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Academic Self-Efficacy, Coping, and Academic Performance in College

Mehjabeen Khan
Central Washington University, mehja29@gmail.com

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Abstract
This study serves as a pilot study for a possible future study including the same variables. The purpose of the pilot study was to find a relationship in the college academic setting between academic self-efficacy, stress coping skills, and academic performance. Sixty-six undergraduate students, 17 male and 49 female, from a university in northwestern United States participated in the study. Stress was measured using the COPE Inventory (Carver, Scheier, & Weintraub, 1989). Self-efficacy was measured using the Academic Self-Efficacy Scale (Chemers, Hu, & Garcia, 2001). Academic performance was measured using the participants' college GPA. Academic Self-Efficacy and the Planning subscale of the COPE Inventory were positively correlated with GPA ($r = .49$, $p < .01$ and $r = .32$, $p < .05$). Academic self-efficacy was positively correlated with the COPE Inventory subscales Positive Reinterpretation and Growth ($r = .36$, p r $= .35$, $p < .01$), Acceptance ($r = .46$, $p < .01$), and Planning ($r = .25$, $p < .05$). Academic self-efficacy was negatively correlated with the COPE Inventory subscale Substance Use ($r = -.32$ at $p < 0.1$).

INTRODUCTION

The college experience is unique to every student; some students are successful, while others struggle. Certain factors may allow some students to succeed academically, such as academic self-efficacy and stress coping skills. The present study sought to explore the factors that affect academic success. In particular, the relationships between academic self-efficacy, stress coping skills, and academic performance in college students were examined.

A contributing factor to academic success is the individual's level of self-efficacy. Students with high academic self-efficacy have shown to perform better academically (Chemers, Hu, & Garcia, 2001). Self-efficacy is defined by Bandura (1994, p.1) as "one's belief in their capability to produce designated levels of performance for events that affect their lives, which determines how people feel, think, motivate themselves, and behave." Beliefs may determine the outcome of a task more than capabilities, because belief greatly influences effort (Pajares, 2002).

Academic self-efficacy is specific to the context of academia and focuses on a person's belief about themselves regarding academic tasks. Academic self-efficacy is defined by Chemers, Hu, and Garcia (2001, p. 56) as "students' confidence in mastering academic subjects." If a student is confident in doing well in college, they are more likely to succeed (Chemers, et al., 2001).

In a study done by Chemers, Hu, and Garcia (2001), academic self-efficacy was shown to be a major factor in academic performance. Participants were first year college students who were given surveys near the end of their first quarter and at the end of their last quarter of the year. Chemers et al. used the Academic Self-Efficacy Scale to measure self-efficacy. They found that students with high academic self-efficacy also had higher grade point averages (GPAs). In addition, students with higher high school GPAs demonstrated higher academic self-efficacy, academic expectations, and academic performance in college compared to students with lower high school GPAs (Chemers et al., 2001).

Galyon, Blondin, Yaw, Nalls, and Williams (2012) conducted a study on 165 undergraduate students investigating the relationships among academic self-efficacy and students' class participation, examination performance, and GPA. Galyon et al. found a stronger relationship between academic self-efficacy and exam performance than with class participation. However, academic self-efficacy levels were relatively the same among students with high, medium, and low GPAs (Galyon et al., 2012). Additionally, Robbins, Lauver, Le, Davis, Langley, and Carlstrom (2004) did a meta-analysis on over 109 studies on psychosocial and study skill factors that affect GPA. Robbins et al. tested multiple academic factors including academic self-efficacy. They found academic self-efficacy to be the most influential factor on GPA (Robbins et al., 2004).

Ramos-Sanchez and Nichols (2007) conducted a study on 192 freshman students to examine differences in academic self-efficacy levels between first generation (i.e., students without a college graduate parent) and non-first generation college students (i.e., students who have a college graduate parent), and the possible impact on academic performance (Ramos-Sanchez & Nichols, 2007). They found that non-first generation college students had higher levels of academic self-efficacy and outperformed first generation college students academically. This indicates that some students may enter college better prepared and, as a result, have higher levels of self-efficacy, allowing them to perform better

than their peers (Ramos-Sanchez & Nichols, 2007). Aguayo, Herman, Ojeda, and Flores (2011) found similar results among 408 Mexican American immigrant (i.e., born in Mexico) and non-immigrant (i.e., born in the United States) students. They found that self-efficacy was strongly correlated with academic performance for non-immigrant students. However, there was no significant correlation between self-efficacy and academic performance for immigrant students (Aguayo et al., 2011).

Instructors can also assist students to increase their academic self-efficacy through tasks they provide (Choi, 2005). A study done by Choi (2005) indicated that college students who achieved at higher standards had higher self perceptions of themselves in terms of self-efficacy and self-concept. The study indicates that instructors should strive to enhance the self-efficacy and self-concept of their students through the course tasks they provide (Choi, 2005).

Stress levels and coping skills are also factors that determine how a person responds to a task and how well they succeed (Pajares, 2002). Earnest and Dwyer (2010, p. 2) define stress as "the negative emotional or physical state that results from being exposed to a threat." When an individual has a sense of control over the stressful situation they are more likely to respond to the situation with confidence (Aspinwall & Taylor, 1992).

Friedlander et al. (2007) conducted a study on 128 students. They found that as students' stress levels decreased they showed better academic adjustment, including academic performance. Students experienced the most stress during the beginning of the first year of college and, as the year progressed, stress levels decreased because adjustment increased (Friedlander et al., 2007).

College can be a very stressful period in the lives of most students;

however, some students cope with stress better than others. Many students who are able to handle stress well have effective stress coping skills. Earnest and Dwyer (2010, p. 3) define stress coping skills as "the ability to apply strategies that minimize and manage the stress response." There are different types of coping styles, and the two major coping methods discussed are *problem-focused coping* and *emotion-focused coping* (Aspinwall & Taylor, 1992). Lenz (2010, p. 69) defines problem-focused coping as "individuals directly confronting and managing the source of their stress. Individuals prefer to deal directly with the stress by confronting, controlling, or managing stressful tasks." Problem-focused coping is a form of active coping (Aspinwall & Taylor, 1992). Carver, Scheier, and Weintraub (1989, p. 268) define active coping as "the process of taking active steps to try to remove or circumvent the stressor or to ameliorate its effects."

A specific example of active coping is time management. Macan, Shahani, Dipboye, and Phillips (1990) conducted a study on 165 college students assessing their time management skills and perceived control of time. Their results showed, overall, that time management did not directly reduce stress. They found that women were better able to manage their time than men, but did not feel in control of their time and, as result, stress levels did not differ between the two genders. However, individuals who perceived that they had control of their time coped with stress better and perceived that they performed well academically. In addition, Macan et al. (1990) also found that students who were lucid of their roles and goals felt more satisfaction and felt that they performed better.

Emotion-focused coping is defined by Lenz (2010, p. 69) as "individuals controlling their emotional response to

stress. Individuals manage the emotional aspect of the stress instead of the task." Emotion-focused coping falls under the broader category of avoidant coping (Aspinwall & Taylor, 1992). Lenz (2010, p. 69) defines avoidant coping as "evading or distancing one from the source of stress."

An example of emotion-focused or avoidant coping is substance use. Ruthing, Marrone, Hladkyj, and Robinson-Epp (2011) conducted a study on 203 college students and found a negative correlation between binge drinking and academic performance among college women. However, the college men in this study did not exhibit the same results. Instead, a negative correlation was found between tobacco use and academic performance (Ruthig et al., 2011).

Aspinwall and Taylor (1992) conducted a longitudinal study on freshman students at a western university. They tested the relationship between stress coping skills and academic adjustment. Their results indicated that students who utilized active coping methods as opposed to avoidant coping methods had better adjustments to college including academic achievement (Aspinwall & Taylor, 1992).

Stress coping skills and academic self-efficacy may be two different concepts, but work together. People with low self-efficacy can be vulnerable to chronic stress. If a person with low self-efficacy is presented with a stressful task, they may not believe they are capable of accomplishing the task and quit. People who have low self-efficacy may engage in emotion-focused or avoidant coping strategies when faced with stressful situations (Bandura, 1994).

For example, Levin, Ilgen, and Moos (2007) tested the relationship between self-efficacy and avoidant coping in 3,698 male participants with substance abuse problems. They found that individuals who have lower self-efficacy engage in avoidant coping

skills such as substance use (Levin et al, 2007). Litt, Kadden, and Stephens (2005) conducted a similar study on self-efficacy and coping skills on 450 participants with substance abuse problems. Their results indicated that higher self-efficacy influenced the use of coping skills and resulted in a decrease in substance use (Litt et al., 2005).

Litman and Lunsford (2009) used the COPE Inventory to assess 450 participants for any recent significant stressful event they had endured and the well-being of the participant after the stressful event. The results indicated that students who used problem-focused coping skills such as acceptance and planning had higher levels of self-efficacy, and that approach-oriented strategies had better outcomes than avoidant-oriented strategies (Litman & Lunsford, 2009).

Pooley, Cohen, O'Connor, and Taylor (2012) conducted a study on 512 participants who had experienced a traumatic stressful event. Their results broadly showed that stress is negatively correlated with self-efficacy. More specifically, the results revealed that individuals who engaged in emotion-focused coping had lower self-efficacy levels (Pooley et al., 2012). The current study will explore the relationships among academic self-efficacy, stress coping skills, and academic performance.

MATERIALS AND METHODS

Participants

Sixty-six undergraduate students, 17 men (26%) and 49 women (74%), from a public university in northwestern United States participated in this study. The age range of the participants was 18 to 52 (M = 20.9). One student identified as black/African American (2%), two as Hispanic/Latino (3%), two as European (3%), six as bi-racial (9%), and 55 as

white/Caucasian (83%). There were 20 freshman (30%), 24 sophomores (36%), 15 juniors (23%), six seniors (9%), and one that identified as five or more years (2%). Various majors were represented. Additionally, 47 participants (71%) were planning on pursuing a degree higher than a bachelor's degree.

Measures

Academic Self-Efficacy Scale (Chemers, Hu, & Garcia, 2001). The Academic Self-Efficacy Scale (Chemers et al., 2001) was used to measure academic self-efficacy. The scale consists of 8 items on a 7 point Likert-type scale from 1 (*Very Untrue*) to 7 (*Very True*). Points 2 thru 6 were not labeled. Participants were asked to rate on a 1 to 7 scale how well they believe they perform certain academic tasks. Participants were asked questions such as "I know how to schedule my time to accomplish my tasks." Chemers et al. (2001) obtained a Cronbach's alpha reliability coefficient of .81 for the scale in their study of 373 undergraduates. For the current study, Cronbach's alpha reliability coefficient was .86. Participants who scored above the mean were deemed as having high academic self-efficacy. Participants who scored below the mean were deemed as having low academic self-efficacy. According to Chemers et al. (2001), the measure appears to have high validity. However, Chemers et al. (2001) stated that some error was added by omitting potential variables, due to the other measures being used. Error was also added because of the resulting sample size. Validity of each individual measure was not mentioned by the authors (Chemers et al., 2001).

COPE Inventory (Carver, 2007). The full length version of the COPE Inventory (Carver, 2007) was used to measure stress coping skills. The COPE Inventory measures how people respond to general life stressors. It was designed to be used for any

context (Carver et al., 1989). The COPE Inventory has 15 scales with 4 items each, for a total of 60 items. The COPE items were measured using a 4 point Likert-type scale including 1 (*I usually don't do this at all*), 2 (*I usually do this a little bit*), 3 (*I usually do this a medium amount*), and 4 (*I usually do this a lot*). Participants were asked questions such as "I try to grow as a person as a result of the experience" or "I just give up trying to reach my goal." Participants were considered to have good coping skills if they scored high on positive subscales such as Active Coping or Planning. If participants scored high on negative scales, such as Substance Use or Focus on and Venting of Emotions, they were considered to have poor coping skills. Carver et al. obtained the following Cronbach's alpha reliability coefficients in their study on hundreds of participants: Positive Reinterpretation & Growth = .68, Mental Disengagement = .45, Focus on & Venting of Emotions = .77, Use of Instrumental Social Support = .75, Active Coping = .62, Denial = .74, Religious Coping = .92, Behavioral Disengagement = .63, Restraint = .72, Use of Emotional Social Support = .85, Acceptance = .65, Suppression of Competing Activities = .68, and Planning = .80. Carver et al. (1989) originally did not include the Substance Use subscale and Humor subscale in the COPE Inventory. The subscales were later added by Carver et al. (Greer, 2007). Greer (2007) used the COPE Inventory in a study on 203 college students, and stated that they obtained Cronbach's alphas for the Substance Use and Humor subscales, from Carver et al. Cronbach's alphas of .93 for Substance Use and .90 for Humor were listed in Greer (2007). Carver et al. (1989) assessed the coping subscales of the COPE Inventory to personality characteristics of individuals who engaged in specific coping skills. They found evidence for convergent

validity in the sense that specific copings skills were linked to predicted personality traits. There was also evidence for discriminate validity. The coping skills and personality traits complemented each other, but were still distinctly different (Carver et al., 1989).

In the current study, reliability coefficients (Cronbach's alpha) were: Positive Reinterpretation and Growth = .65, Mental Disengagement = .37, Focus on and Venting of Emotions = .69, Use of Instrumental Social Support = .73, Active Coping = .73, Denial = .73, Religious Coping = .94, Behavioral Disengagement = .69, Restraint = .56, Use of Emotional Social Support = .81, Acceptance = .77, Suppression of Competing Activities = .47, Planning = .83, Substance Use = .94, and Humor = .88. In the current study, alphas for Mental Disengagement, Focus on & Venting of Emotions, Restraint, and Suppression of Competing Activities were lower than in previously conducted research.

Demographic Questionnaire. A variety of demographic questions were asked. Self-reported college GPA, rated on a 4.0 scale, was used to measure academic performance. High school GPA, Scholastic Assessment Test (SAT) scores, and/or American College Testing (ACT) scores were also obtained. Whether or not participants are currently working and the number of hours per week they work, and if they are a full time or part time student were also attained. Other demographic questions that were asked included age, ethnicity, gender, year in college, current or potential major, transfer status, plans to continue education past bachelor's degree, and first generation college student.

Procedure

Participants signed-up for the study spring quarter of the academic year through the university's psychology department research participation website. Data were collected April and May of spring quarter. After the participants signed-up for the study, they were given a link to the questionnaire. Participants then answered questions online at their own pace. The survey was counter-balanced by presenting three sections: demographic questions, the COPE Inventory, and Academic Self-Efficacy Scale, in random order to each participant. The questionnaire took participants 10 minutes on average to complete. After the participant completed the questionnaire they received extra credit for a psychology course in which they were enrolled in. Participants were notified of the extra credit points they were awarded, via email.

RESULTS

Preliminary Analyses: Descriptive Statistics

Descriptive statistics were computed for GPA, academic self-efficacy, and coping skills (See Table 1). For GPA, scores ranged from 1.0 to 4.0. For academic self-efficacy, the range for the total scores of the eight items were between 24 and 56 with M = 41.5 and SD = 7.4. Means and standard deviations for the 15 scales of the COPE Inventory are included in Table 1.

Research Question 1: Association between academic self-efficacy and academic performance

In order to test Research Question 1, Pearson Product Moment Correlation coefficients were computed to examine the relationship between GPA and academic self-efficacy. Because of the exploratory nature of this study, an alpha level of $p < .05$ was used to determine significance for all correlations. The alpha level is appropriate for this pilot study. GPA was positively correlated ($r = .49$, $p < .01$) with academic self-efficacy. Refer to Table 2 for all correlations.

Research Question 2: Association between stress coping skills and academic performance.

For the COPE Inventory, the Planning subscale (M = 2.98, SD = .64) was positively correlated ($r = .32$, $p < .05$) with GPA. No significant correlations were found between GPA and the COPE Inventory subscales of Positive Reinterpretation & Growth, Mental Disengagement, Focus on Venting of Emotions, Use of Instrumental Social Support, Active Coping, Denial, Religious Coping, Humor, Behavioral Disengagement, Restraint, Use of Emotional

Table 1

Descriptive Statistics for GPA, Academic Self-Efficacy, and Coping

Scale	n	M (SD)
College GPA	60	3.13 (.62)
Academic Self-Efficacy	66	5.19 (.93)
Positive Reinterpretation & Growth	66	3.11 (.53)
Mental Disengagement	65	2.52 (.57)
Focus on Venting of Emotions	66	2.38 (.72)
Use of Instrumental Social Support	66	2.69 (.67)
Active Coping	66	2.82 (.57)
Denial	66	1.44 (.52)
Religious Coping	66	2.05 (1.03)
Humor	66	2.41 (.77)
Behavioral Disengagement	65	1.48 (.47)
Restraint	66	2.36 (.52)
Use of Emotional Social Support	65	2.67 (.79)
Substance	66	1.35 (.67)
Acceptance	65	2.83 (.68)
Suppression of Competing Activities	65	2.43 (.49)
Planning	66	2.98 (.64)

Table 2

Correlations between GPA, Academic Self-Efficacy, and Coping Skills subscales

Measure	College GPA	Academic Self-Efficacy
Academic Self-Efficacy	.49[**]	
Positive Reinterpretation & Growth	.20	.38[**]
Mental Disengagement	-.19	-.16
Focus on Venting of emotions	-.19	-.03
Use of Instrumental Social Support	-.16	.04
Active Coping	.24	.35[**]
Denial	-.22	-.17
Religious Coping	.04	.06
Humor	-.09	.02
Behavioral Disengagement	-.24	-.19
Restraint	.07	.18
Use of Emotional Social Support	-.20	.07
Substance	-.23	-.32[**]
Acceptance	.14	.25[*]
Suppression of Competing Activities	.16	.24
Planning	.32[*]	.46[**]

Note. * significant at .05 level
    ** significant at .01 level
     Two-Tailed

Social Support, Substance Use, Acceptance, and Suppression of Competing Activities. Refer to Table 2 for all correlations.

Research Question 3: Association between academic self-efficacy and stress coping skills.

Academic self-efficacy was positively correlated with the COPE Inventory subscales Positive Reinterpretation Growth ($r = .36$, $p < .01$), Active Coping ($r = .35$, $p < .01$), Planning ($r = .46$, $p < .01$), and Acceptance ($r = .25$, $p < .05$). In addition, academic self-efficacy was negatively correlated ($r = -.32$ at $p < .01$) with Substance Use (M = 5.41, SD = 2.66). No statistically significant correlations were found between academic self-efficacy and the COPE Inventory subscales Mental Disengagement, Focus on Venting of Emotions, Use of Instrumental Social Support, Denial, Religious Coping, Humor, Behavioral Disengagement, Restraint, Use of Emotional Social Support, and Suppression of Competing Activities. Refer to Table 2 for all correlations.

DISCUSSION

This was a pilot study for what may be a larger study in the future. The focus was on academic self-efficacy and stress coping skills, two variables that may affect a student's academic performance during college. The research questions examined in this study focused on whether higher academic self-efficacy and the use of effective stress coping skills were correlated with higher academic performance. The study also explored whether a correlation exists between academic self-efficacy and stress coping skills. Causal relationships were not explored in this study. The majority of the participants in the study were white females. Additionally, the majority of the participants were freshmen and sophomores.

There was a clear relationship between academic self-efficacy and GPA. Academic self-efficacy was positively correlated with GPA. Chemers et al. (2001) also used the Academic Self-Efficacy scale in their study to predict the effects of

academic self-efficacy on GPA. Chemers et al. found a positive correlation between academic self-efficacy and GPA (Chemers, Hu, & Garcia, 2001). Although a correlation was established between academic self-efficacy and GPA, no causal relationships can be inferred.

The relationship between stress coping skills and GPA was not strong. Planning was the only subscale that was significantly correlated with GPA, indicating planning of tasks to cope may have positive outcomes. Coping is a broad and complex topic; it may be difficult to identify the "correct" way to cope, because everyone deals with stress differently. There are many ways to cope with stress, and each way is unique to the individual.

Pritchard and Wilson (2003) used the Brief COPE Inventory on 218 students to assess the relationship between stress coping skills and academic performance. They found that students who intend to finish college and persist utilize positive coping methods such as "concentrating on efforts" or "turning to religion." In addition, their results indicated that students who had high stress levels also had lower GPAs (Pritchard & Wilson, 2003). Giancola et al. (2009) used the COPE Inventory to measure coping strategies of non-traditional college students. They found that the Planning subscale was associated with better psychological state. No correlations were computed between coping and academic performance (Giancola, Grawitch, & Borchert, 2009).

Also of interest in the current study was whether a relationship exists between academic self-efficacy and stress coping skills. A number of subscales on the COPE Inventory had positive correlations with academic self-efficacy. The subscales Positive Reinterpretation Growth, Active Coping, Planning, and Acceptance were all positively correlated with academic self-efficacy. One statistically significant

negative correlation was found between academic self-efficacy and the COPE Inventory subscale, Substance Use. This indicates that students who use substances to cope with the stress of college may already have less belief in their ability to do well academically. The correlations established do not infer causation.

There are a number of predictors that are associated with student success in college, but to focus on every variable is beyond the scope of this pilot study. Although a number of significant correlations were identified in this study, the correlations were small. Future research exploring how academic self-efficacy and stress coping skills combine with other variables to impact academic success in college would be useful.

In addition, this study does have limitations. The sample size was small for the number of variables measured. A larger sample size would have allowed for a better representation of the population, because the participants in this study were primarily white females. Another limitation is that participants' GPAs were self-reported; therefore, accuracy of the GPAs reported cannot be assured. Lastly, the varying range of reliability for the COPE Inventory was a limitation as well. There were a few subscales with low coefficient alphas.

A recommendation for future research is to look further into the concept of coping in the academic setting. The measure used in this study was a general coping scale; it was not created to specifically measure academic stress coping skills. People may cope with academic stress differently than they would with other life stressors. Future researchers should look into using a scale that has a broad range of ways to cope in the academic setting. In addition, it would be beneficial to conduct future research regarding the relationship between academic self-efficacy and stress coping skills.

The purpose of this pilot study was to provide insight into the characteristics of students who perform well in college. This study aimed to identify some of the variables which can impact the likelihood of success in college. More specifically, this study aimed to identify characteristics of successful students. Hopefully, this pilot study can serve as an example for future studies that seek to use the same variables to identify characteristics in successful college students.

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