

1. Introduction

For a variety of factors, academic success is a significant predictor of a student's transition. Students who perform well in school are more likely to graduate from high school and attend and complete college than their peers who perform poorly (Schnepf, 2006). Test scores in Colleges of Education predicts future performance in the work market in terms of higher pay. (Joppke & Morawska, 2003). Lower levels of education and skills are linked to lower levels of economic performance, including a higher probability of poverty and reliance on government assistance (Eurydice, 2004). Thus, a student's academic performance is important because it contributes to their future success. Students' academic success may be influenced by a variety of factors, including their cultural experience with the educational system, (Deyhle & Swisher, 1997), linguistic proficiency (Lansford, Deater-Deckard, & Bornstein, 2007), socioeconomic resources (Fuligni & Fuligni, 2007), parental involvement in education (Fuligni, 1997), parental aspirations (Taylor & Krahn, 2005), family obligation (Fuligni, 2001), academic self-concept (ASC) (Cokley & Patel, 2007), and academic motivation (Fuligni, 2001).

In recent years, the study of ASC has sparked a surge of interest by psychologist. Given that it has been approached from various theoretical viewpoints, it is difficult to find a unanimous, agreed description of the term self-concept, despite the abundance of studies devoted to it. Nonetheless, all of the writers accept that the word "self-concept" has several dimensions. The set of characteristics, strengths, virtues and shortcomings, capacities and limitations, beliefs and relationships that a person know to be representative of himself or herself and that he or she perceives as data concerning his or her identity is known as self-concept (Marsh & Seeshing, 1997). ASC is thought to have many dimensions, regions, or facets, some of which appear to be a collection of attitudes, beliefs, and perceptions held by students about their academic skill sets and performance (Lent, Brown, & Gore, 1997). According to Cokley (2000a), ASC include a comparative dimension in which students compared their academic attitudes and skills to those of other students. Academic performance has been shown to be closely related to ASC (Marsh, 1990). ASC has previously been considered a significant psychological construct in the context of education (Marsh, Trautwein, Ludtke, Koller, & Baumert, 2005) since "it has been found to be both a cause and effect on performance" (Cokley, 2007, p. 2). Research indicates that students with a higher ASC performed better academically than students with lower ASC (Marsh, 1990).

Marsh and Parker (1984) also believe that students' ASC is shaped by a mechanism of social comparison, which occurs when students equate their abilities to those of others. The tertiary education level, particularly in the Colleges of Education, is usually a time of developmental transition during which a person passes from

childhood to adolescence. During this period of transformation, students are subjected to a great deal of psychological and sociological strain at school. They face psychological maturation, cognitive shifts, social and parental expectations sifting, contradictory position demands, difficulty in relationships with parents and peers, school and subject selection, and school climate adjustment. (Block & Robins, 1993). In this context it becomes imperative to examine impact of ASC on academic performance of College of Education students in Ghana.

2. Statement of the Problem

Various studies have attempted to understand whether an increase in ASC leads to an increase in academic performance, according to the researchers. (Green, Nelson, Martin & Marsh, 2006). A variety of studies have looked into the causal relationships between self-concepts and academic performance, according to the authors. According to Green, Nelson, Martin and Marsh (2006), there has been research into the relationship between self-concept and academic performance, with only few studies examining the effects of self-concepts in predicting academic performance of students. In Ghana, little is known about the impact of ASC on students' academic performance in Ghanaian Colleges of Education, but it appears that poor ASC may be related to poor academic performance (WAEC, 2012; Saani, 2012). Hence, there is the need to examine the impact of ASC on academic performance of College of Education students.

3. Research Hypotheses

1. H0: ASC will predict academic performance of College of Education students.
H1: ASC will not predict academic performance of College of Education students.
2. H0: There is no statistical significance gender difference in ASC of College of Education students.
H1: There is a statistical significance gender difference in ASC of College of Education students.

4. Literature Review

4.1 Multidimensional Model of Self-Concept

Shavelson, Hubner, and Stanton (1976) model divides self-concept into academic (e.g., math, linguistic, science) and non-academic (e.g., social, physical, emotional) components, implying that self-concept is multifaceted, hierarchically ordered, and becomes increasingly differentiated with age. Individuals' perception of self is formed in response to their perceptions of others' reactions toward them, according to Shavelson Hubner and Stanton (1976) model, and these perceptions of self and subsequent self-concepts are based on a hierarchy. As a result, ASC is most strongly correlated with self-concept, followed by subject-specific self-concept, and subject-specific success is least strongly correlated with self-concept. Although self-concept researchers have largely endorsed the multidimensional, hierarchical model of self-concept, the relationship between ASC domains and academic performance cannot be fully understood if researchers rely solely on global self-concept estimates. (Marsh & Hau, 2004).

Within the multidimensional paradigm of self-concept, math and verbal self-concepts have been virtually uncorrelated. (Marsh, 1986). Since an adolescent's math and verbal self-concepts may vary greatly, having a high math self-concept does not always imply having a high verbal self-concept. Marsh (1986, 1990) created the Internal/External frames of reference model (I/E model) to clarify the discrepancy between virtually uncorrelated math and verbal self-concept scores because this result contradicts the Shavelson model. Students measure their own success in any school subject in comparison to their performance in other school subjects within the internal frame of reference. As a result, people creates a hierarchy of self-concept based on his or her ability in all other school subjects. Students measure their self-perceived success in any given school subject to the perceived performance of other students in the same school within the external frame of reference. Students' math and verbal self-concepts are based on this external reference (Areepattamannil & Freeman, 2008).

4.2 Academic Self-Concepts and Academic Performance

The direction of the causal relationship between ASC and academic performance has been investigated by studies. According to Marsh, Trautwein, Ludtke, Koller and Baumert (2005), improving students' academic performance without improving their self-concept in similar academic domains would most likely to result in only short-term gains. Marsh, et al. (2005) made this suggestion, which Liu (2009) agreed with. Students who have less satisfactory academic results, according to Liu (2009), can develop less positive academic trust, which can contribute to a lower ASC. Students with a negative ASC, on the other hand, are more likely to lack learning motivation, which may lead to poor academic success. As a result, according to Liu (2009), ASC and academic performance appear to influence and decide one another. This assertion by Liu (2009) coincides with Marsh and Craven's (1997) suggestion that prior ASC affects subsequent academic performance.

In a longitudinal study of 697 elementary pupils, Helmke and vanAken (1995) looked at the causal ordering of self-concept and academic achievement. Grades or test results were used to judge achievement. These were compared to see if the causal ordering of self-concept and academic achievement differed. The findings revealed

a reciprocal, causal relationship between children' self-concept and academic achievement, "implying that self-concept in primary school acts both as cause and as effect," according to the researchers (Helmke & vanAken, 1995, p. 633).

In a study conducted by Guay, Ratelle, Soy and Litalien (2010), students who considered themselves to be academically competent received higher grades because their ASC contributed to them becoming more autonomously motivated at school. Skaalvik, Valas and Sletta (1994) suggested that students with a high ASC might be more concerned with outperforming their peers academically. According to Skaalvik, Valas and Sletta (1994), this orientation predicts a positive relationship between ASC and success goals. This suggests that students who have a positive ASC are more likely to focus on mastering their school work.

4.3 Gender and Academic Self-Concepts

Previous research has looked into the connection between gender and ASC. Male students showed higher levels of ASC than female students in numerous studies (Baran & Maskan, 2011; Cooper, Krieg, & Brownell, 2018; Karasakaloğlu & Saracaloğlu, 2009). Marsh (1989) discovered statistically significance but minor gender variations in different aspects of ASC, some of which favoured girls but others which favoured boys more. The most significant difference was in ASC, with males showing higher ASC than females. (Aronson 2002; Ireson & Hallam, 2009; Marsh 1989). Males have a stronger association (significance of difference not often assessed) with self-concept and school accomplishment than girls, according to several researchers (Fink, 1962; Jones & Grieneeks, 1970). Others claim that there are strong relationships between males and females, but not vice versa (Epps, 1969; Kubiniec, 1970; Shaw & Alves, 1963).

In contrast, Jones and Strowig (1968) found that females' self-concepts had a better predictive potential (higher beta weight) for achievement than males. Females have a stronger association between self-concept and grade point average than males, according to Binder, Jones, and Strowig (1970). Pehlivan (2006), on the other hand, found that female students had higher levels of ASC than male students in another survey.

5. Methodology

5.1 Research Design

For the purpose of this study, the descriptive cross-sectional survey design was employed. This design allows the collection of data in order to test hypotheses or to answer questions concerning current status of the subjects under study as postulated by Amedahe (2002). For the purpose of generalizing from a sample to a population so that inferences can be made about some characteristics, attitudes, and behaviours of the population, this design has been recommended by Cohen, Manion & Morrison (2007). Gay (2004, p. 187) posited that "the descriptive survey involves collecting data in order to test hypotheses or to answer research questions concerning the current status of the subject of study". Descriptive survey design was used because the design allows for generalization of findings from sample to population. In descriptive survey a whole lot of information can be collated and gathered on a large and hefty sample within a short time frame with the survey. With descriptive survey large amount of data can be gathered within short period of time. The design has the advantage of evaluating perceptions, attitudes and behaviours in their original happening without external manipulations through recording, coding, analysing and reporting the conditions. The mental well-being, emotional awareness and regulation as well as confidence in one's self in relation to academics is best ascertained by the individuals reporting from their own perspective and understanding. This is confirmed by Best and Khan (2009) when they asserted that conditions of social phenomenon are best studied using survey.

5.2 Population

The target population included all public College of Education students in Ghana. The accessible population for the study consisted of level 300 students from two Colleges of Education in Ghana which amount to 822.

5.3 Sample and Sampling Procedures

The multi-stage sampling procedures were used in the study. The Colleges of Education in Ghana are in five zones namely Northern Zone, Ashanti/Brong Ahafo Zone, Volta zone, Eastern/Greater Accra Zone and Central/Western zone. The purposive sampling technique was used to select two Colleges of Education from the five zones namely Agona SDA College of Education and Tamale College of Education. After the Colleges of Education has been selected the proportionate sampling technique was used to identify the total number of students to be used from each of the two Colleges selected. After proportionate sampling technique has been used the simple random sampling procedure specifically, the table of random numbers was used select the students to answer the questionnaire. In order to select the sample from the population of Colleges of Education students, the Krejcie and Morgan (1970) sample size determination table was employed. In accordance with Krejcie and Morgan (1970) sample size determination, for a population of 822, it is recommended that a sample of 262 is selected. The return rate collected from the field was 229 which was used as the sample size.

5.4 Data Collection Instrument

The data was collected using the original ASC scale by Liu & Wang (2005) which measured academic confidence and academic effort on the general academic self-concept. Academic confidence and academic effort served as endogenous variables to the general academic self-concept. The instrument had 20 items on a 6-point scale on which students responded to indicate their agreement or disagreement with the items. The scales ranges from Strongly Disagree- 1, Disagree- 2, Disagree Somewhat- 3, Agree Somewhat- 4, Agree- 5, Strongly Agree- 6. Students end of term results were used as grade point average (GPA).

6. Findings

6.1 Hypothesis 1

H0: ASC will predict academic performance of College of Education students.

The hypothesis sought to establish whether ASC will predict academic performance of College of Education students. The result is presented in Table 1.

Table 1: Linear Regression on Academic Self-Concepts and Academic performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	213.239	10.868		19.621	.000
Academic self-concepts	.096	.127	.050	.752	.453

Source: Field Data (Amoah, Acheampong, Sefah, Britwum & Adjei, 2021)

From Table 1, the results indicates that ASC did not predicts academic performance of College of Education students ($r = .021, < 0.05$). Also, ASC account for 0.2% of the variation in the academic performance of students.

6.2 Hypothesis 2

H0: There is no statistical significance gender difference in ASC of College of Education students

The hypothesis sought to establish whether there existed differences between male and female students in terms of academic self-concepts. The result is presented in Table 2.

Table 2: Mean difference

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
Academic Self-Concept	Male	115	206.4609	16.43236	1.53233
	Female	114	203.7456	18.31910	1.71574

Source: Field Data (Amoah, Acheampong, Sefah, Britwum & Adjei, 2021)

Table 2, displays the frequencies, means and standard deviations of the self-reported total academic self-concept construct between male and female students. The data presented in the table depicts an existence of mean differences between male and female students in terms of their academic self-concept. To test whether these differences in means are statistically significant, Independent Sample T-test was run and the result is presented in Table 3.

Using Leven's test for equality of variation, Table 3 reveals equality of variances test was not significant ($p > .05$) therefore the assumption of homogeneity of variances have been met. Hence, Independent Sample T-test was used to evaluate the mean difference between male and female students in relation to total academic self-concept construct. On the average academic self-concept is higher among male students ($M = 206.4609, SD = 16.43236$) than females ($M = 203.7456, SD = 18.31910$). The difference was not statistically significant $t(227) = 1.181, p < .05$. However, the eta squared statistic (.006) indicated a small effect size.

Table 3: Independent Sample T-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Academic Self-Concept	Equal variances assumed	.036	.849	1.181	227	.239	2.71526	2.29930	-1.81544	2.71361
	Equal variances not assumed			1.180	223.935	.239	2.71526	2.30039	-1.81792	2.70789

Source: Field Data (Amoah, Acheampong, Sefah, Britwum & Adjei, 2021)

7. Discussion of Results

ASC did not predict academic performance of College of Education students, according to research hypothesis one. The findings of the study are congruent with those of Marsh, Hau, and Kong (2000), who discovered that participating in a high achiever's group in the classroom can increase and reinforce students' ASC. When students are part of a high-achieving group, they adapt the traits of others in the group to better understand and improve their ASC, and as a result, their performance will improve. According to Marsh, Trautwein, Ludtke, Koller, and Baumert (2005), improving students' academic performance without also improving their self-concept in associated academic subjects would likely yield only short-term benefits. Marsh et al. (2005) proposed this, and Liu (2009) agreed, stating that students with poor academic outcomes are more likely to develop negative academic trust, which can lead to a negative ASC. Again, in order to improve student's self-concepts teachers may design means of sparking students' interest in learning, demonstrating its relevance, and providing them with feedback in order to raise their expectation of success in the classroom. Teachers can promote students' learning pleasure by being kind and responsive to their needs which will boost students' self-concepts and lead to better academic performance of students (Allred, & Cena, 2020).

The second research hypothesis revealed that there is no statistically significant difference in ASC between male and female students. The findings of this study agree with those of Bacon (2011), who discovered that gender has no bearing on ASC. This could also be because, regardless of their self-concepts, both male and female students aspire to higher academic achievement and as a result, work hard in order to succeed.

8. Conclusion and Recommendations

Students' ASC did not predict academic performance of College of Education students, according to the research. The study findings also revealed that, there is no statistically significant differences between male and female students. According to the findings, it is recommended that, stakeholders such as teachers and parents must consider a variety of factors that can influence the development of a healthy ASC. and must also encourage, monitor, and supervise students to put in some effort in their studies because effort promotes academic performance. The study again recommends that academicians should hold workshops and seminars to students in developing a stronger self-concept so that they can improve their abilities and lead a successful life in the future. Students with a low academic self-concept may benefit from counseling sessions in order to enhance their academic standing. It may be suggested that curriculum designers pay attention to the relevance of self-concept and create courses that will encourage students to think critically and thoroughly in order to improve their self-concept.

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