

Analysis on the Relationship among Test Anxiety, Self-concept and Academic Competency

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Abstract: Thirty college students completed questionnaires and tests that measure test anxiety, self-concept and academic competency. It was hypothesized that test anxiety will result in negative self-concept and will lower college students' self-perceived academic competency. The results showed that self-concept negatively affected students' self-perceived academic competency. It was also found that high self-perceived academic competency was positively correlated with GPA (grade point average, a measure of performance). This study shows self-concept competency and academic performance. This will enable professionals to look at another variable that affects academic performance in detail.

Key words: test anxiety; self-concept; academic competency

1. Introduction

There is no shortage of ways to define self-concept. Perhaps the simplest one is found in *Longman Dictionary of Language Teaching & Applied linguistics*, which says that self-concept is the image a person has of himself or herself. A measure of person's self-concept sometimes is included in the study of affective variables.

It has been proved that self-perceived academic competency is a significant contributor to the academic success of college students. Bandura defines self-perceived competency as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (1986: 10). He also states that self-perceived academic competency does not deal with the skills that one has, but with the judgments that the individual makes about what they think they can do with the skills they possess. It has been found by Lee and Babko (1994) that when in a difficult situation such as a college-type test, a person with a strong sense of self-perceived academic competency will devote more attention and effort to the task at hand. Therefore they will try harder and persisting longer than those who have lower levels of self-perceived competency. Individuals with high self-perceived competency are more inclined to attribute failures to a lack of effort, whereas those with lower self-perceived competency tend to attribute failures to a lack of skill. Lee and Babko also noted that self-perceived competency is positively correlated with mood, ability and past performances.

The fundamental difference between self-concept and self-perceived academic competency rests on their concepts of academic achievement. The idea of self-concept says that achievement comes first and that self-concept follows. Self-perceived academic competency which is more popular in schools—says that sense of self-perceived academic competency leads the way and achievement trails behind. Self-concept, of course, can take care of itself. It will develop almost naturally when children have accomplished something worthwhile.

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Self-perceived academic competency, however, is artificial. It requires active intervention on the part of teachers and other authority figures.

Self-perceived academic competency can be affected by a plethora of variables. In this study, the variables of test anxiety will be examined in relationship to college students' self-perceived academic competency. And we will find out test anxiety and self-concept are also closely related.

Lewis defines anxiety as "an unpleasant emotion experienced as dread, scare, alarm, fright, trepidation, horror or panic" (1970: 63). Test anxiety, then, is the debilitating experience of anxiety, as described by Lewis, during the preparation for a test or during the test itself. Although anxiety is often detrimental, it may be beneficial if it is not extreme. Simpson, Parker, and Harrison convey this with two well known principles of anxiety: "A minimal amount of anxiety" (an optimal amount is more accurate) "can mobilize human beings to respond rapidly and efficiently", while "excessive amounts of anxiety may foster poor response and sometimes inhibit response" (1995: 700). Knox, Schacht and Turner (1993) state that test anxiety can include performance anxiety and content (e.g., math) anxiety. Both of these make it hard for students to concentrate on tests and perform adequately. Knox, et al. also recognizes the consequences of poorly-managed test anxiety. "Failure to manage test anxiety can result in failing courses, dropping out of school, a negative self-concept and a low earning potential" (1993: 295).

Research on test anxiety has identified three models that explain the origin of test anxiety: (1) the problem lies not in taking the test, but in preparing for the test. Kleijn, Van der Ploeg and Topman (1994) have identified this as the learning-deficit model. According to this model, the student with high test anxiety tends to have or use inadequate learning or study skills while in the preparation stage of exam taking (Mealey & Host, 1992). (2) The second model is termed as the interference model (Kleijn, et al., 1994). The problem for people in this model is that during tests, individuals with test anxiety focus on task-irrelevant stimuli which negatively affect their performance (Sarason, 1975). The attention diverted from the task at hand can be categorized into two areas, according to Sarason. The first type of distraction can be classified as physical distraction and includes an increase in awareness of heightened autonomic activity (e.g., sweaty palms and muscle tension). The second type of distraction includes inappropriate cognitions, such as saying to one, "others are finishing before me, I must not know the material", or "I'm stupid, I won't pass." The presence of either of these two task-irrelevant cognitions will affect the quality of a student's performance. (3) The third model of test anxiety includes people who think they have prepared adequately for a test, but in reality, did not. These people question their abilities after the test, which creates anxiousness during the next test.

While there have been numerous studies on self-perceived competency and academic performance, on test anxiety and performance and on self-concept, there exists little direct information on the relationship among these variables. It is believed that in our findings it will be shown that test anxiety will lower college students' self-concept and self-perceived academic competency.

2. Methods

2.1 Participants

Thirty college students participated in the study. There were 15 freshmen and sophomores, and 15 juniors and seniors. Among the participants, there were 12 males and 18 females. Demographic data obtained from the participants included gender, age, year in school, major, and their estimated current grade point average (GPA).

2.2 Instruments

The Test Attitude Inventory (TAI), created by Spielberger (1980), was used to measure test anxiety. The TAI subscales measure self-reported worry and emotionality. The TAI contains twenty items that are situation-specific to academically-related test situations and environments. A five-point Likert Scale (five represented “usually” and one represented “never”) was used to obtain the participants’ responses.

The College Academic Self-efficacy Scale (CASES), created by Owen and Froman (1988), was administered to determine the degree of confidence participants believe they have in various academic settings (e.g., note-taking during class or using the library). A five-point Likert Scale was also used here, where five represented “a lot of confidence”, and one represented “little confidence”. This scale consists of thirty-three questions covering a wide variety of academic settings and situations that are pertinent to the students’ overall academic self-competency rating. Owen and Froman (1988) found the alpha internal consistency of the CASES, in two different trials, to be .9 and .92.

2.3 Procedure

Packets were prepared which contained a demographic data sheet, consent form, test anxiety inventory, CASES in turn. Next, professors in the selected classes were given information on the purpose of the study, shown the survey instruments, and told approximately how long it would take for students to complete the entire packet (20-30 minutes). We were invited to six different class meetings. The students were informed verbally that the purpose of the study was to examine the relationships between test anxiety, self-concept and self-perceived academic competency. The students were also informed that participation in the experiment was completely voluntary, and that their responses would be kept anonymous. The students who agreed to participate in the study signed a consent form. These students then proceeded to fill out the demographic data (gender, age, year in school, major, and estimated current grade point average) and then the four surveys. The participants were then thanked for their willingness to participate in the study.

2.4 Results

The mean score for test anxiety was 52.67 (out of a possible 100), with a high score of 95 and a low score of 24. In order to see if differences existed between people with high test anxiety and low test anxiety, the participants’ test anxiety scores were divided into three levels (low, moderate, and high) and compared to the CASES using an ANOVA. Those people in the low test anxiety group scored 124.50 (a higher score indicates greater self-perceived academic competency) on the CASES. Those people in the moderate test anxiety group scored 113.75 on the CASES. Those people in the high test anxiety group scored 106.21 on the CASES. The p-value was found to be .001. This finding is represented in Figure 1.

It was also found that there were significant differences between test anxiety groups and GPA (grade point average, a measure of performance). The low test anxiety group reported having a 3.29 GPA. The group that reported moderate anxiety had a 3.13 GPA. And, the group with high test anxiety reported having a 3.02 GPA. The p-value was found to be .05.

Correlations were also figured for the following variables (also shown in Table 1): test anxiety, self-concept, self-perceived academic competency, and GPA. It was found that test anxiety was negatively correlated at the -.26 level (p-value of .001). Additionally, it was found that test anxiety and self-perceived academic competency were negatively correlated at the -.41 level (p-value of .001). GPA and test anxiety were negatively correlated at the -.21 level (p-value of .01). Lastly, self-perceived academic competency and GPA were positively correlated at the .47 level (p-value of .001). This can be seen in Table 1.

Correlations were calculated to find the relationship between the main variables in the study. The main

variables included test anxiety, self-concept, self-perceived academic competency and the students GPA.

Table 1

	GPA	TA	CASES
GPA	1.0		
TA	-.21**	1.0	
CASES	.47***	-.41***	1.0

TA - Test Anxiety

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

3. Conclusion

The findings presented indicate that high test anxiety negatively affects self-perceived academic competency, as was hypothesized. Additionally, it was found that low self-perceived academic competency negatively affected students' GPA.

Self-concept was found to be an important factor in self-perceived academic competence. The findings in this study suggest that college students with low self-concept may perceive themselves as having lower academic competency. The study also showed that self-perceived academic competency was positively correlated to academic performance. Thus, according to Hobson (1989), Webb and Bonnet (1979), and this study, those college students who do have low self-concept will negatively affect their academic performance.

It was also found that test anxiety and grade point average are negatively correlated, and that quality of self-concept and grade point average are positively correlated. This, and the fact that positive self-concept and test anxiety are negatively related, suggests interrelationships among the variables of test anxiety, self-concept, self-perceived academic competency and academic performance. This highlights the fact that professors need to instruct their students on how to manage test anxiety. Students also need to be aware of the effects that poor self-concept and low self-perceived academic competency have on academic performance. Thus, the phrase, "I think I can, I think I can..." may be beneficial only if students reduce their test anxiety and develop better self-concept.

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