The measurement of optimism and hope in relation to college student retention and academic success

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The measurement of optimism and hope in relation to college student retention and academic success

by

Patrick John Barlow

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree

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For the Major Program
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ABSTRACT

Consistent with research approaches in positive psychology, the variables of optimism and hope were investigated to determine what role these constructs had in the retention and academic success of college students. A sample of 282 students (172 women, 111 men) from a large midwestern university, supplemented by 82 collateral reporters (friends or relatives of the students), participated in the study. Each participant completed a questionnaire including Scheier and Carver's Life Orientation Test (LOT); Peterson, Semmel, von Baeyer, Abramson, Metalsky, and Seligman's Attributional Style Questionnaire (ASQ), and C. R. Snyder's Adult Trait Hope Scale (HOPE) along with measures of depression, anxiety, commitment to college, and academic motivation.

Participants gave consent for the release of their college grade point average, ACT composite score, and high school class rank from the registrar's office. In addition, the collateral reporters were asked to complete the LOT, ASQ, and HOPE according to their knowledge of the participants.

Analyses including linear and logistic regression and Pearson correlations provided evidence for a significant relationship between hope and grade point average, but not optimism. Additionally, no significant relationships were found between optimism, hope, and continued enrollment from the fall to spring semester. Data from the collateral reporters demonstrated a similar pattern with hope significantly related to grade point average as indicated by correlation and regression analyses. The need for further clarification of the relationship between hope, academic success, and retention was discussed along with the limitations of the current study and suggestions for additional research.
CHAPTER 1. INTRODUCTION AND LITERATURE REVIEW

Introduction

In the study of human behavior, there has been a disproportionate emphasis on how deviance and mental illness occur in individuals. While these investigations have been fruitful in terms of learning about the origins and treatment of psychological disorders, the field, until recently, has underemphasized how people maintain good mental health. Moreover, a balanced focus on the positive, as well as negative, aspects of human psychological functioning has been lacking until recently.

However, there is a growing movement in psychology associated with the scholarship of Martin Seligman, Mihalyi Csikszentmihalyi, and Ed Deiner known as “Positive Psychology” that focuses on the ways in which people can remain psychologically healthy and lead fulfilling lives. It is this theme that has spurred continued scholarly research into such topics as creativity, “flow” experiences, subjective well-being, happiness, hope, and optimism. This domain of research has also led to the development of this project which focuses on understanding the relationships and correlates of two specific constructs within “Positive Psychology”, namely optimism and hope.

There has been considerable recent attention devoted to the topic of optimism. Definitions of optimism and its measurement have been stated (Peterson, 2000; Scheier & Carver, 1985; Seligman, 1990). While Scheier and Carver (1985) define optimism as a “generalized expectancy for positive rather than negative outcomes”, Seligman (1990) specifies optimism as an attributional style characterized by unstable, specific, and external attributions for the causes of negative events as well as stable, generalized, and internal attributions for the causes of positive events. Optimism has been found to be important to
healthy psychological functioning in both lay (Norman Vincent Peale, 1952) and academic circles (Seligman, 1990; Scheier & Carver, 1985; 1992; Scheier, Carver, & Bridges, 1994). There have also been demonstrated links between optimism and the maintenance of healthy physical functioning (Segerstrom, Taylor, Kemeny, & Fahey, 1998, Aspinwall & Taylor, 1992). A sense of optimism has also been shown to have indirect benefits in terms of an individual’s personal success during difficult times and coping (Carver, Scheier, & Weintraub, 1989; Cozzarelli, 1993; Scheier, Weintraub, Carver, 1986).

While a myriad of coping situations have been investigated (i.e. failure in sales, military battles, political elections), the life transition of moving to college and succeeding has not yet received much attention in terms of examination of the role of optimism and its association with academic success and retention.

In addition, the construct of hope has also been a focus of increased interest stimulated primarily by the work of C. R. Snyder and colleagues (Snyder, Sympton, Michael, & Cheavens, 2000). Similar to optimism, hope has been a topic of interest in scholarly and popular (Frankl, 1963; Pelletier, 1977; Siegel, 1986) arenas with a particular emphasis on the role of hope in alleviating physical illness. Although optimism and hope may appear to be synonymous, Snyder (2000) points to evidence for a separation between the two constructs in terms of definition and relationships with other variables. Specifically, one study involved the prediction of problem-focused coping using optimism and hope scores (Snyder, 1991) as predictors. It was found that hope scores explained a portion of the variance in problem focused coping even after optimism scores had been entered into the predictive equation. Moreover, hope has shown positive empirical relationships with coping (Sigmon & Snyder, 1990), acknowledgement of the benefits of
illness (Affleck & Tennon, 1996), and achievement in academic (Snyder, Wiklund, & Cheavens, 1998) and athletic circles (Curry et al, 1997).

Given that optimism and hope may play roles in the adaptation of students to college, they have unfortunately not been extensively and concurrently studied. This dissertation has addressed an unexplored segment in the field of "Positive Psychology" by examining the separate and concurrent roles of optimism and hope in the lives of college students. The more specific focus of the present study is the roles that optimism and hope have, individually or jointly, in explaining the academic success and retention of college students.

**Literature Review**

**Definitions of Optimism and Hope**

The scholarly study of any topic must begin with a clear understanding of the central constructs and the delineation of them construct from similar concepts. When focusing on optimism as one of the main constructs in this study, there is a need to differentiate it from the similar constructs such as subjective well-being, self-efficacy, positive affect, and also hope. There is also a need to understand the current alternate definitions of optimism (Dember, 2000; Peterson, 2000; Scheier & Carver, 1985; Seligman, 1990). Likewise, a clarification of the construct of hope is required. Previous attempts at discriminating these constructs have proven to be somewhat successful (Lucas, Diener, & Suh, 1996; Magaletta & Oliver, 1999; Scheier, Carver, & Bridges, 1994; Snyder et al., 2000). Some clarity was also added by Peterson's (2000) focus on optimism in the special issue of the American Psychologist in which he added insight into how optimism can be
understood at multiple levels and has conceptual separation from Snyder’s research on hope.

Optimism has been defined as “the tendency to believe that one will generally experience good vs. bad outcomes in life” by Scheier and Carver (1985) with the added understanding that this tendency is a stable characteristic (across both time and situation) in individuals. This definition stems from the work that Carver and Scheier (1990) have pursued in understanding the process of self-regulation in which there is evidence suggesting that persons who hold beliefs that their goals are attainable will continue to pursue them in spite of obstacles to the goals. Additionally, persons who experience this positive expectancy will also tend to report experiencing positive affect (Carver & Scheier, 1990). As this conception of optimism was evolving, Scheier and Carver (1985) developed their measure of optimism, the Life Orientation Test (LOT), which seeks to quantify this construct at a very general level. Also important to note about optimism in this context is that the disposition is understood to be an individual’s expectation for good events that does require the individual themselves to be the cause of the good events. There is no restriction that the individual needs to feel that they will be the cause of the good event. In fact, the optimistic disposition may be held even if another person or fate is thought to be the causative agent.

Juxtaposed to the portrayal of optimism as a global personality trait is the definition of optimism by Seligman (1990). Based on a large body of research on attributional style (Abramson, Seligman, & Teasdale, 1978; Peterson & Seligman, 1984; Seligman, Abramson, Semmel, & von Baeyer, 1979), Seligman and colleagues have found that individuals exhibit certain attributional styles characterized by explanations that lie along
the three main dimensions of stability, internality, and globality. Persons that exhibit a style that uses stable, internal, and global explanations for the causes of negative events are thought to be exhibiting a pessimistic explanatory style (i.e. are pessimists). Optimistic explanatory style is exhibited by individuals who use unstable, external, and specific causes for bad events (Peterson & Seligman, 1984). Measuring optimism in this framework involves the use of the Attributional Style Questionnaire which measures an individual's attributions for the causes of twelve positive and negative situations (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982).

While these two definitions of optimism are similar in that positive expectancies are involved, there is a difference between them in that Scheier and Carver's focus is on general expectations of the future, while Seligman's focus is on the expectations for causes of future events. Also, the Seligman's focus on attributional style necessitates the evaluation of personal agency in terms of the causes of events. The construct of optimism as developed by Scheier and Carver (1985) is devoid of this emphasis on how or why good events occur and is solely concerned with the expectation that they will occur.

Peterson (2000) provides a synthesis of these ideas by labeling the more global construct of Scheier and Carver as “Big Optimism” and Seligman’s more specific construct as “Little Optimism.” The aim of this division is to understand optimism as a construct that might exist within an individual at different levels. For example, Peterson states “it is possible to imagine a person who is a little optimist but a big pessimist, or vice-versa” (2000, p. 49). Understanding optimism as a construct that may exist at multiple levels also leads to asking questions for how it may be developed within an individual. Peterson (2000) suggests the possibility that the more global level of optimism (“Big”) arises from
some sort of biologically based tendency leading to resilience whereas the more specific level of optimism arises from an "idiosyncratic learning history" that helps an individual function well in specific situations. Despite their differences, the correlates of "Big" and "Little" optimism are similar including physical health (Peterson, 1988; Scheier & Carver, 1985, 1992). Therefore, these two levels of optimism may help to explain similar outcomes but work through different routes. A general theme in Peterson's (2000) article is the need for additional study of optimism at these two levels that would help to deepen our understanding of the construct.

Optimism and Subjective Well-Being (SWB)

In order to further define optimism, it must be shown as a separate construct apart from subjective well-being (SWB). This task has a foundation based on an extensive review of the SWB literature (Diener, Suh, Lucas, & Smith, 1999) and psychometric investigation of Well-being measures (Lucas, Diener, & Suh, 1996). Subjective well-being has been described as a "broad category of phenomena" including "emotional states, (specific) domain satisfactions, and global judgments of life satisfaction" (Diener et al., 1999). Using this concept, Diener (Diener et al., 1999) further subdivided SWB into categories involving pleasant affect (i.e. joy, elation, happiness), unpleasant affect (i.e. sadness, envy, guilt), life satisfaction (i.e. current, past, future), and domain satisfactions (i.e. work, family, leisure, health). This review continued on with discussions of how personality, genetic influences, adaptation, and life events relate to and explain variance in SWB. Specific studies on the relation between several variables (age, health, education, income, religion, marriage, gender, and intelligence) and SWB were summarized. A discussion that is missing in the review is a substantial link between optimism and SWB. It
is not mentioned as one of the subcategories of the construct nor one its major domains. The construct of optimism, although mentioned briefly in a half paragraph, either has not been extensively studied in relation to SWB or is not considered by one of the leading investigators of the this construct as having a significant overlap with SWB.

Moving to the psychometric separation of optimism from SWB, three studies of life satisfaction, affect, self-esteem, and optimism measures were conducted to help determine if the theoretical separation of these three constructs could be supported by empirical data (Lucas, Diener, & Suh, 1996). Both the participants (self-report) and friends/family (informant report) of the participants completed the measures. According to Campbell and Fiske’s guidelines (1959), convergent validity can be shown by high correlations between different methods of measuring the same trait. To further examine discriminant validity, the convergent validity correlations need to be strong (in this study roughly $r \geq .40$). The second criterion used to establish validity was that the correlations between different methods of measuring the same constructs (heteromethod-monotrait) were stronger than the correlations between the same method of measuring different constructs (monomethod-heterotrait). A final criterion used to establish validity is the appearance of the same pattern of correlations emerging in all hetero-trait triangles in the matrix for both the monomethod and heteromethod blocks. The results of the multi-trait multi-method analyses using Campbell and Fiske’s (1959) criteria for discriminant and convergent validity led the researchers to conclude that optimism could be separated from life satisfaction and trait measures of negative affect. It appears that optimism cannot be totally synonymous with SWB if it can be discriminated from life satisfaction.
Optimism and Affect

The conclusions of Lucas et al (1996) need to be elaborated on in terms of the relationship between affect with optimism. Critics (Marshall & Lang, 1990; Robbins, Spence, & Clark, 1991; Smith, Pope, Rhodewalt & Poulton, 1989) have pointed to the lack of significant relationships between optimism and outcomes after controlling for positive and negative affect. A study by Marshall and Lang (1990) looked at the predictive power of optimism and the construct of self-mastery (Pearlin & Schooler, 1978) in terms of their relationship to levels of depression symptoms. While both optimism and self-mastery were significantly negatively correlated with depressive symptoms, only self-mastery was reported to be an independent predictor of the level of depressive symptoms (Marshall & Lang, 1990). The conclusion drawn by the authors is that the relationship between depression and optimism might be explained by optimisms' relation with self-mastery.

Smith and colleagues (1989) examined the relationship between optimism and reports of physical symptoms and found that their significant correlation with each other was reduced to non-significance after trait anxiety was controlled. The converse was not found when relationship between trait anxiety and physical symptom reports was not made unreliable when the effects of optimism were controlled. There was a concern that the measures of optimism are possibly just alternate measures of negative affect as they also found high correlations between trait anxiety and optimism (Smith et al, 1989). Robbins and colleagues (1991) discovered a similar situation in which a significant negative correlation between optimism scores and health complaints was rendered not significant when controlling for the negative affective variables of anxiety, stress, anger, and alienation.
Scheier, Carver, and Bridges (1994) respond to some of these concerns about the confounding of optimism with other variables, specifically anxiety and self-mastery, by claiming that measures of positive and negative affect may overlap with measures of optimism due to some common conceptual grounding. Scheier and colleagues (1994) explain the relationship between optimism with negative affect by making the claim that negative affect (i.e. neuroticism) is a “multifaceted construct that consists partly of the absence of optimism (p. 1064).” This assertion then provides some basis for why measures of neuroticism could be correlated with their optimism measure and why some correlations could be affected if the effects of neuroticism were controlled. The studies by the critics (Robbins, Spence, & Clark, 1991; Smith et al. 1989) used measures of trait anxiety such at the Taylor Manifest Anxiety Scale (TMAS; Taylor, 1953) and the trait form of Speilberger’s State-Trait Anxiety Inventory (STAI; Speilberger, Gorsuch, & Luschene, 1970) to measure neuroticism. It was noted that these measures contain questions that do assess symptoms of anxiety but that also ask respondents about happiness, self-confidence, and satisfaction. The status of the TMAS and STAI as pure measures of anxiety is questionable. This problem would possibility explain the findings of Smith (Smith et al. 1989) and Robbins (Robbins, Spence, & Clark, 1991) as an artifact of measuring the broad construct of neuroticism which Scheier and Carver agree does overlap partially with optimism.

**Optimism, Self-Mastery, and Neuroticism**

Looking at the relationship between optimism and self-mastery, Scheier, Carver and Bridges (1994), claim there is reason to separate the two constructs. In the case of self-mastery, individuals are required to have a sense of personal responsibility for the positive
expectancies in their lives. This separates self-mastery from optimism that Scheier and Carver (1985; 1992) constrain to be only generalized expectancy for positive outcomes without a requirement for this expectancy to be tied to personal responsibility. Some overlap can be expected between optimism and self-mastery when both are being used to measure other constructs (e.g. depression) that involve the lack of the expectancy for positive outcomes.

Scheier, Carver, and Bridges (1994) also make use of a large data set (n = 4,309) in order to support their claims of optimism as an empirically distinct construct from neuroticism and self-mastery. Using many of the same measures and outcomes as their critics, Scheier and colleagues (1994) found that correlations between optimism and other predictor variables (i.e. self-mastery \( r = .55 \), trait anxiety \( r = -.59 \), neuroticism \( r = -.50 \), and self-esteem \( r = .54 \)) were significant (\( p < .001 \)) in predictable directions but only of a moderate magnitude indicating some conceptual separation. Further analyses produced information that optimism was significantly (\( p < .001 \)) correlated with depression scores (\( r = -.42 \)), physical symptom reports in terms of the number of symptoms (\( r = -.21 \)) and intensity of symptoms (\( r = -.25 \)), and several types of coping responses giving support to the idea that optimism may be a predictor of outcomes. Partial correlations were analyzed to see if optimism could independently relate to variables. The relationship between depression scores and optimism did lose significance (\( r = -.11, p > .05 \)) when the effects of all the other predictors (self-mastery, trait anxiety, self-esteem, and neuroticism) were controlled. The relationship between optimism and depression scores dropped but remained significant when each of the other predictors were controlled for individually.
Also, correlations between both physical symptom reports and intensity of symptoms lost significance after controlling for them individually and as a group.

Scheier, Carver, and Bridges (1994) also completed two factor analyses (principal components analysis with a Varimax rotation) that provided evidence for optimism loading on a separate factor from scores on the positive predictors (self-mastery and self-esteem) and negative predictors (trait anxiety and neuroticism). The conclusion drawn by the proponents of optimism in this case is that optimism may have some conceptual overlap with measures of positive and negative affect but can still be shown to be distinct from those constructs.

Optimism and self-efficacy (Bandura, 1977; 1986) are also constructs that appear to be conceptually related. Both involve a positive expectation for future events. There can be two points of divergence though as explained by Scheier and Carver (1992). The first is that optimism, conceptualized as the general tendency to experience positive outcomes, does not involve a sense that personal agency is the key factor in producing the positive outcomes. Bandura's (1986) position is that a sense of personal agency is one of the most important explanatory factors in human behavior. A second point of separation is that optimism relates to more general expectancies and not the very specific behaviors usually studied in the context of self-efficacy (Scheier & Carver, 1992). As additional evidence for this point, it has been shown that measures of more general expectancies like the Life Orientation Test show weak relationships with measures of specific expectancies for recovery from heart surgery (Scheier et al. 1989) and in coping with risk factors for Acquired Immune Deficiency Syndrome (Taylor et al., 1992).
The Construct of Hope

Hope, as a construct more recently conceptualized by Snyder and colleagues (1991; 2000), can be defined and distinguished from optimism. The construct of hope is understood as a combination of (1) the thoughts that an individual has about the ability to develop pathways leading to their goals and (2) a sense of personal agency about reaching those goals (Snyder et al., 2000). The pathways component is thought to consist of the ability of a person to plan or imagine multiple ways to reach a desired goal. The agency component includes the “mental motivation to initiate and sustain movement towards a goal” (Snyder et al., 2000, p. 102). These two components, agency and pathways, are thought to interact with each other in leading the individual to pursue goals that are thought to be specific, important, and of a relative probability of being achieved. Goals which an individual believes are either entirely too difficult (low probability) or too easy (high probability) to obtain or of low importance are not thought to lead a person to consider their hopefulness to reach such goals. Hope, via the two components, works to encourage goal directed behavior with the results of that behavior (achievement or non-achievement of goals) filtering back through the system via the agency and pathway related thoughts. This feedback is believed to then affect future behavior.

A hopeful person could be described in this framework as an individual who is able to plan for and motivate himself or herself to initiate goal directed behavior and maintains motivation for activity based on perceptions of success. If success is not achieved, it is possible for that person to alter their sense of agency or planning of paths such that the goal, and logically their sense of hope may be changed. Snyder also makes clear that emotions are outcomes of this process and do not precede the analysis of agency and pathways. The
construct of hope has been measured by the Adult Trait Hope Scale (Snyder et al. 1991) developed to tap into the two major components of agency and pathways.

**Differentiation of Optimism and Hope**

It is possible that optimism and hope may overlap as both involve positive outcome expectancies for the future. However, there is a difference between outcome and efficacy expectancies (Snyder et al. 1991) that separates the hope and optimism constructs. Outcome expectancies rely on the belief that behaviors will lead to an outcome or specified goal. Efficacy expectancies involve the belief that an individual has the ability to perform activities that will end in goal attainment. Hope and optimism may be separated by the emphasis given to these expectancies. Optimism, as defined by Scheier and Carver (1985) involves only outcome expectancy and places this as the primary determinant of goal directed behavior. Snyder’s conception of hope involves both outcome expectancy (pathways component) and efficacy expectancy (agency component) in a reciprocal relationship that leads to goal directed behavior.

Evidence for separation of the constructs is provided in studies by Snyder and colleagues (2000) that found that measures of hope add to the predictive power of optimism for such outcomes as problem focused coping. In this line of research, scores on a measure of hope were able to predict additional variance over that explained by optimism scale (LOT) scores (Holleran & Snyder, 1990). This provides some evidence for what Snyder calls the “discriminant utility.” (Snyder et al., 1991) of the hope construct. Magaletto and Oliver (1999) conducted a factor analysis of the items from the Snyder measure of Hope (1991), Scheier and Carver’s (1985) Life Orientation Test, and a measure of self efficacy (Sherer et al., 1982). Their results indicated that the items from the three scales loaded on
distinguishable factors with minimal item overlap (one optimism item loading on a self-efficacy factor; three self-efficacy items loading on hope factor).

Hope also requires conceptual separation from self-efficacy which can be accomplished using the logic identified previously involving the issues of outcome and efficacy expectancy. Bandura (1977; 1986) has held that it is an individual’s efficacy expectancy for the ability to complete a task that is the primary determinant of behavior. While outcome expectancy is acknowledged as a possible influence on self-efficacy in Bandura’s system, it is not placed in as strong a role as the efficacy expectancy. As noted in the discussion of how optimism and self-efficacy are separated, Bandura’s concept of self-efficacy is also inherently activity specific. The hope construct is not constrained by this specificity and is believed to be of a more general nature. Snyder’s construct of hope (Snyder et al 1991; Snyder et al, 2000) is essentially a mixture of outcome and efficacy expectancies that have a reciprocal relation and are directed to the pursuit of goals.

Claims made by a number of investigators (Marshall & Lang, 1990; Robbins, Spence, & Clark, 1991; Smith, Pope, Rhodewalt & Poulton, 1989) have led to concerns that measures of positive personality dispositions (optimism) may in fact be measures of neuroticism or negative affect. Since hope is a construct closely aligned with optimism, this concern has been addressed. Efforts to separate the effects of hope from neuroticism (Snyder et al., 1991) and affect (Sigmon & Snyder, 1990) have provided useful results. In the prediction of problem focused coping scores (Snyder et al., 1991), hope was able to add to the prediction of variance after scores from two anxiety scales (Spielberger, Gorsuch, & Luschene, 1970; Taylor, 1953) were entered into a hierarchical regression model. When the order was changed so that hope scores were entered first followed by anxiety scores,
only the hope scale aided in the prediction of variance in coping. Sigmon and Snyder (1990) made use of the PANAS (Watson, Clark, & Tellegen, 1988) scale of positive and negative affect. In the prediction of active coping, negative affects scores did not add significantly to this prediction when entered on the first step. Positive affect scores did augment the prediction when entered in step two followed by the hope scores which also significantly added to the regression. Reversing the order of entry led to similar results as hope (step one) and positive affect (step two) were significant predictors of variance while negative affect (step three) was not. The authors present these results as signifying that hope is able to account for unique variance in these regressions that is not subsumed by neuroticism or negative affect.

Current Methods of Measuring Optimism and Hope

A key area to include in the understanding of optimism is how the construct has been measured so as to demonstrate its role in health, coping and psychological functioning. The most common means of measuring the construct has been to use the Life Orientation Test (Scheier & Carver, 1985; 1994) which is consistent with understanding optimism as the general disposition encompassing many areas of life. The measure is a 12-item scale that has four positively worded items, four negatively worded items and four filler items. The negatively worded items are reverse scored and added to the other items to obtain an overall optimism score. A recent meta-analysis identified around 56 studies using the LOT as the measure of optimism (Andersson, 1996). The LOT was revised (Scheier, Carver, & Bridges, 1994) down to a 10-item scale (6 actual items, 4 filler items) that had acceptable reliability and discriminant validity. The correlation between the original (LOT) and revised form of the LOT (LOT-R) was high and significant ($r = .95, p < .001$).
Alternative measures exist that focus on optimism such as Seligman’s Attributional Style Questionnaire (ASQ; Peterson et al, 1982) in which individuals are asked to discuss a cause for positive and negative events as well as rating the cause on the dimensions of stability, globality, and internality. The events are relayed in vignettes in which six positive outcomes (e.g. becoming rich, receiving a compliment) and six negative outcomes (e.g. having a bad date, unsuccessful in obtaining a job) are described. In this way composite scores can be obtained for the positive and negative events.

Other measures have been developed, like Dember’s Optimism-Pessimism scale (Dember, 2000; Dember, Martin, Hummer, Howe, & Melton, 1989) to assess pessimism concurrent to optimism. In this scale, Dember was attempting to seek how measure people may hold a positive bias or a negative bias. The scale consists of 56 total items divided into 18 items measuring optimism, 18 measuring pessimism, and 20 filler items. The scale is scored into separate optimism and pessimism scores. Studies have demonstrated acceptable reliability for the scale (Dember, 2000). This scale has also been shown to correlate with the previously mentioned optimism measures (r = .57 with the LOT; r = .39 with the ASQ, both correlations p < .05).

The LOT, ASQ, and O-P scale are self-report measures while a fourth indicator of optimism involves the use of pre-existing written or spoken text that is rated by others for the presence of an optimistic attributional style. This technique is known as the Content Analysis of Verbal Expressions (CAVE) and was initiated by Peterson and Seligman (1984). This procedure requires the use of already existing text that is then rated in terms of how the author is explaining events. Blind raters are given passages to score in terms of the globality, stability, and internality of causes for positive or negative outcomes. The ratings
are then used to establish the author as an optimist or pessimist. This technique has been used with the post-diction of successful political campaigns (Zullow & Seligman, 1990) and aggressive use of military power (Satterfield & Seligman, 1994).

Measures of hope include those developed by Snyder's research group specifically the Adult Trait Hope Scale (Snyder et al., 1991) and the Trait Children's Hope Scale (Snyder et al., 1997). The Adult Trait Hope Scale (Snyder et al., 1991) is a twelve-item scale designed to measure two components of hope. These components include a sense of personal agency related to goal attainment (4 items) and the ability to recognize/generate pathways to reach a goal (4 items). Four questions on the scale serve as filler items. Participants are asked to respond to the items using an eight-point Likert scale ranging from 1 (definitely false) to 8 (definitely true). Two sample items would include "I can think of many ways to get out of a jam" (pathways component) and "I met the goals that I set for myself" (agency component). Scores are calculated by summing the ratings for the items related to the two components. The children's scale (Snyder et al., 1997) taps the two major components of the construct also but uses items that have more simplified wording and limited response formats.

Related Consequences of Being Optimistic and Hopeful

The effect of optimism on a wide variety of outcomes has been established (Carver et al, 1993; Chang, 2000; Scheier & Carver, 1992; Segerstrom et al., 1998). The most salient outcomes are related to optimistic individual's emotional health, physical health (immunocompetence, coping with illness, post-surgical recovery) performance in sales, successful political campaigns, and military victories. (Scheier & Carver, 1992; Seligman, 1990). It appears that holding an optimistic viewpoint at the level of generalized
expectancy for positive outcomes or using an optimistic attributional style is important for many areas of life.

The research on the relation between optimism and emotional or psychological states has focused on postpartum depression, heart bypass surgery, breast cancer, abortion, and general distress. Carver and Gaines (1987) found that levels of postpartum depression were inversely correlated to levels of prepartum optimism when controlling for initial dysphoria. Scheier et al. (1989) studied heart bypass patients who were tested using the LOT before surgery and stated that optimistic patients showed less pre-operative hostility and depression. After surgery, the optimists reported more feelings of happiness and relief than the pessimists. At six months post-surgery, the optimists reported better quality of life as measured by Andrews and Withey's (1976) Quality of Life Scale.

Other research (Carver et al., 1993), has focused on breast cancer patients with early stage cancer who underwent surgery to remove the tumors. At three, six, and twelve months after surgery the optimists were found to have lower levels of distress when controlling for initial distress symptoms. Similarly, Cozzarelli (1993) has found that optimistic women report better post-abortion adjustment as compared to women who are pessimistic. Optimistic college students also displayed less general distress than pessimistic students (Aspinwall & Taylor, 1992).

The physical health of subjects has also been studied in relation to levels of optimism. Optimistic college students reported fewer physical symptoms in the last four weeks of a semester (Scheier & Carver, 1985). In the Scheier et al. (1989) study involving cardiac bypass patients, it was found that optimists were less likely to have a heart attack
during surgery and more likely to have faster rates of recovery with a quicker return to
vigorous activity.

Optimists have been found to use different methods of coping (Scheier, Weintraub, & Carver, 1986). Participants in this study were asked to recall the most stressful event from their lives that occurred the previous month and then respond to the Ways of Coping Checklist (Folkman & Lazarus, 1980). Results indicated that optimism scores were significantly correlated with problem focused coping strategies, positive reinterpretation of the event, and accepting the reality of the event if it was seen as uncontrollable. Scheier, Weintraub, and Carver (1986) found negative relationships between optimism scores and the use of denial and distancing coping strategies.

In another study that used a dispositional measure of coping known as the Coping Operations Preference Enquiry (COPE; Carver, Scheier, & Weintraub, 1989), subjects who were optimists (based on Life Orientation Test scores) were shown to use active problem-oriented techniques, seeking social support, and rephrasing events in a positive light. In contrast, subjects who scored low on the optimism measure were found to have a tendency to cope by using denial, distancing, emotionally focused techniques (e.g. will refuse to believe that they are under stress, will try to forget the stressful event, and will not follow a plan of action but rather attend to their affective experience), and disengagement from their goals.

Two other studies help to highlight the coping strategies of optimists with breast cancer surgery (Carver et al., 1993) and adaptation to college (Aspinwall & Taylor, 1992). Carver and colleagues (1993) collected data from breast cancer patients before surgical treatment for the cancer and after this surgery until one year later. Optimism was measured
before surgery using the Life Orientation Test. Coping strategies and levels of distress were measured at each point in time after at 10 days, 3 months, 6 months, and 12 months post-surgery. Path models were used to demonstrate the relationship between optimism, distress, and the use of coping strategies. Prior to surgery, optimism scores had a significant direct relationship to levels of distress ($b = -.21$). Optimism also had a significant indirect relationships to distress prior to surgery via the use of acceptance ($b = .56$) and the use of denial ($b = -.39$). At ten days post surgery, optimism failed to have a direct relationship with distress but did show significant indirect relationships with distress via acceptance ($b = .37$), denial ($b = -.50$), and behavioral disengagement ($b = -.30$).

Moving to three months post-surgery, optimism had a significant direct link to distress ($b = -.48$) and an indirect relationship via denial ($b = -.37$). A model testing relationships at six months post surgery indicated a direct link between optimism and distress ($b = -.50$) and an indirect link via acceptance ($b = .33$).

Aspinwall and Taylor (1992) studied how college students adjusted to the college environment to find what kinds of personal characteristics and coping strategies were used. The project made use of a factor analysis of the Ways of Coping Checklist and found four main factors including avoidant coping, active coping, seeking support, and searching for meaning. These four coping styles along with personality characteristics were placed in a structural model attempting to show which of these variables were related to adjustment to college. Optimism was shown to have a direct relationship with adjustment to college (path $= .32$) and indirect relationships with adjustment via active coping (path $= .19$) and avoidant coping (path $= -.12$) strategies.
In general, it appears that optimists make use of problem oriented coping methods in times of stress. This may have a benefit in terms of being able to continue on with life events that challenge them and their positive expectancies for the future. Also, optimists may persist longer at difficult tasks as their coping strategies are more adaptive especially when the stressful event is believed to be controllable.

Perhaps due in part to the use of differential coping techniques, optimistic individual's success in sales, military actions, and political campaigns were described in the popular self-help book Learned Optimism (Seligman, 1990) and demonstrated in other studies (Satterfield & Seligman, 1994; Zullow & Seligman, 1990). Seligman (1990), using attributional style as the means of measuring optimism, found that those salespersons who explained lack of early success in terms of unstable, external, and specific causes tended to continue working in sales and eventually outsold other workers who were less optimistic. Satterfield and Seligman (1994) were able to postdict military aggressiveness based on how optimistic the military leader (in this case George Bush and Saddam Hussein) was in his speeches. Higher levels of optimism were related to more aggressive use of military power. Victory on the political front was examined by Zullow and Seligman (1990) who used the CAVE technique to postdict the winner of the presidential elections in 18 out of the 22 campaigns between 1900 to 1984. The candidate who was rated as pessimistic in their explanatory style and ruminated more about bad events in their nomination speech at the party convention most often lost the election.

A hopeful disposition is also related to several positive outcomes (Snyder, 2000; Snyder et al., 2000). Those persons found to be hopeful reported more positive thoughts on a thought record as compared to less hopeful individuals (Snyder et al., 1996). A higher
sense of self worth has also been associated with high scores on a measure of hope (Snyder et al., 1991; Snyder et al. 1997). A particularly unique finding was that over half of the variance (56%) in track athletes actual success in their event was explained by their hope scores after partialling out the effects of coaches’ ratings of ability and hours spent training (Curry et al., 1997).

As noted with optimism and health events, hope also has demonstrated a beneficial nature with individuals enduring injury, pain, or illness. Specifically, spinal cord injury patients with high hope scores exhibited better coping and lower levels of depression (Elliot, Witty, Herrick, & Hoffman, 1991). Higher pain tolerance thresholds for cold stimuli have been shown for those with high hope scores (Snyder & Brown, 1998). Arthritis patients who are hopeful were shown to exhibit higher levels of functioning (Laird, 1992). Finally, patients diagnosed with fibromyalgia and high levels of hope were able to describe the ability to find the benefits gained from the process of enduring this illness (Affleck & Tennen, 1996).

The ability to cope with a high stress work environment is a benefit of a hopeful disposition. A study of nurses in a burn unit provided evidence for lower self ratings of burnout and alienation for those with higher levels of hope (Sherwin et al., 1992). Health professionals working with AIDS patients on a daily basis were studied by Anderson (1992) who found that hope served as a significant predictor of successful coping with the workplace demands.

Optimism and Hope Related to Academic Achievement and Retention

Studies that have measured optimism and hope in relation to an index of academic achievement (commonly college grade point average) have shown some connection
between these two variables. (Barlow, 1996; Aspinwall & Taylor, 1992; Prola, 1984; Prola & Stern, 1984; Robbins, Spence & Clark, 1991). Although these correlations have been of a moderate magnitude (average $r \approx .14$), they have been significant in a positive direction. In two studies, optimism retained a significant correlation with college grade point average after controlling for high school grade point average (Barlow, 1996; Prola & Stern, 1986). Optimistic explanatory style for negative events as reviewed by Schulman (1995) has shown a significant correlation ($r = -.36$, $p < .001$) with grade point average. This value dropped slightly but remained significant ($r = -.28$, $p < .01$) when SAT and depression scores were partialled out. Hope has also demonstrated its ability to aid in the prediction of semester grade point average ($R^2 = .08$, $p < .001$) after controlling for the effects of cumulative grade point average (Curry et al., 1997). An additional study was able to demonstrate a link between hope scores and grade point average over a six year period (Snyder, Wiklund, & Cheavens, 1998) It is possible that the positive outlook, agency, and pathways related thinking may explain part of this index of achievement in college.

Much effort has been applied to the study of academic retention (Allen, 1999; Cabrera, Nora, & Castaneda, 1993; Pascarella & Terrenzini, 1983; Terrenzini & Pascarella, 1977, 1978; Terrenzini, Pascarella, & Blimling, 1999; Tinto, 1975, 1987, 1996; Tracey & Sedlacek, 1985). The work in this area however has not made wide use of the constructs of optimism or hope. In one study, hope was used to predict dismissal and graduation rates over a six year period (Snyder, Wiklund, & Cheavens, 1998). Hopeful students exhibited lower rates of dismissal and higher graduation rates than less hopeful students. More often, as seen in Tinto’s Student Integration Model (1975), characteristics of students’ (social and academic) integration into their educational institution and the student’s commitment to
earn their college degree at their current college campus are proposed as the prime causal factors leading to persistence (i.e. retention). If a student fails to maintain a high level of commitment to their goal of earning degree and/or lessens their commitment to earn a degree at a specific college/university then their retention is in jeopardy. Tests of this model have shown that it has power to explain retention across different groups of students and types of institutions. (Cabrera, Nora, & Castaneda, 1993). Another student characteristic, motivation, has been studied as a factor leading to retention and was found to have significant direct relationship to persistence (Allen, 1999). Non-cognitive student variables such as educational aspirations and expectations of college have been found to variance in both persistence and grade point average in some cases more adequately than SAT scores (Tracey & Sedlacek, 1985).

Rationale For The Study

This project constituted a unique attempt at merging the study of academic success and retention in college by using the constructs of optimism and hope as two of the key predictors and correlates. The study also continued a line of research into constructs that will help to further establish a base for "Positive Psychology." For these reasons, this dissertation was completed as it was hoped to bridge a gap between the bodies of literature concerning "Positive Psychology" academic success, and retention.

An extensive body of literature highlights the place of many academic, social, and motivational variables important in the retention of college students (Astin, 1999; Pascarella & Terenzini, 1975; Tinto, 1975). Some of the key variables have included previous academic success, campus involvement, academic integration into the college, and social integration at college. Some psychological factors like motivation, current life stress,
and resiliency have been investigated in terms of their effect on retention. Research has been spearheaded by persons like Astin (1975; 1993) and Tinto (1975; 1987; 1996) who see academic and social variables as key players in the success of new college students. Hope and optimism has been neglected as a possible explanatory constructs in issues of retention and success in college.

Researchers have looked at the relation between these constructs and mental health, methods of coping, health related behaviors, and physical symptoms of illness. The exact definitions of hope and optimism and the psychometric properties of scales measuring them have received scrutiny as well. One clear finding has been that the presence of optimism or hope within an individual is associated with lower levels of illness, higher levels of success, and direct means of coping. What is less clear is the exact nature of optimism and hopes relation to retention in college and academic success as well as possible differences that may exist between the constructs if optimism is measured as disposition or attributional style. The process of separating optimism from similar yet distinct concepts such as hope (Snyder et al., 2000) and subjective well-being (Lucas, Deiner, & Suh, 1996) has also been studied. There now exists a need for further clarification about the relation between hope and optimism and how optimism’s measurement at different levels can aid our understanding of the construct.

There are plausible roles that hope and optimism may play in success and retention in college. Research in this area has linked the presence of optimism with a problem-focused coping strategy in times of stress or continued efforts when progress towards a goal has been blocked. Both of these strategies would appear to show that the optimistic individual still has a sense of contingency that their behaviors will effect change in their
environment. Both of these behaviors would also seem to have a possible link to retention and academic success for college students as they encounter obstacles yet persevere. Martin Seligman (1990) conceptualizes optimism as a distinct attributional style involving the use of external, unstable, and specific reasons for failure. These reasons shield the individual from hopelessness and encourage further efforts. Again, a logical tie could be made between optimism and its potential to aid college students who are struggling yet continue despite difficult coursework. Hope, in Snyder's conception (2000) involves the interplay between outcome and efficacy expectancy beliefs in relation to pursuit of goals. A hopeful student would likely engage in processes that would aid them in thinking of multiple routes of achieving goals such as higher grades and remaining in school. Paired with this pathway thinking is the agency thinking of the individual's ability to use those paths leading to goal attainment.

Focus of the Present Study

This study attempted to demonstrate the relation between optimism and hope with the academic variables of academic success (grade point average) and retention. Another goal of the study was to highlight any differences between the constructs of hope and optimism as they relate to these academic variables. A final goal was to ascertain if there were differences between the measures of optimism (Scheier & Carver, 1985; Seligman, et al., 1982) in their relations to variables. With these goals and the existing literature in mind, the following hypotheses are stated:

**Hypothesis 1**: Students' levels of hope and optimism will demonstrate a significant, positive correlational and predictive relationships with college grade point average.
This relationship will remain significant after controlling for high school rank and ACT composite score.

**Hypothesis 2:** Students’ levels of hope and optimism will demonstrate a significant positive correlational and predictive relationships with retention. This relationship will remain significant after controlling for high school rank, ACT composite score, commitment to college, and adjustment to college.

**Hypothesis 3:** Hope and optimism will demonstrate similar patterns of relationships with measures of negative constructs (depression, anxiety) and positive constructs (coping, adjustment, commitment, motivation for college).

**Hypothesis 4:** The two measures of optimism will exhibit similar patterns of relationships with measures of negative constructs (depression, anxiety) and positive constructs (coping, adjustment, commitment, motivation for college).
CHAPTER 2. METHOD

Participants

Participants in the study were 282 undergraduate students from a large midwestern university who received extra credit points in a psychology course for their voluntary participation. The sample consisted of mostly Caucasian (83%, n=235), female (61%, n=172) students with a mean age of 19 years. The students represented a wide variety of majors and were predominantly engaged in their first (46%, n=130) or second year of college (39%, n=111). Eighty-two adult friends or relatives of these participants (i.e. collateral reporters) also participated. The majority of these reporters were self-reported friends of the subjects (52%) with the other respondents listing themselves as relatives (26%) or significant others (22%). The mean length of time the collateral reporters had known the participants was 96 months (i.e. 8 years) with a range of 2 months to 30 years. Each collateral reporter who returned a questionnaire packet, was rewarded by having their name entered into a raffle for one of two $50.00 gift certificates from the university bookstore. All subjects were treated ethically and humanely in accord with established ethical guidelines (APA, 1992). This project was submitted to and approved by the Iowa State University Human Subjects Institutional Review Board (See Appendix A).

Measures

Psychometric information for the following measures can be found in Table 10 which can be found in Appendix N. This information includes the mean scores, standard deviations, and Cronbach’s alpha reliability values for the measures used in the study based on the scores of the current sample.
Demographic Questionnaire (See Appendix B):

This instrument was used to collect demographic information including gender, age, ethnicity, major, and year in school.

Previous and Current Academic Performance:

The participants' first semester college grade point average (on a scale where A = 4.0), composite ACT score, high school class rank, and spring semester enrollment status was obtained from the registrar's office upon the completion of the fall semester with the written consent of the subjects.

Level of Commitment (See Appendix C):

Thirteen questions assessed the participants' level of commitment to their college education, beliefs about staying at their current institution, and desire to continue in school. Six items were adapted from the College Student Inventory (CSI: Noel & Levitz, 1993). All items are answered on a 7-point scale ranging from 1 (not at all true) to 7 (completely true). Sample items include “I plan to continue my college career at Iowa State” and “I would readily leave college if I found a well paying job.” A recent study of persistence in college freshman found reliabilities for the six CSI items of .76 (Allen, 1999).

Motivated Strategies for Learning Questionnaire (MSLQ, See Appendix D):

A thirty-item motivation scale from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1993) assessed the subjects' level of motivation for college. The items are organized into six scales intended to measure (1) intrinsic goal orientation, (2) extrinsic goal orientation, (3) task value, (4) control of learning beliefs, (5) self-efficacy for learning and performance, and (6) test anxiety. Each item is rated on a seven point scale ranging from 1 (not at all true of me) to 7 (very true of
Acceptable reliability values for each of the scales have been reported ranging from .62 to .93 (Pintrich et al., 1993). Sample items include “Getting a good grade in this class is the most satisfying thing for me right now” (extrinsic goal orientation) and “It is important for me to learn the course material in this class” (task value).

Retention:

Those subjects who were still enrolled with the Registrar’s office in the spring semester were considered as retained. Information was obtained directly from the Registrar’s office.

College Adjustment Questionnaire (See Appendix E):

A short questionnaire adapted from Aspinwall and Taylor (1992) was given to assess the participants' current level of adjustment to college. An eight-item measure scored in a Likert-type format from 1 (much less happy/adjusted) to 5 (much more happy/adjusted) was used. Higher scores indicate better adjustment. Some sample items would be, "Compared to the average student, how happy do you think you are?" and "How well do you think you have adjusted to college, socially?" This scale demonstrated acceptable reliability when used in previous research (α = .84, Barlow, 1996).

Life Orientation Test (LOT, See Appendix F):

The LOT (Scheier & Carver, 1985) is an eight-item self-report measure, with four filler items, that assesses generalized expectancies for positive versus negative outcomes. Participants were asked to state their level of agreement with statements such as "In uncertain times, I usually expect the best" and "I hardly ever expect things to go my way," using a five-point response scale from 0 (strongly disagree) to 4 (strongly agree). Four items are worded in the positive direction and 4 are worded in a negative direction. Item
scores are totaled after reversing the scoring for the negative items, with high scores representing greater optimism. The scale has satisfactory internal consistency reliability indices as given by a Cronbach alpha of .76 and a test-retest reliability (4 weeks) of .79 (Scheier & Carver, 1985).

**Attributional Style Questionnaire (ASQ):**

The ASQ (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) is a 12-scenario instrument that attempts to ascertain an individual's beliefs about the causes for both positive (e.g. becoming rich) and negative events (e.g. giving a talk in front a group that reacts negatively to you). The twelve items are divided into six positive outcomes and six negative outcomes. Participants are asked to list one major cause for the occurrence of 12 specific events and rate that cause along three dimensions of internality, stability, and globality using a 7-point Likert scale. A final question about the importance of the particular situation is asked of the subject. These ratings are combined to produce composite subscale scores for the positive and negative events as well as composites for the three dimensions (internality, stability, and globality). Reliability estimates show respectable levels of internal consistency ($\alpha = .75$ for positive events, $\alpha = .72$ for negative events; Peterson et al., 1982). Test-retest reliability averaged for positive events was $r = .70$ while for negative events was slightly lower at $r = .64$. Permission was obtained from the test authors for its use in this study. Due to copyright restrictions, this instrument could not be reproduced for placement in an appendix.

**Adult Trait Hope Scale (See Appendix G):**

The Adult Trait Hope Scale (Snyder, Harris, et al., 1991) is a twelve-item scale designed to measure two components of Snyder's conception of hope. These components
include a sense of personal agency related to goal attainment (4 items) and the ability to recognize/generate pathways to reach a goal (4 items). Four questions on the scale serve as filler items. Participants are asked to respond to the items using an eight-point Likert scale ranging from 1 (definitely false) to 8 (definitely true). Two sample items would include “I can think of many ways to get out of a jam” (pathways component) and “I met the goals that I set for myself” (agency component). Scores are calculated by summing the ratings for the items related to the two components. Internal consistency reliability estimates have been found in acceptable ranges for the scale as a whole (α = .74-.84) and when considered as scales representing the components of agency (α = .71-.76) and pathways (α = .63-.80; Snyder et al., 1996). Studies have also given evidence for the convergent validity of the scale (correlation with the Generalized Expectancy for Success Scale, r = .55) and its discriminant validity (correlations with the Beck Depression Inventory, r = -.42; Beck Hopelessness Scale, r = -.51, Marlowe-Crowne Social Desirability Scale, r = .30; Gibb, 1990).

Center for Epidemiologic Studies - Depression Scale (CES-D, See Appendix H):

The CES-D (Radloff, 1977) is a 20-item scale focused on measuring the frequency of depressive symptoms. Six major areas of symptoms are addressed by the measure including: depressed mood, guilt/worthlessness, helplessness/hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. Participants will be asked to rate the frequency of symptoms on a scale from 1 (rarely or none of the time) to 4 (most or all of the time). The scale is scored by summing the item ratings after reverse scoring four items that are worded in a positive manner. Acceptable levels of reliability (split-half = .77-.85, α
have been demonstrated along with good concurrent validity with the Hamilton and Raskin Rating Scales for Depression (Radloff, 1977).

**State-Trait Anxiety Inventory (STAI):**

The state/trait form of the STAI is a standard measure of anxiety composed of 40 Likert items evaluating the extent to which a participant experiences a variety of feelings such as happiness, self-confidence, tension, and disappointment. Subjects are asked to address half of these items related to how they feel at the current moment (state anxiety) and the other half as related to how they generally feel (trait anxiety). Examples of items would be "I feel content" and "I worry too much over something that really doesn't matter."

The inventory has been used extensively in research and has well-documented psychometric properties (Spielberger et al., 1983; Watson & Clark, 1984). Permission was obtained from the test authors for its use in this study. Due to copyright restrictions, this instrument could not be reproduced for placement in an appendix.

**Coping Operations Preference Enquiry (COPE, See Appendix I)**

The COPE (Carver, Scheier, & Weintraub, 1989) is a 60-item measure designed to assess the usual responses of individuals to stress using a four-point Likert type scale from 0 ("I don’t usually do this at all") to 4 ("I usually do this a lot"). Scores from individual items are summed without reversing them in order to form one of fifteen scales. Examples of those scales (with a representative item in parentheses) include: mental disengagement ("I turn to to work or other substitute activities to get my mind off of things"), active coping ("I concentrate my efforts on doing something about it."), and use of emotional support ("I discuss my feelings with someone.") These scale scores were found to have internal
consistency reliability coefficients in an acceptable range (all > .60; Carver, Scheier, & Weintraub, 1989) and two separate samples produced the same factor structure.

Procedure

The subjects involved in the data collection were recruited from the pool of students taking introductory, developmental, or social psychology classes in the fall semester. Participants were advised beforehand by the experiment posting form that they would be asked to name a friend or relative (i.e. a collateral reporter) who would be asked to complete two optimism measures (LOT, ASQ) and one hope measure, as if they were the subject. Please see Appendix J that depicts the instructions for collateral reporters. Once the participants arrived at a group testing session they were given a test packet including all the measures required for the study. One of two male experimenters asked the group of participants to read and sign a general informed consent for the project and a specific informed consent for the release of academic data (i.e. cumulative college grade point average, high school grade point average, high school class rank, ACT composite score) from the registrar (See Appendices K & L respectively). After these consent forms were signed, each subject was asked to complete the measures in the test packet. After finishing the measures, they were given a written debriefing about the study and provided the test packet for their friend or relative. The subjects were instructed to have the adult friend or relative complete the measures and return them in the self-addressed, stamped envelope provided to the primary investigator. These collateral reporters also completed an informed consent statement returned with their completed materials (See Appendix M). The measures were scored and the academic data was retrieved from the registrar's office at the beginning of the spring semester.
Statistical Analyses

The data were analyzed to examine the hypotheses. Regarding the first hypothesis, Pearson correlation, partial correlation, and linear regression analyses were conducted using the scores on the Adult Trait Hope Scale, Life Orientation Test, Attributional Style Questionnaire, and the interaction of the Adult Trait Hope Scale and Life Orientation Test with grade point average serving as the dependent variable of interest. The second hypothesis was addressed in like manner except with retention status as the dependent variable. Logistic regression analyses and eta (η) were calculated due to the retention variable being dichotomous. The third and fourth hypotheses were addressed using Pearson correlations.
CHAPTER 3. RESULTS

Hypothesis One

The first hypothesis, that optimism and hope would demonstrate correlational and predictive relationships with grade point average, was partially supported. The Pearson correlations calculated between optimism, as measured by the Life Orientation Test and by the Attributional Style Questionnaire, and grade point average were not significant (See Table 1). The correlation coefficient values for the Adult Trait Hope Scale were significant both in terms of the zero-order and partial correlations controlling for the effects of prior academic ability (ACT composite, high school class rank).

Table 1. Pearson Correlations and Partial Correlation Between Optimism, Hope, and College Grade Point Average

<table>
<thead>
<tr>
<th></th>
<th>Zero-order</th>
<th>Controlling for ACT</th>
<th>Controlling for ACT &amp; HS Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT</td>
<td>.06</td>
<td>.06</td>
<td>.07</td>
</tr>
<tr>
<td>HOPE</td>
<td>.15*</td>
<td>.15*</td>
<td>.13*</td>
</tr>
<tr>
<td>ASQ-CPCN</td>
<td>.01</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>HOPE*LOT</td>
<td>.12</td>
<td>.12</td>
<td>.11</td>
</tr>
</tbody>
</table>

Note. Sample size for superscripts a (n=279), b (n = 234), and c (n=233). ACT = ACT composite score; HS Rank = high school class rank; LOT = Life Orientation Test; HOPE = Adult Trait Hope Scale; ASQ-CPCN = Attributional Style Questionnaire-Composite Positive minus Composite Negative Score; HOPE*LOT = interaction score of Adult Trait Hope Scale and Life Orientation Test. * p < .05

The optimism scores from the Life Orientation Test and Attributional Style Questionnaire when entered into regression equations did not explain any significant variance in the grade point averages of the participants when entered individually (See Models 1 and 2 of upper section of Table 2). Planned regression analyses that controlled for the effects of ACT score and high school class rank were conducted (See Table 2, Model 3 and 4). While the equations for these models did account for variance in grade
point average \( F(3, 233) = 26.999, \ p < .001, R^2 = .258 \) for Model 3; \( F(3, 233) = 26.869, \ p < .001, R^2 = .257 \) for Model 4), the optimism scores did not augment the contributions of the ACT composite score or high school class rank.

Table 2. Regression of Optimism on Grade Point Average

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>( \beta )</th>
<th>Sig.</th>
<th>95% C.I. on B</th>
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</thead>
<tbody>
<tr>
<td>Model 1 (N = 278)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>LOT</td>
<td>.008</td>
<td>.008</td>
<td>.061</td>
<td>.313</td>
<td>(-.008, .024)</td>
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<tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>ASQ-CPCN</td>
<td>.003</td>
<td>.021</td>
<td>.009</td>
<td>.877</td>
<td>(-.039, .046)</td>
</tr>
<tr>
<td>Model 3 (N = 236)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT</td>
<td>.045</td>
<td>.011</td>
<td>.265</td>
<td>.000</td>
<td>(.025, .066)</td>
</tr>
<tr>
<td>RANK</td>
<td>.010</td>
<td>.002</td>
<td>.328</td>
<td>.000</td>
<td>(.007, .014)</td>
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<tr>
<td>LOT</td>
<td>.009</td>
<td>.007</td>
<td>.064</td>
<td>.266</td>
<td>(-.006, .023)</td>
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<tr>
<td>Model 4 (N = 236)</td>
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<td></td>
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<td></td>
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<td>.000</td>
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<td>.002</td>
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<td>.000</td>
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<td>.055</td>
<td>.330</td>
<td>(-.020, .060)</td>
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</tbody>
</table>

Note. Model 1 Grade Point Average predicted by LOT scores, \( R^2 = .004 \); Model 2 Grade Point Average predicted by ASQ-CPCN scores, \( R^2 = .000 \); Model 3 Grade Point Average predicted by ACT, Rank, and LOT scores, \( R^2 = .258 \); Model 4 Grade Point Average predicted by ACT, Rank, and ASQ-CPCN scores, \( R^2 = .257 \); LOT = Life Orientation Test; ACT = ACT composite score; RANK = high school class rank. ASQ-CPCN = Attributional Style Questionnaire-Composite Positive minus Composite Negative Score; C.I. = Confidence Interval.

The role of hope in the prediction of grade point average was given support by the results of regression analyses both as an independent predictor and also in a model accounting for previous academic performance (See Table 3, Models 1 and 2 respectively). In the model when hope was entered as a sole predictor of grade point average, it was found that hope scores predicted a small portion of the variance \( (R^2 = .022) \). When controlling for the influence of ACT composite score and high school class rank by entering them before
hope scores in the second regression, hope remained as a significant variable that aided in
the prediction of grade point average with a significant rise in the percent of variance
explained ($\Delta R^2 = .013$, $F (1,233) = 4.001$, $p < .047$).

Table 3. Regression of Hope on Grade Point Average

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>$\beta$</th>
<th>Sig.</th>
<th>95% C.I. on B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 (N = 278)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOPE</td>
<td>.011</td>
<td>.005</td>
<td>.148</td>
<td>.013</td>
<td>(.002, .020)</td>
</tr>
<tr>
<td>Model 2 (N = 278)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT</td>
<td>.044</td>
<td>.011</td>
<td>.256</td>
<td>.000</td>
<td>(.023, .065)</td>
</tr>
<tr>
<td>RANK</td>
<td>.010</td>
<td>.002</td>
<td>.317</td>
<td>.000</td>
<td>(.006, .014)</td>
</tr>
<tr>
<td>HOPE</td>
<td>.009</td>
<td>.004</td>
<td>.115</td>
<td>.047</td>
<td>(.000, .017)</td>
</tr>
<tr>
<td>Model 3 (N=278)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOPE*LOT</td>
<td>.000</td>
<td>.000</td>
<td>.116</td>
<td>.053</td>
<td>(.000, .000)</td>
</tr>
<tr>
<td>Model 4 (N=236)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ACT</td>
<td>.044</td>
<td>.011</td>
<td>.256</td>
<td>.000</td>
<td>(.023, .065)</td>
</tr>
<tr>
<td>RANK</td>
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<td>.002</td>
<td>.325</td>
<td>.000</td>
<td>(.007, .014)</td>
</tr>
<tr>
<td>HOPE*LOT</td>
<td>.000</td>
<td>.000</td>
<td>.098</td>
<td>.089</td>
<td>(.000, .000)</td>
</tr>
</tbody>
</table>

Note: Model 1 Grade Point Average predicted by HOPE scores, $R^2 = .022$; Model 2 Grade Point Average predicted by ACT, RANK, and HOPE scores, $R^2 = .267$; ACT = ACT composite score; RANK = high school class rank. HOPE = Adult Trait Hope Scale Score; HOPE*LOT = interaction score of Adult Trait Hope Scale and Life Orientation Test; C.I. = Confidence Interval.

The interaction of hope and optimism, measured by the Life Orientation Test, was tested in terms of demonstrating its relationship with grade point average. Pearson and partial correlations were calculated between this interaction and college grade point average but produced no significant zero order or partial correlations (See Table 1). Entering the interaction variable into regression equations predicting college grade point average also did not produce significant results (See Table 3, Models 3 and 4).
Hypothesis Two

Eta and logistic regression analyses were conducted to demonstrate the relationship between optimism and hope with the dichotomous variable retention status. The Eta values, indices of association between dichotomous and continuous variables that range in value from 0 to 1.00, were low for the Life Orientation Test score ($\eta = .004$), Attributional Style Questionnaire CPCN score ($\eta = .001$), Adult Trait Hope Scale score ($\eta = .071$), and interaction of hope and optimism ($\eta = .029$). No significant predictive relationships involving optimism and hope on retention status were found on a series of logistic regression analyses calculated (See Table 4).

The two measures of optimism, the Life Orientation Test and Attributional Style Questionnaire, where entered in Models 1 and 3 as sole predictors of retention status. Then these two optimism scores were entered after controlling for a series of variables relevant to retention status (ACT composite score, high school rank, commitment to college, and adjustment to college) to provide information relevant to the second hypothesis (See Models 2 and 4). Hope was entered separately (Model 5) and after controlling for the relevant variables (Model 6) in prediction of retention status. Finally, the interaction of hope and optimism, optimism in this case measured by the Life Orientation Test, was entered in as a sole predictor of retention (Model 7) and after controlling for the relevant variables (Model 8). The constructs of hope and optimism did not aid the prediction of retention status in any of the models. The interaction of hope and optimism did not demonstrate a significant predictive relationship with retention. It is important to note that only 11 out of the 279 participants (i.e. 4 %) whose data were used in these analyses were not enrolled in the spring semester (i.e. not retained) which left little variance to explain.
Table 4. Logistic Regression of Optimism and Hope Scales on Retention Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>e(^b)</th>
<th>% Correct</th>
<th>95% C.I. on e(^b)</th>
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</thead>
<tbody>
<tr>
<td>Model 1</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((\chi^2) (df=1, n=279)=.005, p&lt;.942)</td>
<td></td>
<td></td>
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<tr>
<td>LOT</td>
<td>-.005</td>
<td>.071</td>
<td>.005</td>
<td>1</td>
<td>.942</td>
<td>.995</td>
<td>96.1</td>
<td>(.865, 1.144)</td>
</tr>
<tr>
<td>Model 2</td>
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</tr>
<tr>
<td>((\chi^2) (df=5, n=237)=20.303, p&lt;.001)</td>
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<td></td>
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<tr>
<td>RANK</td>
<td>.032</td>
<td>.032</td>
<td>.988</td>
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<td>.320</td>
<td>1.032</td>
<td>97.9</td>
<td>(.970, 1.098)</td>
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<td>ACT</td>
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<td>.250</td>
<td>3.688</td>
<td>1</td>
<td>.055</td>
<td>1.618</td>
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<td>(.990, 2.642)</td>
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<tr>
<td>COMT</td>
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<td>.048</td>
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<td>.037</td>
<td>1.106</td>
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<td>(1.006, 1.216)</td>
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<tr>
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<td>.011</td>
<td>.674</td>
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<td>(.497, .914)</td>
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<tr>
<td>LOT</td>
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<td>.285</td>
<td>1.166</td>
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<td>(.880, 1.545)</td>
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<td>((\chi^2) (df=1, n=279)=.001, p&lt;.981)</td>
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<td>.981</td>
<td>.996</td>
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<td>.007</td>
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<td>(1.045, 1.325)</td>
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<td>.019</td>
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<td>.052</td>
<td>.513</td>
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<td>(.262, 1.004)</td>
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<tr>
<td>HOPE</td>
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<td>1.397</td>
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<td>.237</td>
<td>.948</td>
<td>96.1</td>
<td>(.866, 1.036)</td>
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<tr>
<td>Model 6</td>
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<tr>
<td>RANK</td>
<td>.054</td>
<td>.038</td>
<td>1.945</td>
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<td>.163</td>
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<tr>
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<td>.161</td>
<td>.866</td>
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<td>(.709, 1.059)</td>
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</tbody>
</table>

Note. LOT = Life Orientation Test; RANK = high school class rank; ACT = ACT composite score; COMT = commitment to college score; ADJUST = adjustment to college measure; ASQ = Attributional Style Questionnaire-Composite Positive minus Composite Negative Score; HOPE = Adult Trait Hope Scale score; HOPE*LOT = interaction score of Adult Trait Hope Scale and Life Orientation Test; C.I. = Confidence Interval.
Table 4. (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>e^b</th>
<th>%Correct</th>
<th>95% C.I. on e^b</th>
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</thead>
<tbody>
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<td>HOPE*LOT</td>
<td>-.001</td>
<td>.001</td>
<td>.242</td>
<td>1</td>
<td>.623</td>
<td>.999</td>
<td>96.1</td>
<td>(.997, 1.002)</td>
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<tr>
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<td>.033</td>
<td>.976</td>
<td>1</td>
<td>.323</td>
<td>1.033</td>
<td>97.9</td>
<td>(.969, 1.101)</td>
</tr>
<tr>
<td>ACT</td>
<td>.491</td>
<td>.250</td>
<td>3.865</td>
<td>1</td>
<td>.049</td>
<td>1.633</td>
<td>(1.002, 2.663)</td>
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</tr>
<tr>
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<td>.046</td>
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<td>.047</td>
<td>1.096</td>
<td>(1.001, 1.199)</td>
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<tr>
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<td>.034</td>
<td>.699</td>
<td>(.503, .972)</td>
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</tr>
<tr>
<td>HOPE*LOT</td>
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<td>.002</td>
<td>.038</td>
<td>1</td>
<td>.845</td>
<td>1.000</td>
<td>(.996, 1.005)</td>
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</tbody>
</table>

Hypothesis 3

Hope and the scales measuring optimism did appear to demonstrate similar patterns of relationships with scores from measures of positive (adjustment, commitment to college, motivation, and coping activities) and negative (depression, anxiety) constructs. In Table 5, we note that typically the optimism (Life Orientation Test) and hope (Adult Trait Hope Scale) scores are positively and significantly correlated with the positive constructs (e.g. adjustment, commitment) and negatively correlated with the negative constructs (e.g. depression, anxiety). There is some dissimilarity when inspecting the correlations among hope, optimism, and subscales of the motivation measure and coping inventory (See Tables 5 and 6, respectively). Specifically, the relationship between hope and the extrinsic goal orientation subscale ($r = .245$) was significantly stronger ($p < .01$), more so than the relationship between optimism and this subscale ($r = .026$, $p > .05$). Further analysis of each set of correlations using Fisher’s (1921) transformation determined that only the differences
noted on the correlations with the commitment scale, CES-D, and Extrinsic Goal Motivation subscale were significantly different from one another.

Table 5. Pearson Correlations among Optimism, Hope, Adjustment, Commitment, Depression, Anxiety, and Motivation Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>LOT</th>
<th>HOPE</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td>.435**</td>
<td>.479**</td>
<td>-.671</td>
</tr>
<tr>
<td>Commitment</td>
<td>.176**</td>
<td>.390**</td>
<td>-2.768*</td>
</tr>
<tr>
<td>CES-D Depression</td>
<td>-.438**</td>
<td>-.294**</td>
<td>-1.979*</td>
</tr>
<tr>
<td>STAI-State Anxiety</td>
<td>-.384**</td>
<td>-.328**</td>
<td>-.742</td>
</tr>
<tr>
<td>STAI-Trait Anxiety</td>
<td>-.605**</td>
<td>-.498**</td>
<td>-1.790</td>
</tr>
</tbody>
</table>

Motivation Subscales

| Intrinsic Goal Orientation | .119*  | .135*  | -1.77  |
| Extrinsic Goal Orientation | .026   | .245** | -2.638* |
| Task Value                | .032   | .099   | -0.789 |
| Control of Learning Beliefs | .142* | .284** | -1.767 |
| Self-efficacy for Learning and Performance | .252** | .318** | -0.907 |
| Test Anxiety              | -.398**| -.258**| -1.861 |

Note. N = 282: **p < .01; * p < .05

Correlations among the subscales of the COPE inventory, optimism, and hope are presented in Table 6. Inspection of these values leads to an awareness that optimism scores, as measured by the Life Orientation Test, are more strongly related to the coping behaviors of focusing on emotions and the use of religion than hope scores. Participants' scores on the hope measure appeared to be more strongly related to the coping behaviors of seeking instrumental social support, active coping, seeking emotional social support, and acceptance. Further analysis of each set of correlations using Fisher's (1921) transformation determined only the differences noted on the correlations with the coping subscales of focusing on emotions, seeking instrumental social support, active coping, behavioral disengagement, and planning were significantly different from one another.
Table 6. Pearson Correlations among Measures of Optimism, Hope, and Coping Subscales.

<table>
<thead>
<tr>
<th>Variable</th>
<th>LOT</th>
<th>HOPE</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Reinterpretation &amp; Growth</td>
<td>.411**</td>
<td>.414**</td>
<td>-.701</td>
</tr>
<tr>
<td>Mental Disengagement</td>
<td>-.178*</td>
<td>-.143*</td>
<td>-.448</td>
</tr>
<tr>
<td>Focus on &amp; Venting Emotions</td>
<td>-.227**</td>
<td>-.017</td>
<td>2.992*</td>
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<tr>
<td>Using Social Support-Instrumental</td>
<td>.005</td>
<td>.189**</td>
<td>-.2.203*</td>
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<tr>
<td>Active Coping</td>
<td>.106</td>
<td>.312**</td>
<td>-2.426*</td>
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<td>Denial</td>
<td>-.192**</td>
<td>-.317**</td>
<td>1.625</td>
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<td>Religious Coping</td>
<td>.176**</td>
<td>.111</td>
<td>.789</td>
</tr>
<tr>
<td>Humor</td>
<td>.115</td>
<td>.059</td>
<td>.671</td>
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<td>Behavioral Disengagement</td>
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<td>-.446**</td>
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<td>Restraint</td>
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<td>-1.001</td>
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<td>Using Social Support-Emotional</td>
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<td>.129*</td>
<td>-.730</td>
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<tr>
<td>Substance Use</td>
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<td>-.111</td>
<td>.318</td>
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<tr>
<td>Acceptance</td>
<td>.087</td>
<td>.159**</td>
<td>-.860</td>
</tr>
<tr>
<td>Suppression of Competing Activities</td>
<td>.044</td>
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</tr>
<tr>
<td>Planning</td>
<td>.217**</td>
<td>.376**</td>
<td>-1.979*</td>
</tr>
</tbody>
</table>

Note. N = 282; LOT = Life Orientation Test; HOPE = Adult Trait Hope Scale; * p < .05; ** p < .01

Hypothesis 4

Pearson correlations were calculated between the two optimism measures, the Life Orientation Test and Attributional Style Questionnaire-Composite Positive minus Composite Negative scores, and the same set of positive and negative constructs mentioned in the third hypothesis. The values are presented in Tables 7 and 8. Examination of the relationships between optimism, adjustment, commitment, depression, anxiety appear to be very consistent (significance and direction) regardless if optimism is measured as a disposition or attributional style. However, inconsistencies arise when looking at the subscales of the motivation measure. The subscale of intrinsic goal orientation is more
positively related to optimism as measured by the Life Orientation Test than to the composite positive minus composite negative score from the Attributional Style Questionnaire. Extrinsic goal orientation demonstrated a stronger relationship with optimism measured as a component of attributional style. Further analysis of each set of correlations using Fisher's (1921) transformation determined only the differences noted on the correlations with the CES-D, STAI-State, STAI-Trait, Extrinsic Goal Orientation, and Test Anxiety scales were significantly different from one another.

Table 7. Correlations among Two Measures of Optimism, Adjustment, Commitment, Depression, Anxiety, and Motivation Scales.

<table>
<thead>
<tr>
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<th>z</th>
</tr>
</thead>
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<tr>
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<td>.333**</td>
<td>1.413</td>
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<tr>
<td>Commitment</td>
<td>.176**</td>
<td>.213**</td>
<td>-.448</td>
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<td>CES-D Depression</td>
<td>-.438**</td>
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<tr>
<td>STAI-Trait Anxiety</td>
<td>-.605**</td>
<td>-.320**</td>
<td>-4.346*</td>
</tr>
<tr>
<td>Motivation Subscales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrinsic Goal Orientation</td>
<td>.119*</td>
<td>.054</td>
<td>.777</td>
</tr>
<tr>
<td>Extrinsic Goal Orientation</td>
<td>.026</td>
<td>.248**</td>
<td>-2.674*</td>
</tr>
<tr>
<td>Task Value</td>
<td>.032</td>
<td>.059</td>
<td>-.318</td>
</tr>
<tr>
<td>Control of Learning Beliefs</td>
<td>.142*</td>
<td>.125*</td>
<td>.242</td>
</tr>
<tr>
<td>Self-efficacy for Learning and Performance</td>
<td>.252**</td>
<td>.212**</td>
<td>.495</td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>-.398**</td>
<td>-.152*</td>
<td>-3.168*</td>
</tr>
</tbody>
</table>

Note. N = 282; * p < .05; ** p < .01

The two measures of optimism appeared to show differential patterns of relationship with the subscales of the coping inventory (See Table 8). Specifically, the Life Orientation Test scores were significantly and negatively correlated with subscales measuring mental disengagement, focusing on emotions, use of denial, and behavioral disengagement.

Optimistic attributional style, as measured by the Attributional Style Questionnaire, was not
significantly correlated with these scales. Also, the use of religion to cope was correlated
with optimism measured as a disposition, but not as attributional style. The seeking of
social support to deal with emotions and the acceptance of life events were two means of
coping that were significantly related to optimistic attributional style but not dispositional
optimism. Both measures of optimism were correlated significantly in the same direction
with coping behaviors such as positive reinterpretation of and the planning of how to deal
with stressful events. Further analysis of each set of correlations using Fisher’s (1921)
transformation determined only the differences noted on the correlations between the
optimism scale, hope scale, and the coping subscales of positive reinterpretation, mental
disengagement, and focusing on emotions were significantly different from one another.

Table 8. Pearson Correlations among Two Optimism Measures and Coping Subscales.

<table>
<thead>
<tr>
<th>Variable</th>
<th>LOT</th>
<th>ASQ-CPCN</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Reinterpretation &amp; Growth</td>
<td>.411**</td>
<td>.181**</td>
<td>2.980*</td>
</tr>
<tr>
<td>Mental Disengagement</td>
<td>-.178*</td>
<td>.073</td>
<td>-3.004*</td>
</tr>
<tr>
<td>Focus on &amp; Venting Emotions</td>
<td>-.227**</td>
<td>.116</td>
<td>-4.134*</td>
</tr>
<tr>
<td>Using Social Support-Instrumental</td>
<td>.005</td>
<td>.108</td>
<td>-1.213</td>
</tr>
<tr>
<td>Active Coping</td>
<td>.106</td>
<td>.100</td>
<td>.071</td>
</tr>
<tr>
<td>Denial</td>
<td>-.192**</td>
<td>-.102</td>
<td>-1.060</td>
</tr>
<tr>
<td>Religious Coping</td>
<td>.176**</td>
<td>.053</td>
<td>1.472</td>
</tr>
<tr>
<td>Humor</td>
<td>.115</td>
<td>.048</td>
<td>.801</td>
</tr>
<tr>
<td>Behavioral Disengagement</td>
<td>-.264**</td>
<td>-.108</td>
<td>1.920</td>
</tr>
<tr>
<td>Restraint</td>
<td>-.088</td>
<td>-.017</td>
<td>-.836</td>
</tr>
<tr>
<td>Using Social Support-Emotional</td>
<td>.068</td>
<td>.219**</td>
<td>1.814</td>
</tr>
<tr>
<td>Substance Use</td>
<td>-.084</td>
<td>-.030</td>
<td>-.636</td>
</tr>
</tbody>
</table>

Note. N = 282; LOT=Life Orientation Test; ASQ-CPCN = Attributional Style Questionnaire-Composite
Positive minus Composite Negative Score; * p < .05; ** p < .01
In addition to those analyses conducted to test the hypotheses, other statistical calculations produced interesting findings related to the hope construct, mean differences on grade point average, and the relation between participants' data and their collateral reporters. The hope scale is organized into two subscales of pathways and agency.

Examination of the correlations between hope and several other scales indicated significant relationships. When the hope scale was separated into its subscales, the separate roles that the agency and pathways scores play in the correlations were shown (See Table 9). Agency scores appeared to hold stronger relationships than pathways scores with positive constructs such as adjustment and commitment as well as negative constructs such as depression and anxiety. In the subscales of the motivation scale, this same pattern was true except for the scale measuring control of learning beliefs.

Mean differences on grade point average were found for participants scoring high on the Life Orientation Test and Adult Trait Hope Scale based on a median split of the scores. Those participants who where high on optimism (Mn=3.02, SD=.57) had higher grade point averages than those who were less optimistic (Mn=2.88, SD=.61) however, these differences were not significant (t (277) = -1.90, p <.058). Significant differences were found, however, between persons with high and low optimism scores on the variables of adjustment to college (t (280) = -5.937, p < .001) and commitment scores (t (279) = -
Hope scores also demonstrated this pattern with those scoring high on the hope scale producing higher mean scores on grade point average (t (277) = -2.280, p < .05), adjustment (t (280) = -7.710, p < .001), and commitment (t (279) = -5.941, p < .001).

Table 9. Pearson Correlations among Hope, Agency, Pathways, Adjustment, Commitment, Depression, Anxiety, and Motivation Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>HOPE</th>
<th>AGENCY</th>
<th>PATHWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td>.479**</td>
<td>.486**</td>
<td>.373**</td>
</tr>
<tr>
<td>Commitment</td>
<td>.390**</td>
<td>.414**</td>
<td>.286**</td>
</tr>
<tr>
<td>CES-D Depression</td>
<td>-.294**</td>
<td>-.341**</td>
<td>-.186**</td>
</tr>
<tr>
<td>STAI-State Anxiety</td>
<td>-.328**</td>
<td>-.345**</td>
<td>-.243**</td>
</tr>
<tr>
<td>STAI-Trait Anxiety</td>
<td>-.498**</td>
<td>-.532**</td>
<td>-.360**</td>
</tr>
</tbody>
</table>

Motivation Subscales

<table>
<thead>
<tr>
<th></th>
<th>HOPE</th>
<th>AGENCY</th>
<th>PATHWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsc Goal Orientation</td>
<td>.135*</td>
<td>.147*</td>
<td>.095</td>
</tr>
<tr>
<td>Extrinsic Goal Orientation</td>
<td>.245**</td>
<td>.263**</td>
<td>.176**</td>
</tr>
<tr>
<td>Task Value</td>
<td>.099</td>
<td>.098</td>
<td>.079</td>
</tr>
<tr>
<td>Control of Learning Beliefs</td>
<td>.284**</td>
<td>.229**</td>
<td>.281**</td>
</tr>
<tr>
<td>Self-efficacy for Learning and Performance</td>
<td>.318**</td>
<td>.325**</td>
<td>.244**</td>
</tr>
<tr>
<td>Test Anxiety</td>
<td>-.258**</td>
<td>-.235**</td>
<td>-.228**</td>
</tr>
</tbody>
</table>

Note. N = 282; ** p < .01; * p < .05

Finally, analyses were conducted on data from the collateral reporters (n = 82, 29% of total possible reporters) to demonstrate relationships that might exist between the participants self-reported optimism and hope scores and those reported by friends or relatives of the participants. Regarding the collateral reporters' hope scores, there was not a significant correlation with the hope scores of the participants (r = .170, p > .05).

Collateral reporter's hope scores did correlate with participants' grade point average (r = .231, p < .05). When the hope scores of the collateral reporters were entered into a regression analysis using the college grade point average of the participants as the dependent variable, hoped explained a significant portion of the variance (ΔR² = .05, F (1, 79) = 4.45, p ≤ .05). Optimism scores of the collateral reporters and participants on the Life
Orientation Test did correlate ($r = .351, p < .01$). However, collateral reporters optimism scores did not relate to the participants' grade point average ($r = .083, p > .05$). A series of paired samples t-tests found only one statistically significant difference in the mean scores of the collateral reporters ($M_n=11.90, SD=1.29$) compared to the mean scores of their paired participant ($M_n=11.38, SD=1.29$) on the composite positive subscale of the Attributional Style Questionnaire ($t (81) = -2.66, p < .01$). No other differences were found when comparing the scores of these two groups on the LOT and HOPE scales.

Additional descriptive statistics were calculated on the measures used in this study. Also, a correlation matrix of the scores on the measures was organized and placed in an appendix. This information can be found in Appendix N.
CHAPTER 4. DISCUSSION

Role of Optimism and Hope in Academic Success

The roles of optimism and hope in understanding the variable of academic success were foci of the present study. It was hypothesized that both variables would be related to academic success in terms of grade point average, however, only the construct of hope emerged as a significant correlate and predictor of grade point average in the current sample. Optimism, measured as both a disposition and attributional style, failed to demonstrate a significant relation to grade point average. This finding lends support to the idea that a measure that combines both outcome and efficacy expectancies (i.e. the Adult Trait Hope Scale) may be a better predictor of academic success apart from the role played by previous academic performance (e.g. ACT composite score, high school class rank). Correlational analyses (See Table 5) appeared to show a stronger relationship between hope and the constructs of adjustment to college and commitment to college, as well as extrinsic goal orientation, than was noted between these variables and dispositional optimism. These relationships may also explain why hope scores produced a stronger relationship with grade point average as those students who report more comfort with being on campus and greater levels of commitment to their studies may engage in more productive efforts at achieving high grades.

It is less clear why optimism failed to demonstrate a relationship with grade point average. Scheier and Carver (1992), the author's of the dispositional optimism measure, have stated that the construct tapped by their scale is a general or overall sense that good things will happen, which may not be synonymous with beliefs that good things will happen in a specific area of life. There may be optimistic students whose optimism
pervades most areas of their lives except for their academic careers. There is also a concern, as raised by Weinstein (1980), that persons in adolescence may exhibit what is known as unrealistic optimism that is associated with the overestimation of positive life events and underestimation of personal risk for accidents and health consequences when compared to actual probabilities for such events. In the context of an academic arena, students might exhibit unrealistic optimism about their academic careers while their actual achievement is actually much lower.

The results for the role of hope in academic success may be useful for student affairs and counseling professionals who are working with students facing academic and adjustment difficulties. Students who reported higher hope scores in this study earned higher grade point averages when compared to students reporting lower hope scores. Recall that hope is thought of as a multi-faceted construct including agency and pathways thinking. Aiding students to increase their level of self-efficacy (agency) as well as providing experiences that develop their ability to think of multiple paths to their goals would increase students' level of hope. This hope in turn may lead to higher academic performance which is a concern for many students making the transition from high school to college.

Retention, Optimism, and Hope

Optimism and hope failed to demonstrate a significant relationship with retention. As noted in previously, there was a small amount of variance to explain in current sample on this variable as only 4% of the participants did not enroll for the spring semester. This lack of variability may also be due in part by the timing of data collection. Retention between the fall and spring semesters of the same academic year is not typically used in
research in this area, but met the time constraints of the current study. More typical is the measurement of retention between the spring semester of the first year of college and the fall semester of the second year of college for an individual (Pascarella & Terenzini, 1983; Tinto, 1975). The relationship of optimism and hope to retention may be obscured by the timing of data collection.

Despite the lack of variability in retention status, some of the variables including ACT composite score, commitment to college, and adjustment to college did demonstrate a relationship to student persistence (See Table 4). There was inconsistency in how these variables related to retention as their roles as significant predictors varied dependent on which optimism or hope scores were entered into the prediction equation. These results, both the lack of significance for the hope and optimism variables and the inconsistency in the remaining variables, call for further exploration.

**Relationship Between Optimism and Hope**

The analysis of the relationships between hope and optimism with other positive and negative constructs measured in this study provided some foundation for understanding hope and optimism as separated yet related constructs. While demonstrating a fair number of similar relationships, in terms of direction and significance, some analyses found that hope was more strongly related to variables such as adjustment and commitment to college. Hope, also, was the only variable to predict variance in grade point average even after controlling for academic variables. These results give indications that the construct of hope is not synonymous with the construct of optimism. The question remains as to what part of the hope construct is the crucial element that separates the two concepts although previous
research (Snyder et al., 1991) makes the case for the role of efficacy expectancies as the divisive factor.

**Relationship Between Measures of Optimism**

In the current study, optimism was measured both as a general disposition and as an attributional style. Neither type of optimism was shown to relate significantly with grade point average or retention status. Comparing the relationships of the two measures, it appeared as though the two measures, the Life Orientation Test and Attributional Style Questionnaire, where similarly related to some variables such as commitment, adjustment, depression, and anxiety. Less of a consistent pattern was found when looking at the relationships between the optimism measures and coping behaviors. This leads to the belief that there is conceptual and actual statistical separation of the optimism construct as tapped by these two measures. The relationships that the general disposition is able to demonstrate with other variables should not be assumed to exist between optimistic attributional style and these same variables. While not addressed specifically in this study, concerns have been expressed as to whether attributional style exists and the psychometric quality of the scales developed to measure it (Cutrona, Russell, & Jones, 1984).

**Limitations of the Current Study**

The current study and its findings are limited by several factors including the ethnic diversity of the sample and the timing of data collection. The general nature of the current sample, i.e. 85% first and second year college students, is appropriate for the study of academic success and retention. Other characteristics of the sample, however, may preclude the application of this study's findings to other groups of university students. For example, the sample lacks ethnic diversity (83% Caucasian) such that the relationships
among the variables may not be relevant to samples of students from more diverse backgrounds. The setting of the study, a large university, may also produce results that may not cross institutional differences in terms of students matriculating through community colleges or liberal arts colleges that differ in terms of class size, social networks, and accessibility of academic support mechanisms for students.

Two significant issues concerning retention issues also affected this project. The timing of the data collection of the retention measure most likely prohibited a fair analyses of the optimism and hope constructs role in this area. Also, data was not collected from subjects on the organization of their social networks and the perceived sense of support gained from social interactions. Even if wider variability in retention was measured and relationships were found between optimism and hope with retention, the lack of information about the social integration of the participants would have been a serious confound. This variable plays a primary role in students' decisions to persist as noted in models of student attrition (Tinto, 1975; 1987).

Suggestions for Future Research

While some information about the roles of optimism and hope in academic success has been found in this project, more effort needs to be expended on the role of hope and optimism in retention. Measurement of the retention variable in a larger sample and over a more prototypical period of voluntary attrition could provide for a better test of the relationship among retention, hope, and optimism. The collection of data from multiple types of institutions (i.e. universities, community colleges, liberal arts settings) and across a more ethnically diverse sample would provide for opportunities to test if these variables limit or accentuate the roles of hope and optimism in academic success and retention. Also,
there were a number of significant correlations of moderate magnitude in the current study between hope, optimism, and variables related to college student success and coping. Further study of these variables using larger data sets and more complex data analysis methods such as path modeling and structural equation modeling might prove useful in understanding the roles of hope and optimism as causative factors in academic success and retention.
APPENDIX A. INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Human Subjects Research Office
2207 Pearson Hall, Room 15
Ames, IA 50011-2207
515/294-4566
FAX: 515/294-8000

DATE: September 21, 2001

TO: Patrick Barlow

FROM: Janell Meldrem, IRB Administrator

RE: "The Consequences of Optimism and Hope for College Students" IRB ID 02-082

TYPE OF APPLICATION: ☑ New Project ☐ Continuing Review ☐ Modification

The project, "The Consequences of Optimism and Hope for College Students" has been approved for one year from its IRB approval date September 20, 2001. University policy and Federal regulations (45 CFR 46) require that all research involving human subjects be reviewed by the Institutional Review Board (IRB) on a continuing basis at intervals appropriate to the degree of risk, but at least once per year.

Any modification of this research project must be submitted to the IRB for prior review and approval. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), including additional key personnel, changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires).

You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

The PI must retain the signed consent documents for at least three years past completion of the research activity. If the principal investigator terminates association with the University before that time, the signed informed consent documents should go to the DEO to be maintained.

You are expected to make sure that additional key personnel who are involved in human subjects research complete training prior to their interactions with human subjects. Web based training is available from our web site.

Ten months from the IRB approval, you will receive a letter notifying you that the expiration date is approaching. At that time, you will need to fill out a Continuing Review/and or Modification Form and return it to the Human Subjects Research Office. If the project is, or will be finished in one year, you will need to fill out a Project Closure Form to officially end the project.

Both of these forms are on the Human Subjects Research Office web site at: http://grants-svr.admin.iastate.edu/VPR/humansubjects.html.
Iowa State University Human Subjects Review Form

PI Last Name: Barlow
Title of Project: The consequences of optimism and hope for college students

Checklist for Attachments
The following are attached (please check):

13. □ Letter or written statement to subjects indicating clearly:
   a) the purpose of the research
   b) the use of any identifier codes (names, #s), how they will be used, and when they will be removed (see item 18)
   c) an estimate of time needed for participation in the research
   d) if applicable, the location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study: when and how you will contact subjects later
   g) that participation is voluntary: nonparticipation will not affect evaluations of the subject

14. □ A copy of the consent form (if applicable)

15. □ Letter of approval for research from cooperating organizations or institutions (if applicable)

16. ☑ Data-gathering instruments

17. Anticipated dates for contact with subjects:
   First contact: Sept. 26, 2001
   Last contact: Sept. 26, 2002
   Month/Day/Year: Month/Day/Year

18. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   Sept. 26, 2002
   Month/Day/Year

19. Signature of Departmental Executive Officer
   Date
   Department or Administrative Unit: Psychology

20. Initial action by the Institutional Review Board (IRB):
   √ Project approved
   □ Pending Further Review Date
   □ Project not approved Date
   □ No action required Date

21. Follow-up action by the IRB:
   Project approved Date
   Project not approved Date
   Project not resubmitted Date

Rick Sharp
Name of IRB Chairperson
Signature of IRB Chairperson Date
APPENDIX B. DEMOGRAPHIC QUESTIONNAIRE

Name: ____________________________
(please print)

Year in School: ______
1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Other _________________________
(Please Specify)

**Last 5 digits Student ID #: __________

Major: ____________________________

**PLEASE NOTE: The ID number requested is the last five digits of the nine digit ID number taken from your Student ID Card and is NOT your Social Security Number

Age: _____ years

Sex: ___ (M/F)

Ethnicity: ___

1. African American
2. Hispanic
3. White
4. Asian American
5. Native American
6. Other ___________________________(please specify)
APPENDIX C. COMMITMENT SCALE

Directions: Please answer each of the following questions using this 7-point scale.

1 2 3 4 5 6 7
Not at all true Completely True

1. I plan to continue my college career at Iowa State.
2. I can endure the obstacles and difficulties that are a part of college life.
3. I will continue to study in my chosen major.
4. I am deeply committed to obtaining my Bachelor’s degree.
5. I plan to transfer to another school to continue my college degree. (R)
6. I can succeed in my college classes in spite of struggles in other areas of my life.
7. Doing well in school is a top priority for me.
8. I can think of many other things I’d rather be doing than go to college. (R)
9. I often wonder if a college education is really worth all the time, money, and effort that I’m being asked to spend on it. (R)
10. I dread the thought of going to school for several more years. (R)
11. I would readily leave college if I found a well paying job. (R)
12. I am strongly dedicated to finishing college no matter what obstacles get in my way.
13. I am quite confident that my decision to go to college was the right thing for me.

(R) = Item reverse scored in calculation of total score.
APPENDIX D. MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE (MSLQ)

The following questions ask about your motivation for and attitudes about your psychology class. Remember there are no right or wrong answers. Answer the questions about how you study in this class as accurately as possible. Use the scale below to answer the questions. If you think the statement is very true of you, choose 7; if a statement is not at all true of you, choose 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true of me</td>
<td>Very true of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. In a class like this, I prefer course material that really challenges me so I can learn new things.

2. If I study in appropriate ways, then I will be able to learn the material in this course.

3. When I take a test I think about how poorly I am doing compared with other students.

4. I think I will be able to use what I learn in this course in other courses.

5. I believe I will receive an excellent grade in this class.

6. I'm certain I can understand the most difficult material presented in the readings for this course.

7. Getting a good grade in this class is the most satisfying thing for me right now.

8. When I take a test I think about items on other parts of the test I can't answer.

9. It is my own fault if I don't learn the material in this course.

10. It is important for me to learn the course material in this class.

11. The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.
12. I'm confident I can learn the basic concepts taught in this course.

13. If I can, I want to get better grades in this class than most of the other students.

14. When I take tests I think of the consequences of failing.

15. I'm confident I can understand the most complex material presented by the instructor in this course.

16. In a class like this, I prefer course material that arouses my curiosity, even if it is more difficult to learn.

17. I am very interested in the content area of this course.

18. If I try hard enough, then I will understand the course material.

19. I have an uneasy, upset feeling when I take an exam.

20. I'm confident I can do an excellent job on the assignments and tests in this course.

21. I expect to do well in this class.

22. The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.

23. I think the course material in this class is useful for me to learn.

24. When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.

25. If I don't understand the course material, it is because I didn't try hard enough.

26. I like the subject matter in this course.
27. Understanding the subject matter of this course is very important to me.

28. I feel my heart beating fast when I take an exam.

29. I'm certain I can master the skills being taught in this class.

30. I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

31. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.
APPENDIX E. COLLEGE ADJUSTMENT QUESTIONNAIRE

Directions:
Please rate yourself on the following items by marking the appropriate bubbles on the answer sheet.

1. Compared to the average student, how happy do you think you are?
   1 2 3 4 5
   much less less equally more much more
   happy happy happy happy happy

2. Compared to the average student living in the dorms, how happy do you think you are?
   1 2 3 4 5
   much less less equally more much more
   happy happy happy happy happy

3. Compared to the average student, how well-adjusted are you to college life?
   1 2 3 4 5
   much less less equally more much more
   adjusted adjusted adjusted adjusted adjusted

4. How well do you think you have adjusted to college academically?
   1 2 3 4 5
   Very badly Badly OK Well Very well

5. How well do you think you have adjusted to college socially?
   1 2 3 4 5
   Very badly Badly OK Well Very well

6. Overall, How well do you think you have adjusted to college?
   1 2 3 4 5
   Very badly Badly OK Well Very well

7. How much do you feel like you belong at the university?
   1 2 3 4 5
   Not at all Sometimes Neutral Most of the Time All the time

8. How satisfied are you with the university?
   1 2 3 4 5
   Not at all Somewhat Neutral Satisfied Very satisfied
APPENDIX F. LIFE ORIENTATION TEST

DIRECTIONS:
Please indicate how much you agree with the following statements as describing yourself. Please respond on the bubble sheet with the number that represents your feelings on the items using this scale:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax. (F)
3. If something can go wrong for me, it will. (R)
4. I always look on the bright side of things.
5. I'm always optimistic about my future.
6. I enjoy my friends a lot. (F)
7. It's important for me to keep busy. (F)
8. I hardly ever expect things to go my way. (R)
9. Things never work out the way I want them to. (R)
10. I don't get upset too easily. (F)
11. I'm a believer in the idea that "every cloud has a silver lining."
12. I rarely count on good things happening to me. (R)

** scoring scale adjusted for use with bubble sheet and recoded to regular scoring (0 to 4) for analyses
(F) = filler item not used in scoring
(R) = item reversed scored
APPENDIX G. ADULT TRAIT HOPE SCALE

Directions: Read each item carefully. Using the scale shown below, please select the number that best describes you and put that number in the blank provided.

1 = Definitely False  
2 = Mostly False  
3 = Somewhat False  
4 = Slightly False  
5 = Slightly True  
6 = Somewhat True  
7 = Mostly True  
8 = Definitely True

1. I can think of many ways to get out of a jam. (P)
2. I energetically pursue my goals. (A)
3. I feel tired most of the time. (F)
4. There are lots of ways around any problem. (P)
5. I am easily downed in an argument. (F)
6. I can think of many ways to get the things in life that are important to me. (P)
7. I worry about my health. (F)
8. Even when others get discouraged, I know I can find a way to solve the problem. (P)
9. My past experiences have prepared me well for my future (A)
10. I've been pretty successful in life. (A)
11. I usually find myself worrying about something. (F)
12. I meet the goals I set for myself. (A)

(P) = Pathways subscale item  
(A) = Agency subscale item  
(F) = Filler item not used in scoring
APPENDIX H. CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION

SCALE

Directions:
Below is a list of the ways you might have felt or behaved recently. Please tell how often you have felt this way during the past week. Please use the following scale.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely or None</td>
<td>Some or a Little</td>
<td>Occasionally or</td>
<td>Most or All of the Time</td>
</tr>
<tr>
<td>of the time</td>
<td>of the time</td>
<td>a Moderate Amount</td>
<td>(5-7 days)</td>
</tr>
<tr>
<td>(Less than 1 day)</td>
<td>(1-2 days)</td>
<td>of the time</td>
<td>(3-4 days)</td>
</tr>
</tbody>
</table>

During the past week:

1. I was bothered by things that usually don’t bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people. (R)
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future. (R)
9. I thought that my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy. (R)
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life. (R)
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get “going”.

APPENDIX I. COPING OPERATIONS PREFERENCES ENQUIRY

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by blackening one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

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
4 = I usually do this a lot

1. I try to grow as a person as a result of the experience.
2. I turn to work or other substitute activities to take my mind off things.
3. I get upset and let my emotions out.
4. I try to get advice from someone about what to do.
5. I concentrate my efforts on doing something about it.
6. I say to myself "this isn't real."
7. I put my trust in God.
8. I laugh about the situation.
9. I admit to myself that I can't deal with it, and quit trying.
10. I restrain myself from doing anything too quickly.
11. I discuss my feelings with someone.
12. I use alcohol or drugs to make myself feel better.
13. I get used to the idea that it happened.
14. I talk to someone to find out more about the situation.
15. I keep myself from getting distracted by other thoughts or activities.
16. I daydream about things other than this.
17. I get upset, and am really aware of it.
18. I seek God's help.
19. I make a plan of action.
20. I make jokes about it.
21. I accept that this has happened and that it can't be changed.
22. I hold off doing anything about it until the situation permits.
23. I try to get emotional support from friends or relatives.
24. I just give up trying to reach my goal.
25. I take additional action to try to get rid of the problem.
26. I try to lose myself for a while by drinking alcohol or taking drugs.
27. I refuse to believe that it has happened.
28. I let my feelings out.
29. I try to see it in a different light, to make it seem more positive.
30. I talk to someone who could do something concrete about the problem.
31. I sleep more than usual.
32. I try to come up with a strategy about what to do.
33. I focus on dealing with this problem, and if necessary let other things slide a little.
34. I get sympathy and understanding from someone.
35. I drink alcohol or take drugs, in order to think about it less.
36. I kid around about it.
37. I give up the attempt to get what I want.
38. I look for something good in what is happening.
39. I think about how I might best handle the problem.
40. I pretend that it hasn't really happened.
41. I make sure not to make matters worse by acting too soon.
42. I try hard to prevent other things from interfering with my efforts at dealing with this.
43. I go to movies or watch TV, to think about it less.
44. I accept the reality of the fact that it happened.
45. I ask people who have had similar experiences what they did.
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.
47. I take direct action to get around the problem.
48. I try to find comfort in my religion.
49. I force myself to wait for the right time to do something.
50. I make fun of the situation.
51. I reduce the amount of effort I'm putting into solving the problem.
52. I talk to someone about how I feel.
53. I use alcohol or drugs to help me get through it.
54. I learn to live with it.
55. I put aside other activities in order to concentrate on this.
56. I think hard about what steps to take.
57. I act as though it hasn't even happened.
58. I do what has to be done, one step at a time.
59. I learn something from the experience.
60. I pray more than usual.
APPENDIX J. COLLATERAL REPORTER INSTRUCTIONS

General Directions given to the Collateral Reporters:
"On the pages that follow are three psychological inventories that measure different aspects about the relative or friend who gave you this test packet. You are asked to answer the questions as you believe your friend or relative would based upon what you know about their attitudes, beliefs, and typical behaviors. When answering each question, please respond as if you were your friend or relative based on how you would expect them to answer and your knowledge of how they usually think or react. Please answer honestly and use a pencil to mark the appropriate place on the paper or bubble sheet. EACH INVENTORY IS DIFFERENT! Therefore, there are separate directions and response formats for each measure. Please read the directions and answer each question in the way you are asked to do. You may choose not to answer any question(s) that you would feel uncomfortable in answering. All responses to these questions will remain confidential. Your friend or relative WILL NOT have access to the information you provide about them. Thank you for your cooperation."

Directions given to Collateral Reporters for the Life Orientation Test:
"Please indicate how much you agree with the following statements as describing your friend or relative. Please respond on the bubble sheet with the number that represents what you think your friend's or relative's feelings on the items would be using this scale:

Strongly Disagree Disagree Neutral Agree Strongly Agree
1 2 3 4 5"

Directions given to Collateral Reporters for the Attributional Style Questionnaire:
"Please try to imagine your friend or relative in the situations that follow. If such a situation happened to your friend, what do you think your friend would believe has caused it? While events may have many causes, we want you to pick only one -- the major cause if this event happened to your friend or relative. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the cause and a final question about the situation."

Directions given to Collateral Reporters for the Adult Trait Hope Scale:
"Read each item carefully. Using the scale shown below, please select the number that best describes how your friend or relative would respond and put that number on the bubble sheet provided.

1 = Definitely False 5 = Slightly True
2 = Mostly False 6 = Somewhat True
3 = Somewhat False 7 = Mostly True
4 = Slightly False 8 = Definitely True"
APPENDIX K. GENERAL INFORMED CONSENT

This research experience involves taking some commonly used psychological inventories. You are asked to complete the following test packet, which contains measures of psychological traits that may be related to college life. Additionally, you will be asked for your permission to access academic information about you from the registrar's office. You will also be asked if the investigator may contact you for a follow-up questionnaire in approximately 6 months via email. You will also be asked to select a friend or relative who would be willing to answer questions concerning your attitudes and take to them a test packet. These tasks are not expected to cause any significant harm or discomfort to you.

The goal of this research is to investigate any relation that may exist between the inventories, academic performance, and adjustment to school. Your scores on the inventories will remain confidential. Group (not individual) scores will be presented in the written results of this research. No personally identifying information will be associated with the results reported from this study. Additionally, the scores from the tests completed by your friend or relative will NOT be available to you for your inspection.

In addition to learning about research by being a subject, you will be eligible to receive 2 extra credit points for your participation which should consume between 50-90 minutes. The friend or relative that you select and take a questionnaire packet to will be eligible for a raffle for one of two $50.00 gift certificates from the University Bookstore. (The raffle for the gift certificates will be held approximately 12/14/01. The odds of winning the prize are estimated at 2 in 350).

Your participation is voluntary and you can withdraw at any time without losing any benefits or credit entitled to you. You may choose not to answer any questions that you feel uncomfortable in answering. Also, a refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled.

You may contact Patrick J. Barklow (294-7543) or Dr. Norm Scott (294-1509) in the Dept. of Psychology for answers to questions about the research and rights of research subjects.

I am fully aware of the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project. I acknowledge that I have received a copy of this consent statement.

____________________________  __________________________
Signature of Participant        Date

____________________________
Print Your Name
APPENDIX L. ACADEMIC INFORMED CONSENT

This research experience involves taking some commonly used psychological inventories and providing your permission for the release of data about you from the Iowa State University Registrar's office. Specifically, you are being asked to allow the Registrar of Iowa State University to release your cumulative college grade point average at the end of the current semester, ACT composite score, and high school grade point average, and high school class rank to the primary investigator, Patrick J. Barlow.

The goal of this research is to investigate any relation that may exist between the inventories and academic performance. Your scores on the inventories and academic information will remain confidential. Group (not individual) scores will be presented in the written results of this research. No personally identifying information will be associated with the results reported from this study.

I give permission for the registrar's office of Iowa State University to release to Patrick J. Barlow the following information from my academic record.

1. Cumulative College Grade Point Average after the Fall Semester 2001 is completed.
2. ACT Composite Score
3. High School Cumulative Grade Point Average
4. High School Class Rank

Signature of Participant          Date          Student ID Number**

Print Your Name

**Please note that this number is the nine digit Student ID number taken from your ID card and NOT your Social Security Number.
APPENDIX M. COLLATERAL REPORTER INFORMED CONSENT

This research experience involves answering questions about the attitudes of the friend or relative who provided this test packet to you. Specifically, you are being asked to complete the questionnaires in this test packet that contains measures of psychological traits that may be related to college life. This information is being requested from you as it is needed to investigate any relation that may exist between the tests you complete, the tests your friend or relative has completed, and the academic performance of your friend or relative. These tasks are not expected to cause you any significant harm or discomfort.

The scores on the inventories will remain confidential. Group (not individual) scores will be presented in the written results of this research. No personally identifying information will be associated with the results reported from this study. Also, your friend or relative WILL NOT have access to the scores from the tests you complete about them.

You are requested to return this questionnaire packet to Patrick J. Barlow at the Psychology Department at Iowa State University in W112 Lagomarcino Hall in the self-addressed stamped envelope by December 14, 2001. By your participation, you will be eligible for a raffle for one of two $50.00 gift certificates from the Iowa State University Bookstore. The raffle for the gift certificates will be held approximately 12/14/01. The odds of winning the prize are estimated at 2 in 350.

In order to notify the winners of the raffle, a separate page has been attached to allow you to provide contact information. This information will remain confidential and on file for six months after the drawing.

_________________________  __________________________
Signature of Participant                      Date

_________________________
Print Your Name
### APPENDIX N. ADDITIONAL TABLES

#### Table 10. Means, Standard Deviations, Range, and Reliability Values for Measures

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<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>α</th>
<th>Items</th>
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**Note.** Measures with similar superscripts have the same sample size, a (N= 282), b (N=279), c (N=237), d (N=260), e (N=281), ASQ-CPCN = Attributional Style Questionnaire-Composite Positive minus Composite Negative Score
Table 11. Means, Standard Deviations, Range, and Reliability Values for Coping Measure

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>α</th>
<th>Items</th>
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Note. N=282
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**Note.** Correlations with | \( r \) | > .12 are significant at \( p < .05 \). N=282 except for correlations using RANK (n=260), GPA (n=279), or ACT (n=237). LOT=Life Orientation Test; HOPE=Adult Trait Hope Scale; AGENCY=Agency subscale; PATHWAYS=Pathways subscale; ASQ-CPCN=Attributional Style Questionnaire-Composite Positive minus Composite Negative Score; GPA=grade point average; ACT=ACT composite score; RANK=high school class rank; CES-D=Center for Epidemiological Studies Depression Scale; STAI-S=State anxiety subscale; STAI-T=Trait anxiety subscale; ADJUST=College Adjustment Questionnaire; COMMIT=Level of Commitment; INTRINSIC=Intrinsic Goal Orientation; EXTRINSIC=Extrinsic Goal Orientation; TASK VALUE=Task Value; CONTROL=Control of Learning Beliefs; EFFICACY=Self-Efficacy for Learning and Performance; TEST ANXIETY=Test Anxiety.
REFERENCES


