

THE RELATIONSHIP OF A COURSE GRADE TO HOPE AND OPTIMISM IN NURSING  
STUDENTS' ACADEMIC SUCCESS

by

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## ABSTRACT

In several disciplines in education and in health care, hope and optimism have been researched and identified as being correlated with positive outcomes such as physiological and emotional well-being. The purpose of the study was to determine if there was a relationship between hope and/or optimism and nursing student's academic success.. A convenience sample of 124 second semester nursing students was identified; the final number of participants 58. Participants completed the Adult Dispositional Hope Scale (AHS) survey, a 12 item self-reported questionnaire that uses a Likert-type scale designed to identify levels of hope. Participants also completed the Life Orientation Test-Revised (LOT-R), a 10 item self-reported questionnaire that uses a Likert-type scale to identify levels of optimism and pessimism. Survey results were analyzed in relationship to the final numeric grade in the first semester Human Pathophysiology course which were self-reported by selecting from six grade ranges. The results of the statistical analysis (backward multiple regression analysis and Pearson Correlational Coefficient) found no significant relationships between hope, agency, or pathways. However, optimism, when combined with pessimism, was found to have a statistically significant relationship to the participants score in Human Pathophysiology ( $r^2 = .105$ ).

## DEDICATION

*“For I know the plans I have for you,” declares the LORD, “plans to prosper you and not to harm you, plans to give you hope and a future.”* Jeremiah 29:11

I dedicate this dissertation first and foremost to God; with Him all things are possible. Next, I want to dedicate this dissertation to my wonderful family. To my husband, Darren, who has been there every step of the way helping with the necessities of daily living, late night proofing of my work, and helping me believe in myself. To my children, Letitia and Samuel, thank you for your loyal support and understanding during my years of education. My prayer is that you will use the gifts and talents God has given you to make a difference in this world. To my in-laws, Ann and Arvil Raley, who were always there to lend a hand and give me unconditional love. And finally, I dedicate this dissertation to the memory of my mother, Esther Collier Ballenger. She raised me to be a strong, independent woman and helped me believe I could do anything.

## LIST OF ABBREVIATIONS AND SYMBOLS

$p$  Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value

SD Standard deviation

$r$  correlation coefficient

< Less than

= Equal to

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## CHAPTER I

### INTRODUCTION

Studies show a shortage of qualified nurses to care for the growing number of critically ill patients. The U.S. Bureau of Labor Statistics (BLS) ranks registered nursing (RN) as the occupation with the largest projected growth from 2008 to 2018. The expected increase in new RN positions of around 600,000 represents a 22% increase in new RN jobs (Bureau of Labor Statistics [BLS], 2010-2011). Nationwide, attrition in schools of nursing has been found to be approximately 50% (Harris & O'Rourke, 2014, p. 31; Newton & Moore, 2009, p. 273). The increased need for qualified nurses coupled with the current inadequate supply of nurses makes it imperative to identify factors that contribute to nursing student academic success.

The hope theory was defined by Snyder (2002), as a cognitive, motivational theory which incorporates goal conceptualization along with motivation and strategies to achieve the goal. Hope is "the process of thinking about one's goals, along with the motivation to move toward those goals (agency), and the ways to achieve those goals (pathways)" (p. 820). Optimism is the general belief that good things will happen (positive expectations) while pessimism is the general belief that bad things (negative expectations) will happen (Scheier & Carver, 1985). In the study, statements regarding hope refer to the hope theory as defined by Snyder (1995) and optimism refers to the construct described by Sheier and Carver.

## **Significance of the Study**

Throughout history, the nursing profession has experienced varying degrees of workforce shortages. Research shows the nursing shortage as is one of disproportionate supply and demand of qualified nurses. Attrition in schools of nursing is one factor that contributes to inadequate numbers of qualified nursing graduates. It is estimated that approximately 50% of baccalaureate nursing students and 47% of associate degree nursing students either leave the program of study or delay scheduled progression through the nursing program (Harris & O'Rourke, 2014, p. 31; Newton & Moore, 2009, p. 273). Identification and implementation of factors and strategies contributing to nursing student success may decrease attrition rates.

In the study, hope and optimism were measured using the Adult Dispositional Hope Scale (AHS) and Life Orientation Test- Revised (LOT-R). Overall, levels of hope and the sub-components, agency and pathways, as well as optimism and pessimism were analyzed in relation to the numerical final course grade in Human Pathophysiology, a required first semester nursing course. The analysis was used to determine if a relationship between the constructs of hope, agency, pathways, optimism or pessimism and academic success exists. In the literature review, hope and optimism have been identified as contributing to academic success. However, there is a gap in literature related to hope and optimism and nursing student success. Identifying factors linked to success and implementing strategies to enhance nursing student success can be completed with the goal of increasing retention and successful graduation.

## **Theoretical Framework**

Two theoretical frameworks were utilized for the study. One theoretical framework for the study was the *Hope Theory* as defined by Snyder (2000); the Adult Dispositional Hope Scale (AHS) was used to measure hope levels. The second theoretical framework for the study was

*Dispositional Optimism* as defined by Sheier and Carver (1985) using the Life Orientation Test Revised (LOT-R) as a measure of dispositional optimism.

### **Hope Theory**

One theory that was utilized in the study is C.R. Snyder's definition of hope which was "the process of thinking about one's goals, the motivation to move toward (agency) these goals, and ways to achieve (pathways) these goals" (Snyder, 1995, p. 355). The hope theory is based on the two components of agency and pathway. Hope theory states an individual's view of him or herself as being an agent (agency) capable of attaining goals and identifying routes (pathways) to pursue goals is important for goal acquisition. Agency and pathway were referred to as the "will and the way"; both are needed for goal attainment (Snyder, 1995).

**Agency.** Hope was described as a cognitive, motivational process not an emotion (Shorey, Snyder, Rand, Hockemeyer, & Feldman, 2002). Hope theory suggests that goals alone do not lead to successful outcomes. Agency is the "will" or desire to achieve a goal creating energy which propels the individual toward the goal. Agency is the motivation to achieve one's goal. Motivation (agency) to achieve a goal is associated with the significance the goal holds for the individual. To create energy and motivation there needs to be some uncertainty to goal acquisition. If one was 100% certain that a goal would be obtained, then motivation is reduced (Snyder, 2000).

**Pathway.** Pathway was defined as the perceived ability to achieve one's goal. The pathway component of hope encompasses the belief that if an obstacle attempts to disrupt the pre-planned path to goal attainment there were alternate routes to achieve the goal. Pathway is the "way" or path to goal attainment (Snyder, 1995). In the process of pursuing a goal, there were usually multiple possible ways to obtain that goal; however, individuals frequently utilize

the same routes which have resulted in success for them in the past. Pathway thinking helps the individual develop different paths to goal attainment if the planned course is disrupted. Pathway thinking was considered important for success when usual or preferred paths were not possible. The individual with high hope utilizes agency along with pathways thinking (Snyder, 2005).

Hope theory has been contrasted with theories of optimism (Sheier & Carver, 1985) and self-efficacy (Bandura, 1977). Optimism generally associated with positive outcome expectancy. The person who has high optimism levels may believe that things will work out but lack pathway thinking that is essential for identification of strategies leading to goal attainment. Bandura's (1977) theory of self-efficacy based on the two components outcomes and efficacy expectations. Outcome expectations exist when the individual believes a specific action result in the desired outcome. Efficacy expectations reflect the individual's belief that he or she can complete the necessary action that result in the desired outcome. . Efficacy expectancies are similar to the Hope Theory's sub-construct of agency while outcome expectancies are comparable to pathways. Bandura believed that efficacy was the higher priority of the two components. Bandura's Self-efficacy theory was similar to the hope theory; however, Snyder indicates that the individual needs both agency and pathway thinking to be successful (Snyder, 1995).

Snyder (2005) suggests that strategies to augment the students' hope may increase retention and successful graduation. Snyder describes five hopeful lessons for enhancing hope in the classroom. These lessons include: a) spending time and caring, b) setting goals for the class, c) creating pathways to class goals, d) raising agency to pursue class goals, e) teaching hope and self-esteem will follow, and a closing lesson of a we/me classroom. The aim for these lessons is to enhance hopeful thinking and inspire learning in an integrative learning environment. Lessons that promote hope include spending time and caring for students; being enthusiastic and prepared

for class; setting clear, achievable goals; identifying pathways for goal attainment; raising self-esteem through student successes; and promoting a we/me classroom environment where individual and group goals were valued. These lessons promote a hopeful classroom, therefore enhancing student success.

Hope theory has been researched and has shown to be more predictive than goal or motivational theories in predicting academic success across the continuum of education and other disciplines. The importance placed on goal attainment influences pathway and agency thinking (Feldman, Rand, & Kahle-Wroblewski, 2009; Snyder et al., 2002).

### **Optimism**

Scheier and Carver (1985) state that optimists generally have a positive outlook on life and usually believe good things will happen while the pessimist will have the contrary view that bad things will happen. The absence of optimism was called neuroticism, also known as pessimism (Scheier, Carver, & Bridges, 1994). Therefore, optimism is the general belief that good things will happen (positive expectations) while pessimism was the general belief that bad things (negative expectations) will happen. Beliefs tend to be stable and vary little over time and or circumstances. If an individual has positive outcome expectancy for a specific goal or circumstance he or she would demonstrate renewed effort or energy toward goal accomplishment. The opposite is considered true for an individual with negative outcome expectancy, i.e., decreased effort and energy toward goal accomplishment. The assumption was that optimism for outcome expectancy will cause an adjustment of behaviors that may enhance goal achievement or that pessimism will disrupt goal attainment. Behaviors such as increased or decreased self-focus and perseverance to pursue a task or goal affects individuals across the lifespan (Scheier & Carver, 1985).

In 1985, Scheier and Carver developed the Life Orientation Test (LOT), a tool to measure optimism in relation to general outcome expectancy. The constructs of optimism and pessimism were measured in levels; an individual is not completely optimistic or the pessimistic. There have been many studies which have used this tool to measure optimism. The LOT was comprised of 12 items with four items worded positively and four items worded negatively. To mask the purpose of the questionnaire, there were also four filler items which do not count. The LOT used a Likert-type scale with answer choices ranging from 0 (strongly disagree) to 4 (strongly agree). The negatively worded items need to be reverse coded prior to scoring. Two of the positively worded items in the LOT were identified as problematic (Scheier & Carver, 1985). These two items were not directed toward outcome expectancy but how one would react in a challenging situation; this resulted in a revision of the LOT into the LOT-R. The two problematic items were removed and positively worded items that measured outcome expectancy were added. This resulted in an optimism measurement instrument with an equal amount of positively and negatively worded items geared toward outcome expectancy.

The Adult Dispositional Hope Scale (AHS), developed by Snyder (2000), and the Life Orientation Test Revised (LOT-R), developed by Sheier, et al. (1994), have demonstrated that both hope and optimism were positively correlated with academic success (Bryant & Cvengros, 2004; Robinson & Snipes, 2009).

## Definitions

For the purpose of this study, the following terms were defined conceptually and operationally: academic success, hope, agency, pathway, optimism, pessimism.

### **Academic Success:**

Conceptual definition: A passing numeric grade in Human Pathophysiology course.

Operational definition: The numeric score the participant receives as the final course grade in the Human Pathophysiology course.

Table 1

### *Final Numeric Course Grades*

Survey Likert choice	Numeric Course Grade
1=	95-100
2=	90-94
3=	85-89
4=	80-84
5=	74.5-79
6=	Less than 74.5

### **Hope:**

Conceptual definition: “The process of thinking about one’s goals, along with the motivation to move toward those goals (agency), and the ways to achieve those goals (pathways)” (Snyder et al., 2002, p. 820).

Operational definition: The numerical value derived when an individual completes the AHS (Babyak, Synder, & Yoshinobu, 1993; Snyder, 1994).

**Agency:**

Conceptual definition: Motivation to achieve goals.

Operational definition: The numerical value derived from agency items on the AHS:

Questions 2, 9, 10, and 12.

**Pathway:**

Conceptual definition: Perceived ability to achieve one's goals leading to development of paths for goal acquisition.

Operational definition: The numerical value derived from pathway items on the AHS:

Questions 1, 4, 6, and 8.

**Optimism:**

Conceptual definition: A stable personality trait in which an individual generally has positive outlook on life and usually believes good things will happen (Scheier & Carver, 1985)

Operational definition: The numerical value derived when an individual completes the LOT-R.

**Pessimism:**

Operational definition: The numerical value derived from negatively worded items on the LOT-R: Questions 3, 7, and 9.

**Purpose of the Study**

The purpose of the study was to determine if there was a relationship between hope and/or optimism and nursing student's academic success. This was completed by evaluating the relationship, if any, of the student's final numeric course grade in Human Pathophysiology and students' hope and optimism scores, determined by self-reported survey results on the AHS and LOT-R.

## **Summary**

The finding of an imbalanced demand related to supply of qualified nurses is predicted to increase in the future. In several disciplines including psychology, education, and health care, hope and optimism have been researched and identified as being correlated with positive outcomes. One specific positive correlation is academic success. If hope and/or optimism were identified as indicator(s) of nursing student success, then strategies to foster these for the nursing student can be implemented with the goal of increasing retention, successful graduation, and entrance into the workforce.

## CHAPTER II

### REVIEW OF THE LITERATURE

A review of literature relevant to this study was conducted. The major topics of review include academic success, nursing student academic success, hope, and optimism. The review of the literature was completed through an electronic search utilizing databases including the, CINAHL, Pub-Med, EBSCO, JSTOR, reference lists from articles, Google, as well as web-sites of National League for Nursing (NLN), the Joint Commission (TJC), American Association of Colleges of Nurses (AACN), Agency for Healthcare and Quality Research (AHQR), National Councils of State Boards of Nursing (NCSBN), Bureau of Labor Statistics, and Health Resources and Services Administration (HRSA). Search words included academic success, hope, hope theory, hope and nursing, hope and nursing education, hope and academic success, nursing academic success, nursing shortage, graduation rates, attrition, student attrition, faculty attrition, optimism, optimism and nursing, optimism and academic success, optimism and hope, and NCLEX success.

#### **Academic Success**

Several indicators of academic success in the college and university setting have been identified which include but were not limited to the academic variables of GPA, Scholastic Assessment Test (SAT) scores, American College Testing Assessment (ACT) scores, and non-academic variables of hope, optimism, coping strategies, and emotional intelligence (Feldman et al., 2009; Komarraju, Ramsey, & Rinella, 2013; Onwuegbuzie & Snyder, 2000; Schmitt et al., 2009; Snyder et al., 2002).

## Academic Variables

In one study involving academic factors related to academic success, Schmitt et al. (2009) conducted a four-year longitudinal study of 2,771 incoming freshman from 10 colleges and universities across the U.S. Statistical correlations between high school GPA (HSGPA), SAT and ACT scores, and cumulative college GPA ( $r = .53$ ) and graduation status ( $r = .30$ ) were identified. The study found that for each SD change in HSGPA, the participant was four times as likely to graduate.

Komaraju et al. (2013) evaluated predictors of academic success in post-secondary education. A regression analysis demonstrated a correlation between HSGPA and cumulative college GPA ( $r = .43$ ) and ACT scores and cumulative college GPA ( $r = .36$ ). Furthermore, through hierarchical regression analysis, HSGPAs were statistically more predictive of college GPAs ( $p < .001$ ) than ACT scores.

Predictors of college persistence were identified by Steward, Lim, and Kim (2015) when they conducted a study of 3,214 full- and part-time, degree-seeking freshman who were in their first semester of college. They reviewed the relationship between HSGPA, first semester GPA, and entrance tests to college persistence. Cumulative high school and college GPA were found to explain 26% of college persistence. First semester college GPA had a positively significant influence on college persistence ( $r^2 = .241$ ) ( $p < .01$ ) while high school GPA had a statistically significant inverse relationship ( $r^2 = .261$ ) ( $p < .01$ ). Another significant variable was the ACT composite score. Students with composite scores of 19 or lower on the ACT were placed in remedial courses in their first semester per college policy. The requirement for remedial courses was found to be statistically significant for college persistence. The percentage of students who

were placed in non-remedial courses persisted in college for five or more semesters was 73.2%, while 39.5% of students placed in remedial classes persisted for four semesters or less.

### **Non-academic Variables**

Komaraju, Karau, and Schmeck, (2009) evaluated the role the Big Five personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness) had in relationship to the student's GPA. The Five Factor Inventory and the Academic Motivations Scale, measuring intrinsic and extrinsic motivation as well as amotivation, were given to 308 undergraduate college students. Demographic data and a self-reported GPA were also collected. Conscientiousness and openness were found to be significantly related to academic achievement ( $p < .001$ ). Agreeableness and conscientiousness were found to have a significant inverse relationship to amotivation ( $p < .001$ ). Intrinsic motivation was the only type of academic motivation to have a significant explanatory relationship to GPA ( $p < .02$ ).

The definition of Emotional Intelligence (EI) "consists of three emotional factors: a) the ability of an individual to perceive emotions, b) the ability of an individual to compare emotions and feelings, and c) the ability of individuals to control their emotions and influence the emotions of another person" (Iannucci & Mirabella, p. 91, 2013). The study looked at the relationship between EI and academic success. Eighty-five students voluntarily participated in the study. No significant correlations were found between the participants' Trait EI Questionnaire Short Form (TEIQue-SF) scores and GPA ( $p = .477$ ), attendance ( $p = .572$ ), extracurricular activities ( $p = .348$ ), and progress toward degree completion ( $p = .332$ ).

**Hope.** Snyder et al. (2002) followed 213 freshman college students in a 6-year longitudinal study comparing hope scale scores to GPA, graduation, and dismissal or dropout rates. The students were placed in three groups in relation to hope scale scores: high hope (56 to

63), medium hope (49 to 53), and low hope (less than 46). The data indicated that students with higher hope scores perform better on standard achievement tests, had higher grade point averages (GPAs), increased probability of graduating, and decreased likelihood of dropping out.

Cumulative GPA and AHS scores were positively correlated ( $r = .21, p < .01$ ). The dismissal rate for students with low hope was 25%, while students with high hope scores had a dismissal rate of 7.10%. The analysis of graduation status for those with higher hope also showed a statistically significant positive correlation ( $p < .02$ ). There was a 13% difference between graduation rates of low (40.27%) and high hope students (56.50%). Characteristics of students with high hope included clarity of well-defined, lofty goals; clear predetermined strategies for learning; effort expended applying these strategies; and task persistence not being distracted by negative thinking (Snyder, 2005, p. 75; Snyder et al., 2002).

Research has indicated a negative relationship between hope scale scores and anxiety; increased anxiety in the classroom contributes to test anxiety and decreases probability of success in the academic setting. Onwuegbuzie and Snyder (2000) surveyed a sample of 87 students enrolled in a statistics class to evaluate the relationship between hope levels, agency and pathways, and coping strategies to performance anxiety on tests. The AHS was used to determine an overall hope level as well as to evaluate the individual parameters of agency and pathways. The Coping Strategies Inventory for Statistics, a 40-item, Likert type questionnaire, was used to measure study and examination-taking coping strategies of the participants. Analysis found that the overall AHS scores were positively correlated to the Examination and the Study Scale ( $p < .05$ );  $p < .05$  respectively). Pathways scores were positively correlated with both the Study Scale ( $p < .05$ ) and Examination-Taking Scale ( $p < .05$ ); agency was positively correlated with the Study Scale ( $p < .05$ ) but not the Examination-taking Scale. Findings suggest that higher

AHS and Coping Strategies scores may be indicative of student academic success in a statistics course. The findings indicate the participants with low hope scores also have a tendency to score lower on the Examination-Taking and Study Scale.

A 3-year, longitudinal study evaluated the predictors of academic achievement with the hypothesis that hope was a stronger predictor than the other variables. The predictors under review were hope, intelligence, personality, and previous academic achievement with the final degree grade as the dependent variable. The sample included 129 participants who were administered the AHS to measure hope, the International Item Personality Pool Five Factor Personality Measure of Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness to Experience to evaluate the Five Factor Model of Personality, and the Raven's Advanced Progressive Matrices as a measure of general intelligence. The instruments were administered in the first year of college and results were compared to final degree grade at the end of the 3-year study. Each of the independent variables was found to have a statistical significant relationship with final degree grades: general intelligence ( $r^2 = .36$ ); personality ( $r^2 = .46$ ); hope scores ( $r^2 = .49$ ). The subscales of agency and pathways were found to have a significant overlap ( $r = .80$ ) and were seen as a one-factor model. The findings of the study demonstrate that hope was a predictor of future academic achievement (Day, Hanson, Maltby, Proctor, & Wood, 2010).

Feldman and Dreher (2011) evaluated whether hope can be changed. They utilized a sample of college students ( $N = 96$ ) to determine if one 90-minute session would influence hopeful goal directed thinking. The participants were randomly placed in three groups: hope intervention, progressive relaxation, and no intervention. The hope intervention group participated in a 90-minute session that was broken down into four sections. The participant in

the intervention group first chose a personal goal then received education related to hope. Hope-based goal mapping exercises were conducted, and hope visualization concluded the intervention. The participants in the hope intervention group demonstrated a significant increase in post-test scores at the time of intervention for agency ( $p < .03$ ) and pathways ( $p < .003$ ). However, these results did not remain significant at the 1-month mark. The participants who were in the hope intervention group reported increased goal attainment at 1 month compared to the progressive relaxation and no treatment group. The researchers indicate that further studies were needed to determine the ability to influence hope levels with longer duration of intervention.

**Optimism.** Gibbons, Blanton, Gerrard, Buunk, and Eggleston, (2000) conducted a longitudinal study with three data collection periods (fall, spring, and subsequent fall semester) over a year. The study was conducted to ascertain potential relationships between a student's academic comparison levels (ACL), academic performance, and optimism. Participants in this study were students entering their second semester of college ( $N=483$ ). The definition of ACL for this study was as follows: "When students get test scores back or receive grades on a project, they often like to find out how other people did on that test or project" (p. 640). Participants were asked questions regarding grades on tests and/or projects and with whom they would compare their grades: the student who received the lowest grade, highest grade, or average grade. The participants were asked to indicate how important doing well in school, athletics, and social endeavors was to them; to complete the Beck Depression Inventory and the LOT; and to self-report the most recent GPA. The results indicated that ACL was positively correlated with GPA. Higher optimism scores were found to have a significant relationship with higher ACL ( $p < .001$ ). Pessimists reported decreased ACL and subsequently had declining GPA ( $p < .001$ ).

Depression scores for pessimists were higher than that those for optimists. As pessimists' GPAs declined, depression scores increased ( $p < .007$ ). Optimists' depression grades were not found to be related to their depression scores. Therefore, the study indicated that higher optimism scores were linked positively to academic success.

In the Basic Education College in Kuwait, a study of 400 students was conducted with the goal of identifying possible relationships between optimism, pessimism, self-esteem, and anxiety. The student's cumulative achievement average was used as a measure of academic achievement. The instruments were The Arabic Scale of Optimism and Pessimism (Cronbach's alpha for optimism .91 and for pessimism .95), the Self-Esteem Scale (Cronbach's alpha .91), and the Beck Anxiety Scale (Cronbach's alpha .90). Higher optimism was found in the male population; female participants scored higher anxiety. A positive correlation ( $p < .01$ ) was found between optimism and academic achievement; optimism and self-esteem; and pessimism and anxiety. A negative correlation ( $p < .01$ ) was found between academic achievement and pessimism and anxiety; pessimism and self-esteem; and anxiety and self-esteem (El-Anzi, 2005).

The hypothesis that Academic Motivation has a mediating relationship with optimism, pessimism, and coping was evaluated in a study of 299 undergraduate students who were in the first through fourth year of college. The LOT and the Academic Motivation Scale were administered 2 weeks prior to mid-term examinations and the Brief COPE and the Academic Motivation Scale were administered 2 weeks after mid-term examinations. The Academic Motivation Scale (Cronbach's alpha .88 to .91) an 18-item self-report tool used to identify the rationale for the participant engaging in academic activities. It measures intrinsic motivation to learn, identified regulation, introjected regulation, external regulation, and amotivation. The Brief COPE a 16-item self-report questionnaire that measures positive and negative factors

related to coping styles for academic stressors. Task-oriented coping positive coping was comprised of active coping, planning, increased effort, positive reappraisal, and relaxation. Disengagement-oriented or negative coping includes behavioral disengagement, self-blame, and denial. Optimism was found to be a predictor of task-oriented coping and self-determined coping; in contrast pessimism was associated with disengagement-oriented coping ( $p < .05$ ). Although academic motivation did not vary across time ( $p > .05$ ), task-oriented coping predicted an increase in self-determined motivation which has been associated with decreased dropout rates and school satisfaction (Thompson & Gaudreau, 2008).

Chemers, Hu, and Garcia (2001) studied the effect of academic self-efficacy and optimism on stress, health, and academic achievement. Two hundred fifty six (256) first-semester students participated. The analysis included HSGPA, academic self-efficacy, optimism, and perceived stress, health, GPA, and academic rating. Participants were given the self-report questionnaires for academic self-efficacy, stress (challenge-threat evaluation), academic expectations, and health specifically developed for this study. The participants were also given the LOT and a college social support scale measuring satisfaction with academic progress. Self-efficacy and academic expectations and performance were significantly related ( $p < .01$ ). Optimism was found to be significantly correlated with self-efficacy ( $p < .01$ ). Participants with high optimism and self-efficacy were asked whether stress from academics was perceived as a challenge or threat. Participants with high optimism and self-efficacy reported stress from the challenge threat evaluation was more of a challenge than a threat ( $p < .001$ ) thus self-reporting lower stress and less health issues.

The potential relationship of optimism to motivation and retention in college was studied at the University of Kentucky. The participants included 1,839 freshman students that completed

either the LOT-R, Academic Optimism (Cronbach's alpha .84 to .90), or both measures of optimism prior to beginning college. The sample was 59.7% female and 93% Caucasian. Other ethnicities reported as African American (3.4%), Asian (1.5%), Hispanic (0.8%), and other (1.4%). Data collected for academic achievement was the student's GPA from the fall and spring semester. Motivation was measured using an 11-item questionnaire with a coefficient alpha of .61. A nine-item questionnaire evaluated distress (Cronbach's alpha .77). Dispositional and academic optimism were positively correlated with retention ( $p < .05$ ); motivation ( $p < .001$ ); academic achievement ( $p < .001$ ); and an inverse relationship between optimism and distress ( $p < .001$ ). In conclusion, the higher the participants' optimism score, the higher the GPA and motivation level and lower perceived distress were noted resulting in a lower risk of attrition during the first year of college (Solberg, Daniel, Evans, & Segerstrom, 2009).

Hoy (2006) examined a new construct called Academic Optimism, which was comprised of academic emphasis, collective efficacy, and trust. Hoy stated that these three properties were consistently related to academic achievement when socioeconomic status (SES) was controlled. The amount of drive a school has for academic achievement called academic emphasis. Collective efficacy was the collective belief about the school and its ability to have positive outcomes for the students. High levels of collective efficacy enhance academic achievement. Bandura (1977) states that positive self-efficacy, a belief that an action will result in a desired outcome, was needed for change take place. The third component of academic optimism was teacher-student-parent trust. This trust includes the belief that they will act in the other's best interest. The hypothesis of the study was that academic achievement would be related to academic optimism. The sample included randomly selected faculty members at 96 high schools in a Midwestern state who agreed answer the questionnaire during a scheduled faculty meeting.

The instruments used to measure academic emphasis, collective efficacy, and trust in respective order: Organizational Health Inventory using the academic emphasis sub-scale; the Collective Efficacy Scale; and Omnibus Trust Scale. Data related to student academic achievement and SES was obtained from the state department of education. Findings conclude that each of the variables that comprise academic optimism were related to student academic achievement: academic emphasis ( $r = .74$ ); collective efficacy ( $r = .99$ ); and trust ( $r = .93$ ).

Haynes, Ruthig, Perry, Stupnisky, and Hall, (2006) utilized a sample of 231 first semester students enrolled in a two-semester psychology course to analyze the effects of over-optimism and academic achievement. Participants were given the LOT where low ( $M = 20.57$ ) and high optimism ( $M = 32.01$ ) was determined. Perceived success was measured by asking “How successful do you feel you are in your Introductory Psychology course so far this year?” (p. 762). The participants indicated the response on a scale of 1 (very unsuccessful) to 10 (very successful). Participants scoring 7 or less were considered low-success. The indicator was found to strongly correlate with scores in the course ( $r = .72, p < .001$ ). Participants were placed in Attributional Retraining (AR) or no AR groups. The participants in the AR intervention groups received two lists of possible causes of poor academic performance ; one list contained external, uncontrollable (“the test was too difficult”) attributions and the other list contained internal, controllable attributions (“I did not study enough”). Participants were asked to summarize the main points of the lists. Findings included that over-optimists in the no AR intervention group significantly increased use of external, uncontrollable attributions; test difficulty ( $p < .05$ ) and teacher quality ( $p < .001$ ) while the over-optimists in the AR intervention group significantly increased use of the internal, controllable attributions of effort ( $p < .01$ ) and perceived control ( $p < .05$ ). Low-optimists in either group did not show any significant difference in academic

achievement while the over-optimist in the AR intervention group had higher GPA ( $M = 2.98$ ). The over-optimism no-AR intervention GPA was similar to the low-optimism group with AR intervention and without AR intervention, respectively ( $M = 2.41$ ;  $M = 2.47$ ). Therefore without AR intervention, participants with over-optimism had similar academic achievement as his or her low-optimism classmates.

Defensive pessimism considered a strategy used to handle stressful situations. Norem and Cantor (1986) conducted a study of 64 undergraduates in an introductory psychology course. The participants were pre-screened for optimism and defensive pessimism by indicating the degree of agreement on an 8-item questionnaire from 1 (not at all true of me) to 11 (very true of me). Participants in the highest third of optimism and pessimism were selected as subjects. To control for previous academic achievement and experience the subjects had to have a minimum GPA of 3.0. The assumption was made that the participant had defensive pessimism instead of realistic pessimism when he or she had high pessimism scores as well as high academic performance, GPA 3.0 or greater. It indicated that the perception that they cannot be successful was not fulfilled where the individual with realistic pessimism will have high levels of pessimism and low achievement. Anxiety was evaluated using the Mandler-Sarason Test Anxiety Questionnaire (TAQ). Participants with higher pessimism also had higher anxiety scores. The participants were also asked to state how satisfied and in control they expected to feel during the study. Then they were asked how well they believed they would do on a puzzle tracing activity. Following the activity they were asked how satisfied they were with their performance, how in control they felt during the activity, and how well they felt they had done. Findings included a significant difference in expected satisfaction and control during the study. There were no significant findings on the difference in how well the participants felt they had done on the tracing activity.

Although the participants with defensive pessimism indicated the expected to do significantly worse than the high optimism participants, there were no differences in GPA ( $M = 3.58$ ). It was thought that individuals employing the strategy of defensive pessimism set low expectations to avoid being debilitated by anxiety. Due to this being strategy used for to prepare for stressful situations, disruption of an individual's defensive pessimism may decrease achievement.

Positive psychological functioning predictors were studied in a population of middle-aged adults. The study sample included 246 parents of students enrolled in a college psychology course. Participants were given the Perfectionism Performance Scale (PPS), the LOT-R (discussed previously), and the Scales of Psychological Well-Being (SPWB). The SPWB an 84 item, self-report instrument which measures six dimensions of psychological well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, and purpose in life. The PPS was developed by Chang (2009) to study the relationship of perfectionism and optimism and pessimism. This was a 32-item self-report instrument measuring positive and negative self-oriented performance perfectionism as well as positive and negative socially prescribed performance perfectionism. Self-oriented performance perfectionism, high standards placed on oneself, and socially prescribed performance perfectionism, high standards placed on the individual by others. Positive performance perfectionism was expected to have positive outcomes while negative performance perfectionism was expected to have negative outcomes for the individual. There were no significant differences noted for gender. Optimism was found to be positively correlated with positive self-oriented ( $r = .22$ ), socially prescribed performance perfectionism, and positive psychological functioning ( $r_s = .26$  to  $.52$ ). Pessimism was found to be correlated with negative self-oriented ( $r = .29$ ) and an inverse correlation was noted between pessimism and positive psychological functioning ( $r_s = -.24$  to  $-.60$ ).

Perfectionism, perceived stress, burnout and psychopathological symptoms in medical personnel was studied in a private hospital in Bucharest. The 72 participants included “32 doctors, 27 nurses, 8 orderlies, and 5 stretchers” (Craivan, 2014, p. 531). Instruments utilized in the study were the Perfectionism Inventory (PI), Perceived Stress Scale (PSS-10), Maslach Burnout Inventory-Educators Survey (MBI-ES,) and The Symptom Checklist (SCL-90-R). The instruments were all self-report questionnaires: The PI, a 59 item questionnaire with a Likert scale of 1 (strong disagreement) to 5 (strong agreement); the PSS-10, a 10-item self-report questionnaire designed to measure degrees in which an individual perceives situations as stressful, the MBI-ES, a 22 item with scores ranging from 1 (never) to 6 (daily) to measure three sub-scales of emotional tiredness, depersonalization and personal fulfillment: and the SCL-90-R measures nine sub-scales of somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Significant correlations were found between perfectionism, perceived stress, and burnout. Nurses were more likely to develop somatization and hostility symptoms while doctors’ with higher PI scores were linked with increased sensitivity and depression. In general, higher perfectionism scores were correlated with increased somatization, depression, and anxiety. The higher the perfectionism scores the higher the probability of perceiving situations as stressful which increased burnout symptoms.

**Hope and optimism.** The variables of hope, self-efficacy, and optimism were studied as predictors of academic success. These variables were measured by using the AHS, the Domain Specific Hope Scale (DSHS), the LOT-R, the General Self-efficacy Scale (GSES), the Academic Self-efficacy Scale (ASES), and self-reported GPA. Eighty-nine (89) college students participated in the study as part of a psychology course. The findings of this study showed a

statistically significantly correlation between GPA and academic hope and GPA and academic self-efficacy ( $p < .05$ ). General hope was found to be predictive of academic-specific hope and academic self-efficacy; both variables were predictive of GPA. Furthermore, findings did not show a relationship between GPA and optimism and general self-efficacy (Feldman & Kubota, 2015).

Bryant and Cvengros (2004) conducted a study with 351 undergraduate students as participants (265 female, 85 male, one gender not disclosed). This study was completed in both public ( $n = 35$ ) and private ( $n = 316$ ) college settings. The participants anonymously completed the LOT-R, AHS, Herth Hope Scale (HHS), Coping Orientations to Problems Experienced scale (COPE), and the Self-Efficacy Scale (SES). Bryant and Cvengros indicate that optimism and pessimism overlap 40% of the time and that it was best to conceptualize optimism as a two trait factor instead of two ends of a continuum. The authors suggested that using the overall LOT-R score may obscure relationships that might be identified utilizing the two factors separately. Similarly, findings suggest that hope needs to be viewed as two factors, agency and pathways, for the same reasons. The results demonstrated the AHS to be psychometrically superior to the HHS (RMSEA = .117). They suggested using the AHS for further research. An analysis using standardized regression coefficients indicated that more accurate findings of future expectancy were observed utilizing two-factor models of hope and optimism as separate entities. The authors stated that a global summary of future orientation could be obtained using the unidimensional models for hope and optimism. Another finding of the study was that hope more positively correlated with self-efficacy than optimism; and optimism more positively correlated with coping than hope. They also concluded that hope was directed at specific goal attainment while optimism was more closely related to general future outcome expectancy.

Rand (2009) synthesized a model called Goal Attainment. The purpose of this model was to study trait hope and trait optimism utilizing the AHS and the LOT-R scales. He used the model to study the relationship between grade expectancy and academic performance. The study included a sample of 345 students in a psychology course who completed the LOT-R and the AHS. The results showed that hope and optimism were closely correlated ( $r = .51$ ). The path from hope to grade expectancy was significant ( $\beta = .51$ ), which influenced academic performance, while optimism was not ( $\beta = .21$ ). Furthermore, previous academic achievement (GPA) did show a relationship to grade expectancy ( $\beta = .22$ ) and grade achievement ( $\beta = .25$ ). Rand states that although hope and optimism were similar in the fact that they related to goal acquisition stated that the significant difference was that hope contained a component concerning one's ability to control outcomes or goal achievement. The conclusion was that neither hope nor optimism was directly related to academic success but both of these constructs together did influence goal attainment.

Hope and optimism were studied in relationship to academic achievement and life satisfaction in law school. Participants included 86 first year law students. Instruments included the AHS, LOT-R, and The Satisfaction with Life Scale (SWLS). The SWLS was a five item questionnaire using a 7-point Likert-type scale to indicate global life satisfaction. The participants were given these self-report instruments at the beginning and end of the semester; grades were retrieved from the law school. Neither hope nor optimism was found to be related to undergraduate or subsequent law school GPAs. Undergraduate GPA ( $p < .001$ ) was found to be four times as predictive as hope ( $p < .08$ ) in relationship to GPA in law school. Optimism was not found to be correlated with law school grades ( $p < .54$ ). However, findings indicated that

both hope and optimism were correlated with life satisfaction in law school ( $p < .001$ ) (Rand, Martin, & Shea, 2011).

The premise of the study was hope and optimism have been correlated with many other aspects of life. Positive correlations have been found between higher hope and health (Herth & Cutcliffe, 2002); pain management (Snyder et al., 1995); palliative care (Penz, 2008); life satisfaction (Bailey & Snyder, 2007; Halama, 2010); and well-being (Khan, 2012) as well as problem solving and academic success (Snyder et al., 2002). Lower hope scores have been found to be correlated with neuroticism, absence of optimism, (Halama, 2010) and self-doubt (Geiger & Kwon, 2010). Optimism has also been shown to have a positive influence on life events. During research, Scheier and Carver (1985) noted individuals with higher optimism scores on the LOT were positively correlated with coping, physical and psychological well-being, and self-esteem (Carver & Gaines, 1987; Scheier et al., 1994). Other research linked optimism with self-efficacy and outcome expectancies (Erbig & Monsen, 2012). Many of the positively correlated factors may have an influence on academic success as well.

### **Academic Success in Nursing**

Indicators of performance in nursing students have been studied with the aim of enhancing nursing student success. These indicators included academic and non-academic variables. Academic variables that could predict success include overall GPA as well as GPA on prerequisite courses and pre-admission test scores. Non-academic variables included the ability to meet needs, physical and psychological, as well as hopeful thinking, optimism, self-efficacy, personality traits, and emotional intelligence (Ali & Naylor 2010; Beauvais, Brady, O'Shea, & Quinn-Griffin, 2011; Kowitlawakul, Brenkus, & Dugan, 2013; March & Robinson, 2015; McLaughlin, Moutray, & Muldoon, 2008).

## Academic Variables

Retrospective data were collected from academic records of 60 second-degree BSN students following their first semester in nursing school. An analysis of previous degree GPAs, pre-requisite course GPAs, pre-admission tests, and age related to first semester GPA was conducted. It was found that an increased probability of success in nursing school was correlated to their previous degree GPAs ( $p < 0.005$ ), pre-requisite course GPAs ( $p < 0.05$ ), and admission test scores ( $p < 0.05$ ). The student's GPA from their previous degree and overall admission test scores as well as the sub-component scores in math, science, reading, and writing, were positively correlated with their first semester GPA (Kowitlawakul et al., 2013).

In another study, Lancia, Petrucci, Giorgi, Dante, and Cifone (2013) used a retrospective, observational design to look at indicators of nursing student academic success. The definitions of academic success in the study were graduation within the legal duration of 6 years; final degree grades; and average examination scores. There were a total of 1,006 participants from five nursing cohorts. The population was 64.9% female with a median age of 20 and 35.1% men with a median age of 21. Overall, 61.2% of the population graduated within the legal 6 year time frame with the rate for females being higher than males (66.8% vs. 51.0%). No statistical differences were identified related to age and graduation rates. Upper-secondary diploma grades were statistically correlated with average exam scores and degree grades. The female participants had higher upper-secondary scores compared to the males (74.58 vs. 69.98). A positive correlation was found between with upper-secondary diploma grade and the final degree grade ( $r=.335$ ) and the average value of examination score ( $r=.385$ ). No significant findings were found between the nursing admission test and academic success as defined in the study. The

findings suggested that upper-level secondary grades needed to be a consideration for admission into schools of nursing.

In contrast to the previous study, another study found nursing admission tests to have a significant relationship to assessment scores. The nursing admission Test of Essential Academic Skills® (TEAS), by Assessment Technologies Institute (ATI), assesses science, math, reading, and English skills. The sample included 4,105 students from 49 different pre-licensure nursing programs. The data collected was comprised of the first attempt on the TEAS as well as the ATI RN Fundamentals Assessment exam. The RN Fundamentals Assessment was a standardized assessment that tests fundamental nursing knowledge and has been used to indicate early nursing school success. The linear relationships of the four TEAS sub-scores were found to be significant to scores on the RN Fundamentals Assessment ( $r^2 = .30$ ) ( $p < .01$ ). All four sub-categories from the TEAS® were found to have a significant relationship to the scores from the Registered Nurse Assessment exam ( $p < .00001$ ); the science subscore had the strongest correlation ( $r^2 = .13$ ) The correlation between the other TEAS subscores and the RN Fundamentals Assessment exam were math  $r^2 = .11$ , reading  $r^2 = .10$ , and English  $r^2 = .11$ . The results of the study indicated that the TEAS nursing admission test composite score should be used in combination with other indicators for academic success as admission criteria (Wolkowitz, & Kelley, 2010).

### **Non-academic Variables**

Ali and Naylor (2010) explored the association of academic and non-academic variables and their relationship to nursing student academic success. Data were collected from 628 nursing students enrolled in diploma schools of nursing over three years. Linear multiple regression determined a significant relationship between academic indicators of preadmission qualifications, previous academic performance, and type of school and nursing program success

( $p < .01$ ) Non-academic variables of female gender (63% of the sample) and domicile (rural) were found to be statistically significant as indicators of academic success in nursing.

Freitas and Leonard (2011) conducted a study using Maslow's Hierarchy of Needs as a framework to determine if a relationship existed between the nursing student's ability to meet physiological and psychological needs and success in nursing school. Maslow's Hierarchy of Needs, in hierarchical order: physiological, safety and security, love and belonging, and self-esteem and self-actualization; primary needs must be met first. Data was gathered from 190 entry level Associate Degree Nursing (ADN) students to measure relationships between Maslow's needs, basic student needs, and attributes associated with academic success. Significant findings included that older students and women reported increased ability to meet needs ( $p < 0.05$ ) ( $p < .01$ ) respectively. No significant findings were found related to GPA. The authors suggested identifying and providing resources for meeting physical and psychological needs may increase academic success in nursing.

Beauvais et al. (2011) conducted a study measuring the relationship between Emotional Intelligence (EI) and nursing student performance. A sample of 87 students ranging from 18 to 57 years of age (median age 24.23,  $SD = 9.45$ ) was surveyed: 91.0% were Caucasian; the remainder were as follows: 3.5% Asian, 2.5% Hispanic or Latino, 1.0% Black/African American, 1.0% other, and one did not specify (1.0%). The Six Dimension Scale of Nursing Performance (6-D Scale), and the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) were administered via a web-based medium. The participant rated his or her performance in six performance categories: leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relations and communications, and professional development. All but the subscales of leadership and critical care on the 6-D Scale demonstrated significant correlations ( $p < .01$ ).

McLaughlin et al. (2008) examined the role of personality and self-efficacy in academic success and retention in nursing using a longitudinal design over three years. A convenience sample of 350 nursing students who had completed the nursing program. were given the Occupational Self-Efficacy survey (Cronbach alpha .925) and an Academic Self-Efficacy survey (Cronbach alpha .904) upon admission to the program and then resurveyed at the completion as a pre- and post-test measure of self-efficacy. Grades and attrition rates were collected. The Occupational Self-Efficacy questionnaire was modified to include measures reflecting nursing as a profession. Questions were asked related to job tasks and training. The participant selected the most appropriate answer on a 10-point Likert scale. The Academic Self-Efficacy survey inquired about confidence in completing education using a 5-point Likert scale to indicate confidence level. Personality was evaluated using the Eysenck Personality Questionnaire which contained 48-items. These items measured the sub-categories of extraversion, neuroticism, psychoticism and lie. Cronbach alpha scores for each sub-category were noted as follows: psychoticism .437, extraversion .796, neuroticism .732, and .737 for the lie scale. The attrition rate at the conclusion of the program end was 12%. The most common reasons for leaving the program were academic (27.9%) and personal (16.3%) reasons. No statistical significance was found between occupational or academic self-efficacy and attrition. A multiple regression analysis of the participants' grades and personality variables was also conducted. Results included a significant relationship between the personality trait psychoticism and attrition ( $p < .01$ ). Other significant findings included that those with higher extroversion scores achieved lower grades ( $\beta = -.195$ ;  $p < .01$ ) and were more likely to drop out of the program. Participants with higher Occupational Self-Efficacy scores had higher grades ( $\beta = .113$ ;  $p < .05$ ).

Fernandez, Salamonson, and Griffiths (2012) studied the relationship of EI and academic performance in a population of first semester nursing students in an accelerated nursing course. Eighty-one (81) participants took an adapted version of the Trait Emotional Intelligence Questionnaire which measured extrinsic goal motivation, peer learning, help-seeking, and critical thinking. The participants' GPAs were used as a measure of academic achievement. The findings included a significant correlation ( $p < .01$ ) between EI and critical thinking ( $r = 0.41$ ), help seeking ( $r = 0.33$ ) and peer learning ( $r = 0.32$ ). Extrinsic motivation was found to have a negative relationship to EI ( $r = 0.05$ ). The results of the study indicated that EI was a significant predictor of academic achievement in the population ( $p < .05$ ).

### **Hope and Optimism as Non-Academic Domains in Academic Success of Nursing Students**

**Hope.** Northway (2007) completed a descriptive study where she gathered data related to hope in an ADN program in Alaska. The AHS or hope trait scale survey was sent to 169 first and second-semester ADN students with 61 surveys returned. Utilizing a *t* test, the AHS scores were analyzed in relation to demographic data. Findings in the study demonstrated a total AHS score range of 40 to 64 ( $M = 54.3$ ) indicating in general this group had high hope; Snyder states the average total trait score was 49 (Snyder, et al., 2002). There was not a significant finding related to total trait scores and ethnicity, gender, marital status, or hours worked; however, males did have significantly higher pathways subscale scores. Age was found to be associated with higher total trait scores as well as increased agency subscale scores. As the age increased so did the scores. Location of campus, delivery type (distance or traditional), or number of semesters in nursing school did not have any significant bearing on trait scores. A correlational analysis related to academic success was not conducted. This was the only research found in the literature directly related to hope in nursing education.

March and Robinson (2015) evaluated hopeful thinking and goal attainment in nursing education related to high stakes testing. The relationship between high stakes testing, specifically the Health Education Systems Incorporated (HESI) exit examination, to hopeful thinking and goal attainment was studied. Hopeful thinking was determined through self-report using the AHS. The Achievement Goal Questionnaire-Revised was used to evaluate goal orientation. The questionnaire evaluated mastery approach and avoidance as well as performance approach and avoidance. The survey used three items for each of the four categories; participants self-reported on a Likert-type scale. The participant's numerical score on these two self-report surveys was evaluated in relationship to the numerical score on the HESI exam. Hopeful thinking was positively correlated with mastery, performance approach and higher HESI exam scores. Participants with higher performance avoidance scores scored lower on the HESI exam. Regression analysis showed that hopeful thinking ( $p < .02$ ) and performance-avoidance ( $p < .05$ ) were significantly related with high-stake examination scores. It was demonstrated through correlation analysis that hopeful thinking was positively correlated with mastery-approach ( $p < .001$ ) and performance-approach ( $p < .004$ ) but not correlated with performance-avoidance or mastery-avoidance.

**Optimism.** The emotional variables of pessimism, depression, and emotional intelligence were studied in relationship to attrition rates in nursing school. The participants in the study were 144 third-year nursing students in Spain. The Spanish versions of the LOT-R (Cronbach's alpha for optimism was 0.62 and for pessimism 0.76), Trait Meta-Mood Scale (TTMS) (Cronbach's alpha for Attention was 0.83; for Clarity 0.853, and for Repair 0.86), and Ruminative Responses Scale (RRS) (Cronbach's alpha 0.71 for depressive rumination) were the instruments used to measure pessimism, emotional intelligence, and depression respectively. The intention to

withdraw from the nursing program was assessed with a two-item questionnaire using a 7-point Likert-type scale. The items measured thoughts of abandoning the nursing studies (Cronbach's alpha 0.91). Academic performance was measured using a ratio of courses for which the student registered and courses passed. Negative, inverse relationships were noted between pessimism and emotional clarity ( $r = -.32$ ) and emotional repair ( $r = -.28$ ), and depressive rumination and emotional clarity ( $r = -.29$ ) and emotional repair ( $r = -.29$ ). Pessimism was positively correlated with tendency to withdraw, while academic performance was negatively correlated with tendency to drop. Findings revealed that the higher the depressive rumination scores the more pessimistic the students. Conversely the higher the emotional intelligence scores were the less pessimistic the participant. None of the findings were directly correlated with academic performance. The study findings led the authors to recommend enhancing emotional skills, self-efficacy, and coping strategies as a method of increasing retention (Roso-Bas, Jiménez, & García-Buades, 2016).

Rogers and Elsom (2013) studied the effect of implementing a 12-week, mental health module with Advanced Nurse Practitioner (ANP) students. In this study, therapeutic optimism was defined as “a positive outlook in a specific situation and believing in a positive or favorable outcome” (p. 36). Three cohorts of ANP students were given an adapted version of the Elsom Therapeutic Optimism Scale (ETOS) prior to ( $N = 65$ ) and following ( $N = 57$ ) completion of the module. The EOTS was a 10-item, self-report questionnaire with Likert-type scoring. It was comprised of a series of belief statements that related to making a difference in therapeutic optimism in the ANPs. Total scores could range from 10 to 70. The pre-test mean for all cohorts was 50.23 (SD 6.01), while the post-test was 55.39 (SD 6.15). The conclusion of this study was that therapeutic optimism in the ANPs was increased with intervention.

### **Strengths, Weaknesses, and Recommendations**

During the literature search numerous studies were identified that measured the relationship between academic success and academic and non-academic variables. Academic variables included HSGPA, SAT, ACT, and college GPA. Non-academic variables included general intelligence, emotional intelligence, motivation, personality, self-efficacy, depression, anxiety, hope, and optimism.

Literature available relating academic success in nursing and non-academic variables was sparse. Non-academic factors studied include demographic data, emotional intelligence, self-efficacy, personality, hope, and optimism. The primary academic variables studied were admission tests and previous GPA.

There was a significant amount of research related to hope and optimism and well-being, both physical and psychological. The research showed positive correlations with pain management, health, recovery from illness, as well as decreased risk of depression and anxiety, among other things. There were numerous studies supporting the relationship of hope and optimism to academic success. Research was conducted in many disciplines in both primary and secondary education. However, there was minimal research directly related to hope and/or optimism and nursing or nursing education. The intent of this study was to fill the gap in this identified area of literature.

## CHAPTER III

### METHODOLOGY

The purpose of the study was to determine if there was a relationship between hope and/or optimism and nursing student's academic success. The study included an analysis of the following research questions: a) does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?, b) do measures of hope, agency, and pathways predict a student's numeric course score?, and c) do measures of optimism and pessimism predict a student's numeric course score? The results of the study will be used as a basis for continued research with the aim of promoting nursing student retention and success in nursing programs.

#### **Operational Definitions**

*Academic Success.* The numeric score the participant receives as the final course grade in the Human Pathophysiology course.

*Hope.* The numeric value derived when an individual completes the AHS (Babyak et al., 1993; Snyder, 1994).

*Agency.* The numeric value derived from agency items on the AHS: Questions 2, 9, 10, and 12.

*Pathway.* The numeric value derived from pathway items on the AHS: Questions 1, 4, 6, and 8.

*Optimism.* The numeric value derived when an individual completes the Life Orientation Test-R (LOT-R).

*Pessimism.* The numerical value derived from negatively worded items on the LOT-R: Questions 3, 7, and 9.

### **Research Questions**

The research questions for this study were as follows:

Research Question 1: Does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?

Research Question 2: Do measures of hope, agency, and pathways predict a student's numeric course score?

Research Question 3: Do measures of optimism and pessimism predict a student's numeric course score?

### **Research Design**

This descriptive correlational study design utilizes survey data collected with the intent to generalize the findings to similar populations (Creswell, 2009). A descriptive design was used to demonstrate a relationship if any existed between the dependent variable i.e., the nursing student's numeric course grade earned in Human Pathophysiology, and the independent variables, i.e., quantitative scores on the AHS and LOT-R. The participants completed the AHS and the LOT-R survey in the second semester of the nursing program. The results of the two surveys were analyzed to determine the relationship of the numeric grade in Human Pathophysiology in the first semester to the scores on the AHS and LOT-R. The data were analyzed using descriptive statistics, a backward regression analysis, and Pearson Coefficient analysis.

## **Population and Sampling**

The study was conducted with a convenience sample of second semester nursing students who were enrolled in the Bachelor of Science in nursing program in the fall semester of 2015 at a university in west Alabama. The sample included students who successfully completed Human Pathophysiology in the summer semester of 2015. The course was chosen for the study because it was a required first-semester course and a building block for future clinical coursework. Participation was voluntary and participants did not receive remuneration for participating in the study. The participants were 19 years of age or older at the time of the study.

## **Instruments**

There were two instruments utilized in this study. The AHS was used as the quantitative measure of hope and the LOT-R was used as the quantitative measure of optimism. The instruments were self-report and were administered through Qualtrics (see Appendix C). Further explanation of each instrument noted below.

### **Adult Dispositional Hope Scale**

The AHS was utilized for this study. The AHS was developed to measure two hope theory factors of agency and pathway. The scale was designed for individuals 15 years of age or older. It was used to evaluate an individual's hope as a trait, is not influenced by specific events; and demonstrates the perception an individual has of themselves over time.

The AHS scale was a 12-item self-reported questionnaire that uses a Likert-type scale with answer choices ranging from 1 (definitely false) to 8 (definitely true). Four items were designed to measure agency and four items measure pathways; four items were distractors. An agency subscale score is the sum of items 2, 9, 10, and 12 while a pathway subscale score is the

sum of items 1, 4, 6, and 8; items 3, 5, 7, and 11 were distractors (see Appendix A). Total scores range

8-64 with the average AHS score of 48. The AHS scale can be utilized for research or clinical purposes without contacting the authors for permission (Snyder et al., 1991).

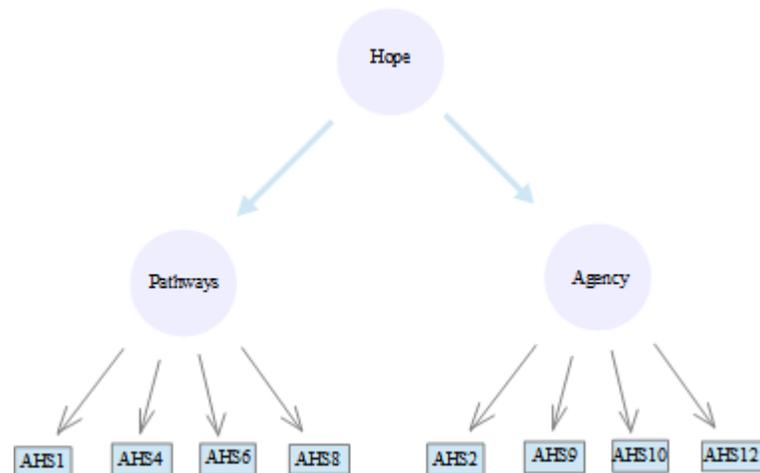


Figure 1. Adult Hope Scale diagram.

### Life Orientation Test-Revised (LOT-R)

The LOT-R was a 10-item self-reported questionnaire that uses a Likert-type scale with answer choices ranging from 0 (strongly disagree) to 4 (strongly agree). Scores range from 0 to 24. There are six scored items: three are worded in a positive direction (“In uncertain times, I usually expect the best”) and three in a negative direction (“I hardly ever expect things to go my way”). There are four filler items which are not scored. Prior to scoring, the negatively worded items were reverse coded (see Appendix B).

The total score from the LOT-R is considered a one-factor measurement; however, indications that analyzing both factors of optimism and pessimism were preferred. In a factor analysis, each item was determined to “measure the same underlying construct but not redundant to other items” (Sheier et al., 1994, p. 1074). To do this, the positively worded items were scored

separately as were negatively worded items. The LOT-R can be used for research without contacting the authors for permission (Scheier & Carver, 1985).

In 1994, Carver & Scheier conducted a confirmatory analysis on the LOT-R and recommended that the one-dimensional factor of optimism should be used in further research. However, Herzberg, Glaesmer, and Hoyer (2006) conducted an analysis of the LOT-R (German translation) to determine if a single or bi-dimensional factor model should be used for analysis of dispositional optimism. Participants included 46,133 patients admitted to primary care in Germany. The participants ranged in age from 18 to 103 years. Confirmatory factor analysis (CFA) demonstrated that the two-factor model had a good fit (RMSEA .042), where the one-factor model did not (RMSEA .214). Upon further analysis with a chi-square difference tests showed that the two-dimensional model was a superior fit  $p < .001$ . Therefore, this study shows value in utilizing the two-factor model, analyzing both constructs of optimism and pessimism.

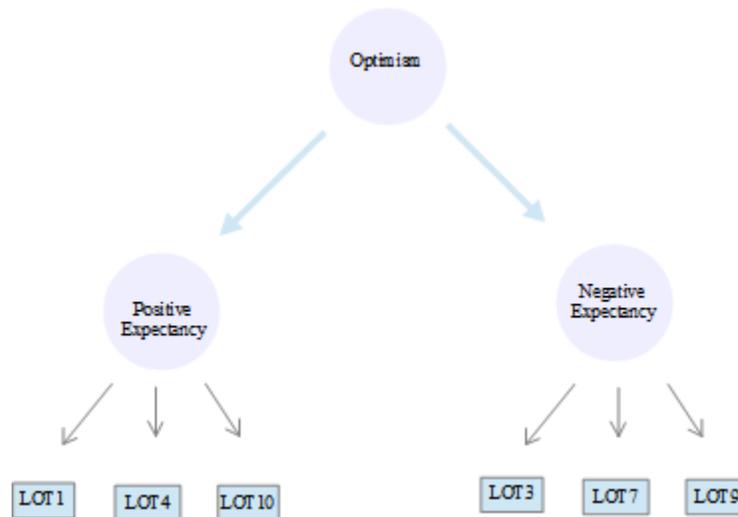


Figure 2. Optimism diagram.

## Reliability of Instruments

The instruments utilized in this study have demonstrated reliability. Babyak et al. (1993) conducted a confirmatory analysis on the psychometric properties of the AHS utilizing a sample of 955 first-year undergraduate students taking an introductory psychology course. The participants were given the AHS then followed over four consecutive fall semesters. The four cross-sectional data sets supported that the two-factor hope model performed better than a one-factor model. The results indicated that agency and pathways, although similar, were two separate factors. Findings include  $r^2$  of .97 to .99 for agency and pathways as well as a  $p < .001$  in all four samples with an internal validity of .70-.80 and excellent construct validity (Snyder, 2000). There were no significant differences between the genders noted when utilizing the AHS (Babyak et al., 1993).

The LOT was analyzed for validity and reliability using a sample of 357 male and 267 female undergraduate students. The Cronbach alpha was determined to be .76. The evaluation of internal consistency and test-retest reliability consisted of a sample of 81 men and 61 women ( $N= 142$ ). The test-retest reliability was found to be .79 when the LOT was repeated in four weeks. Non-significant gender variations were noted. In 1994, Scheier and Carver conducted another study to reevaluate the LOT, utilizing a sample of 4,309 university students. The Cronbach alpha was .82. The study revealed that two of the questions referred to how one reacts to a problem, not one's expectation of positive outcomes. The two items were removed from the LOT to form the current LOT-R, which contains three positively and three negatively worded items with four filler items that were not counted. The reliability for the LOT-R remains consistent due to inclusion of five items from the LOT. Item correlation on the LOT-R was found to be .43 to .63. This indicates that the items were measuring the same construct but are not

redundant. Test-retest reliability was evaluated by administering the LOT-R to a group of college students, twice to each student at variable timeframes. The correlational findings were as follows: 4 months .68 ( $N = 96$ ), 12 months .60 ( $N = 96$ ), 24 months .56 ( $N = 52$ ), and 28 months .79 ( $N = 21$ ). A Cronbach alpha for the six items on the LOT-R was determined to be .78 (Sheier et al., 1994).

### **Procedure**

Data collection took place after Institutional Review Board (IRB) approval. The research invitation was sent via email to the Assistant Dean of Undergraduate Programs Appendix D). The research invitation email included the purpose, consent, instructions, and an anonymous survey link. The information was distributed to the participants via email by course faculty. Completion of the surveys indicated implied consent. The web-based surveys were delivered via Qualtrics®. The primary investigator was the only individual with access to the results of the survey. The surveys were anonymous; No identifying data was collected from the participants.

### **Setting**

The study was conducted at a university in west central Alabama. The population focus in this study was students enrolled in the second semester of the Bachelor of Science in nursing program at a university in west central Alabama.

### **Data Collection**

The AHS and LOT-R were administered in an electronic format utilizing Qualtrics® (see Appendix C). The survey was e-mailed to the nursing students in the Human Pathophysiology course by faculty. The faculty members were instructed to send the survey to all students who had completed the Human Pathophysiology course. The welcome email contained the consent form, study purpose, and instructions for survey completion. The survey was estimated to take

approximately 2 to 5 minutes for each scale for a total of 4 to 10 minutes (Snyder, 2000). The students were asked to self-report the grade in Human Pathophysiology. The ranges and scores for numeric course grade were as follows: 1 = 100-95, 2 = 94-90, 3 = 89-85-, 4 =84- 80, 5 =79-74.6 =< 74.5. The welcome e-mail, containing the survey link, was sent by course faculty to all students who completed NUR 305 Human Pathophysiology. The sample pool was estimated to be approximately 124 students.

### **Data Analysis**

Qualtrics survey responses were transferred as raw data and exported into Excel. These data were then entered into the Statistical Package for the Social Sciences (SPSS) where descriptive statistics and Pearson Correlations were calculated.

The numeric score of each participant's AHS and LOT-R was compared to their numeric determined numeric course grade in the Human Pathophysiology course. The standard for passing a nursing course at the college was 75%; therefore, any final numeric score less than 74.5 was considered a failing score. The final numeric score was rounded to the next whole number for the final course grade. The students self-reported their final numeric course grade by choosing the corresponding ordinal number. The final numeric grades were analyzed to determine if there were data that answered the research question that high hope and/or optimism was correlated with academic success in nursing students.

Analysis of Research Question 1: Does a nursing student AHS and/or LOT-R score predict the student's numeric course score? The students self-reported the numeric course grade by selecting the associated ordinal value of 1 through 5. The hope score was the sum of questions 1, 2, 4, 6, 8, 9, 10, and 12 on the AHS. Questions 3, 5, 7, and 11 on the AHS were distractors. The LOT-R score was the sum of questions 1, 3, 4, 7, 9, 10; questions 3, 7, and 9 were reverse

scored. Questions 3, 7, and 9 were summed for the pessimism score. The statistical method used for analysis of this question was a backward multiple regression analysis. The dependent variable was the numeric value that corresponds with the final numeric course grade in Human Pathophysiology. The independent variables were the total score on the AHS and the LOT-R.

Analysis of Research Question 2: Do measures of hope, agency, and pathways predict a student's numerical course score? The students self-reported their numeric course grade by selecting the associated ordinal value of 1 through 6. The dependent variable was the numeric value that corresponds with the final numeric course grade in Human Pathophysiology. The independent variables were the total AHS score, as well as the sub-scores of agency and pathways. The agency score was determined by the sum of questions 2, 9, 10, and 12, the pathways score was determined by the sum of questions 1, 4, 6, and 8. The hope score was the sum of both the agency and pathways scores. Questions 3, 5, 7, and 11 on the AHS were distractors. The statistical method used for analysis of this question was a backward multiple regression analysis.

Analysis of Research Question 3: Do measures of optimism and pessimism predict a student's numeric course score? The students self-reported their numeric course grade by selecting the associated ordinal value of 1 through 6. The optimism score was determined by the sum of questions 1, 4, and 10; the pessimism score was determined by reverse scoring the sum of questions 3, 7, and 9 on the LOT-R. Questions 2, 5, and 6 on the LOT-R were filler items. The statistical method used for analysis of this question was a backward multiple regression analysis (see Table 2).

Table 2

*Research Questions and Statistical Analysis Method*

Statistical Analysis	
1. Does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?	Multiple regression analysis
2. Do measures of hope, agency, and pathways predict a student's numerical course score?	Multiple regression analysis
3. Do measures of optimism and pessimism predict a student's numeric course score?	Multiple regression analysis

**Human Subjects**

Protection of human subjects was obtained from Office of Research at the university. Data collection took place after IRB approval was received. The participants were provided an informed consent that delineated of the specifics of the study. The participants were assured of anonymity. The students' anonymity was maintained by use of student self-reporting through Qualtrics® with no collection of identifying data. They were assured that participation was voluntary. The informed consent included the purpose, risks, and benefits; voluntary participation status; confidentiality; and right to withdraw from the study at any time without any repercussions for non-participation. There was no compensation to participate in the study. Completion of the survey was interpreted implied consent. The time to complete the survey was estimated to be 4 to 8 minutes which was not considered to be a subject burden.

**Summary**

Chapter III discussed the specific procedure that was used to conduct the study. An explanation of research design, setting, population and sampling, data collection and analysis, and ethical concerns. Quantitative data were derived from the participant responses to the AHS and LOT-R as well as self-reported grade. Analysis of the data and subsequent results were discussed in Chapter IV.

## CHAPTER IV

### RESULTS

The purpose of the study was to determine if there was a relationship between hope and/or optimism and nursing student's academic success.. The study included an analysis of the following: a) does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?, b) do measures of hope, agency, and pathways predict a student's numeric course score?, and c) do measures of optimism and pessimism predict a student's numeric course score? The results of the study will be used as a basis for continued research with the aim of promoting nursing student retention and success in nursing programs. Chapter IV was organized around the three research questions.

The research questions for the study were as follows:

Research Question 1: Does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?

Research Question 2: Do measures of hope, agency, and pathways predict a student's numeric course score?

Research Question 3: Do measures of optimism and pessimism predict a student's numeric course score?

#### **Demographics**

The demographic data for the class, as reported by the college of nursing, discussed below. The potential sample pool included 124 students enrolled in the second

semester of the nursing program at the school of nursing. The age of participants ranged from 19 to 38 years of age, with a mean of 20.87 years. There were 111 females (89.52%) and 13 males (10.48%). Self-reported ethnicity of the sample participants were as follows: African American 3 (2.42%), African American/Caucasian 1 (.81%), African American/American Indian/Alaska Native 1 (.81%), American Indian/Alaska Native/Caucasian 1 (.81%), Asian 2 (1.61%), Asian/Native Hawaiian or Other Pacific Islander 1 (.81%), Caucasian 114 (91.94%), and Hispanic-1 (.81%).

Each potential participant was sent the research invitation with an anonymous survey link via email by their course faculty. Of the 124 potential participants, 65 participants accessed the survey link and 59 participants completed the AHS and LOT-R surveys. A final number of 58 (46.77%) participants who accessed and completed the surveys and reported their course grade in Human Pathophysiology.

Table 3

*Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
Course Grades	58	1	5	3.10	.852
AHS	59	35	60	49.80	5.486
Agency	59	20	32	26.63	2.943
Pathway	59	14	30	23.62	3.368
LOT-R	59	5.00	22.00	14.593	4.140
Pessimism	59	2.00	11.00	7.288	2.566
Optimism	59	3.00	11.00	7.305	1.976
AHS1	59	2	8	6.00	1.203
AHS2	59	5	8	6.80	.996
AHS3	59	0	0	.00	.000
AHS4	59	2	8	5.73	1.284
AHS5	59	0	0	.00	.000
AHS6	59	3	8	6.34	1.077
AHS7	59	0	0	.00	.000
AHS8	59	2	7	5.56	1.193
AHS9	59	3	8	6.41	1.155
AHS10	59	3	8	6.71	.966
AHS11	59	0	0	.00	.000

*(table continues)*

	N	Minimum	Maximum	Mean	Std. Deviation
AHS12	59	4	8	6.36	.924
LOT-R1	59	0	4	2.15	.979
LOT-R2	59	0	0	.00	.000
LOT-R3	59	0	4	2.15	.997
LOT-R4	59	0	4	2.49	.972
LOT-R5	59	0	0	.00	.000
LOT-R6	59	0	0	.00	.000
LOT-R7	59	0	4	2.37	1.049
LOT-R8	59	0	0	.00	.000
LOT-R9	59	0	4	2.76	.878
LOT-R10	59	1	4	2.66	.770

### Research Question 1

Does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?

The correlation matrix of the three variables shows that the predictor variables of "AHS" and "LOT-R" had very weak correlations with the response variable of "Course Grades" ( $= .112$  and  $.197$ ) although there was a moderate correlation ( $= .710$ ) between these two predictor variables (Ratner, 2007). A backward regression analysis was calculated to answer the first question. The regression analysis resulted in two models: model 1 included both predictor variables and, it resulted in an  $R^2$  of  $.041$  and model 2 included only LOT-R scores (AHS scores were removed from the model) and resulted in an  $R^2$  value of  $.039$ . Significant F change scores were  $.321$  for model 1 and  $.766$  for model 2. Consequently neither variable was a good predictor of the nursing student's course grade. Beta scores for LOT-R and AHS scores show they were not significantly different from a zero slope,  $.237$  (LOT-R) with  $t = 1.264$  and  $p = .211$  and a beta score of  $-.056$  for AHS with  $t = -.299$  and  $p = .766$  in predicting nursing student's course grade (Lomax & Hahs-Vaughn, 2012).

Table 4

*Descriptive Statistics for Research Question 1*

	Mean	Standard Deviation	N
Course Grades	3.10	.852	58
AHS Score	49.62	5.363	58
LOT-R Score	14.534	4.151	58

Table 5

*Correlations for Research Question 1*

	Course Grades	AHS Score	LOT-R Score
Course Grades	1.00	.112	.197
AHS Score	.112	1.00	.710
LOT-R Score	.197	.710	1.00

Table 6

*Model Summary for Research Question 1*

Model	R	R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	.201 <sup>a</sup>	.041	.850	.041	1.161	2	55	.321
2	.197 <sup>b</sup>	.039	.843	-.002	.090	1	55	.766
3	.000 <sup>c</sup>	.000	.852	-.039	2.270	1	56	.138

a. Predictors: (Constant), LOT-R, AHS

b. Predictors: (Constant), LOT-R

c. Predictors: (Constant)

Table 7

*Coefficients for Research Question 1*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.839	1.157		2.434	.017		
AHS	-.009	.030	-.056	-.299	.766	.495	2.019
LOT-R	.049	.039	.237	1.264	.211	.495	2.019
2 (Constant)	2.515	.406		6.192	.000		
LOT-R	.041	.027	.197	1.507	.138	1.00	1.00
3 Constant	3.103	.112		27.240	.000		

a. Dependent Variable: Course Grades

Table 8

*Excluded Variables<sup>a</sup> for Research Question 1*

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
2 AHS	-.056 <sup>b</sup>	-.299	.766	-.040	.495	2.019	.495
3	.112 <sup>c</sup>	.846	.401	.112	1.00	1.00	1.00
	.197 <sup>c</sup>	1.507	.138	.197	1.00	1.00	1.00

a. Dependent Variable: Course Grades

b. Predictor in the Model: (Constant) LOT-R

c. Predictor (Constant)

## Research Question 2

Do measures of hope, agency, and pathways predict a student's numeric course score?

The correlation matrix of the four variables indicates that the three predictor variables (Agency, Pathway, and AHS Score) had very weak correlations (= .076, .115, .112) to the response variable of "Course Grade". On the other hand, AHS Score was highly correlated with Agency and Pathway (= .839 and .885, respectively) and Agency was moderately correlated to Pathway.

Model one included both hope and agency as predictor variables of nursing student's course grade. The  $R^2$  value for model one was .014 with a significant F change value of .683 (not significant, both variables only accounted for less than 1% of explained variance in predicting nursing student's course grade). Model 2 only included the hope scores in predicting the nursing student's course grades and resulted in an  $R^2$  of .013 and a significant F change value of .804. Agency, hope nor pathways predicted the nursing student's course grades. Beta scores for agency and hope scores show they were not significantly different from a zero slope  $-.061$  with  $t = -.249$  (agency) and  $.164$  with a  $t = .666$  (hope) ( $p = .804$  for agency and  $p = .508$  for hope), respectively, in predicting a nursing student's course grade (Lomax & Hahs-Vaughn, 2012).

Table 9

*Descriptive Statistics for Research Question 2*

	Mean	Standard Deviation	N
Course Grades	3.10	.852	58
Agency	26.07	2.865	58
Pathway	23.55	3.346	58
AHS Score	49.62	5.363	58

Table 10

*Correlations for Research Question 2*

		Course Grades	Agency	Pathway	AHS Score
Pearson Correlation	Course Grades	1.00	.076	.115	.112
	Agency	.076	1.000	.488	.839
	Pathway	.115	.488	1.000	.885
	AHS Score	.112	.839		1.00

Table 11

*Model Summary for Research Question 2*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.117 <sup>a</sup>	.014	-.022	.860	.014	.383	2	55	.683
2	.112 <sup>b</sup>	.013	-.005	.854	-.001	.062	1	55	.804
3	.000 <sup>c</sup>	.000	.000	.852	-.013	.716	1	56	.401

a. Predictors: (Constant), AHS, Agency

b. Predictors: (Constant), AHS

c. Predictors: (Constant)

Table 12

*Coefficients<sup>a</sup> for Research Question 2*

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	2.287	1.098		2.083	.042		
Agency	-.018	.073	-.061	-.249	.804	.297	3.373
AHS	.026	.039	.164	.666	.508	.297	3.373
2 (Constant)	2.217	1.053		2.106	.040		
AHS	.018	.021	.112	.846	.401	1.000	1.000
3	3.103	.112		27.740	.000		
Constant							

b. Dependent Variable: Course Grades

Table 13

*Excluded Variables<sup>a</sup> for Research Question 2*

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Pathway	<sup>b</sup>				.000		.000
2 Pathway	.072 <sup>c</sup>	.249	.804	.034	.217	4.603	.217
Agency	-.061 <sup>c</sup>	-.249	.804	-.034	.297	3.373	.297
3 Pathway	.115 <sup>d</sup>	.866	.390	.115	1.000	1.000	1.000
Agency	.076 <sup>d</sup>	.571	.570	.076	1.000	1.000	1.000
AHS	.112 <sup>d</sup>	.846	.401	.112	1.000	1.000	1.000

- a. Dependent Variable: Course Grades
- b. Predictor in the Model: (Constant), AHD, Agency
- c. Predictor (Constant) AHS
- d. Predictor (Constant)

**Research Question 3**

How do the quantitative measures of optimism and pessimism relate to the nursing student’s numeric course score?

The correlation matrix indicates the predictor variable of “pessimism” had a very weak correlation to the response variable of “Course Grade.” However, the correlation between the predictor variable of “optimism” and the response variable of “Course Grade” was statistically significant ( $r = .58$ ),  $p < .05$ , indicating that a higher level of optimism was significantly associated with a lower numeric course grade. The relationship of both predictors “optimism” and “pessimism” with the response variable “course grade” was examined by a backward stepwise regression analysis in SPSS. Backward stepwise regression analysis starts with all the predictors included in the model. At each subsequent step, a less significant predictor was removed from the model. The table of “Model Summary” indicates that Model 1 with both predictors (optimism and pessimism) included was a significant fit of the data,  $F(2, 55) = 3.209$ ,  $p < .048$  with R-squares equal to .105, it indicates that 10.5% of the variance of course

grade was accounted for by both predictors of optimism and pessimism combined. However, the predictability of these two predictors was not comparable to each other. Optimism was a statistically significant predictor,  $t(55) = 2.43, p < .05$  whereas pessimism was not. Beta scores for optimism scores show they were significantly different from a zero slope .409 with  $t = 2.430$  and  $p = .018$  predicting nursing student's course grade (Lomax & Hahs-Vaughn, 2012). Whereas the pessimism scores showed no significant difference from a zero slope  $-.175$  with  $t = -1.042$  and  $p = .302$ .

The step 2 model excluded the non-significant predictor of pessimism. The R-squares now dropped to .087. The single predictor optimism only accounted for about 8.7% of the variance of the course grade. The drop in R-squares was not significant ( $F(1, 55) = 1.085, p = .302$ ). Instead, the single predictor (i.e., optimism) model was still a statistically good fit of the data ( $F(1, 56) = 5.326, p = .025$ ).

Table 14

*Descriptive Statistics Research Question 3*

	Mean	Standard Deviation	N
Course Grades	3.10	.852	58
Pessimism	7.258	2.579	58
Optimism	7.275	1.980	58

Table 15

*Correlations for Research Question 3*

		Course Grades	Pessimism	Optimism
Pearson Correlation	Course Grades	1.000	.091	.295
	Pessimism	.091	1.000	.652
	Optimism	.295	.652	1.000
Sig. (1-tailed)	Course Grades	.	.247	.012
	Pessimism	.247	.	.000
	Optimism	.012	.000	.

Table 16

*Model Summary for Research Question 3*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.323 <sup>a</sup>	.105	.072	.821	.105	3.209	2	55	.048
2	.295 <sup>b</sup>	.087	.071	.821	-.018	1.085	1	55	.302

a. Predictors: (Constant), Optimism ,Pessimism

b. Predictors: (Constant), Optimism

c. Dependent Variable: Course Grades

Table 17

*Coefficients<sup>a</sup> for Research Question 3*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	2.244	.418			5.367	.000
Pessimism	.058	.056	-.175		-1.042	.302
Optimism	.176	.072	.409		2.430	.018
2 (Constant)	2.181	.414			5.268	.000
Optimism	.127	.055	.295		2.308	.025

a. Dependent Variable: Course Grades

Table 18

*Excluded Variables<sup>a</sup> for Research Question 3*

Model	Beta In	t	Sig.	Partial Correlation	Tolerance
2 Pessimism	-.175 <sup>b</sup>	-1.042	.302	-.139	.575

a. Dependent Variable: Course Grades

b. Predictor in the Model: (Constant), Optimism

## **Summary of Results**

In summary, hope and optimism were found to have a moderate correlation with each other. A weak correlation was found between the independent variables of hope and optimism and the dependent variable of the nursing student's final course grade in Human Pathophysiology. These two variables were found to not be good predictors of course grades.

Hope, agency, and pathways were found to have a strong correlation to each other. Another finding was that agency was found to have a moderate correlation with pathways. No significant correlation was found for the independent variables of hope, agency, or pathways related to the dependent variable of final course grade in Human Pathophysiology.

Optimism, when combined with pessimism, was found to have a weak inverse correlation to the dependent variable of final course grade in Human Pathophysiology. The finding was not consistent with current literature on optimism, pessimism, and academic performance.

## CHAPTER V

### DISCUSSION

This chapter discusses data presented in Chapter 4 to include findings and conclusions as well as study limitations and recommendations for further research. The purpose of the study was to determine if there was a relationship between hope and/or optimism and nursing student's academic success.. The study included an analysis of the following research questions: a) Does a nursing student's AHS and/or LOT-R scores predict the student's numeric course score?, b) Do measures of hope, agency, and pathways predict a student's numeric course score?, and c) Do measures of optimism and pessimism predict a student's numeric course score? The results of the study will be used as a basis for continued research with the aim of promoting nursing student retention and success in nursing programs.

#### **Summary of Results**

In summary, findings included a moderate correlation between the two predictor variables of hope and optimism. The finding was expected from previous research on these two constructs. A weak correlation was found between the independent variables of hope and optimism and the nursing student's final course grade in Human Pathophysiology. The two variables were not found to be good predictors of course grades. The finding was not consistent with previous research on the constructs of hope and optimism and the relationship to academic performance.

The independent variables of agency and pathways both had a strong correlation with hope as determined by the student's AHS scores. This was an expected finding due to hope being

comprised of the sub-constructs of agency and pathways and the AHS being a measure of these constructs. Agency was found to have a moderate correlation with pathways. No significant correlation was found for the independent variables of hope, agency, or pathways related to the dependent variable of final course grade in Human Pathophysiology. This finding was inconsistent with previous research on hope, agency, and pathways relationship to academic performance.

A weak correlation was found between the predictor variable of optimism when combined with pessimism and the dependent variable of final course grade in Human Pathophysiology. However, the finding shows a negative correlation due to the method of recording course grades. Higher course grades were coded with a lower Likert number (1 = 95-100, 2 = 90-94, 3 = 85-89, 4 = 80-84, 5 = 74.5-79, or less than 6 = 74.5). The negative correlation indicates that higher levels of optimism were associated with a lower numeric course grade. This was not reflective of previous research in the area of optimism and academic success. No literature was found directly related to optimism and its relationship to academic success in nursing. However, several studies demonstrate a significant correlation between optimism and academic success. Dispositional and academic optimism were positively correlated with college retention, motivation, and academic achievement (Solberg, 2009). Negative correlations have been found between pessimism and academic achievement (El-Anzi, 2005).

The 12-item AHS was estimated to take 2 to 4 minutes to complete (Snyder, 2001). The 10-item LOT-R should have taken approximately the same amount of time since the surveys were similar in length. The participant was expected to take approximately 5 to 10 minutes to complete both the AHS, LOT-R, and to indicate their final course grade in Human Pathophysiology. The survey collection data shows the mean time the participant took to

complete the surveys was 2 minutes. Of the 59 participants, 48 (82.7%) completed the surveys in 3 minutes or less. This may have contributed to inaccurate data related to insufficient time taken to complete the surveys appropriately.

Initially, there was a very minimal response to the research invitation which was dispersed via email. Due to this nominal response, the course faculty encouraged the population to complete the surveys for altruistic reasons of helping future nursing students. The completion rate remained very low. To increase participation, the Assistant Dean of the Undergraduate Program verbally requested the population participate. Time was given in class to complete the survey. This may have made the participants feel obligated to complete the survey, whether or not they gave accurate responses to the survey questions.

Other factors may have been influential in the study results. As noted in the literature, hope and optimism share similar characteristics. Agency has been found to be comparable to optimism. Optimism was defined as the general belief that good things will happen with agency being the belief one's capability to complete a task or attain a goal. The primary difference between the theories of optimism and hope has been identified as pathways thinking. Although the individual with high optimism levels may have the general belief that things will work out for the good they may lack pathways thinking, which provides alternate routes to goal attainment if traditional paths to success were blocked. In this study, the students' mean optimism scores were considered in the middle range or slightly above average. The average LOT-R score was identified as 48 the mean LOT-R score in the study was 49. Course grades were found to be inversely related to the optimism scores. It was possible that although the participants had average optimism level they lacked pathways thinking for goal attainment.

Nurses and nursing students tend to be a high performing group with an inclination toward perfectionism. When using the two-factor model, separating optimism and pessimism scores, it was found that these factor scores were basically equivalent (M= Optimism 7.275; Pessimism M=7.258). Pessimism has been correlated with negative self-oriented and socially prescribed performance pessimism. Pessimism has also been found to be positively correlated with anxiety, depression, and inversely correlated with positive psychological functioning. Performance perfectionism has been correlated with burnout and negative psychological functioning to include somatization. This performance perfectionism could have been a contributing factor to results but was not measured during the study.

### **Implications to Academic Success in Nursing**

The findings in this study were not in alignment with current research on hope and optimism and academic success. In numerous studies, the AHS has been used to evaluate hope levels in relation to academic success. In previous research, hope has been found to have a positive correlation with academic success; higher scores on standardized tests as well as higher GPA and increased graduation rates (Snyder, 2005, p. 75; Snyder et al., 2002). In one study, hope was found to be the strongest predictor of academic success over general intelligence and personality, (Day et al., 2010). Only one study was found related to hope and academic success in nursing. This study indicated that that hopeful thinking was positively correlated to scores on high stakes examinations (March & Robison, 2015). Optimism has been researched and shown to be a significant indicator of academic success (El-Anzi, 2005; Gibbons, 2000). There was one study which evaluated optimism levels and tendency to drop out of a nursing program. Optimism was negatively correlated and pessimism positively correlated with tendency to drop out of the nursing program. No research was identified directly related to optimism levels and academic

success in nursing. Hope and optimism together have been shown to be significantly related to goal attainment (Rand, 2009).

Despite the previously noted negative associations with pessimism, defensive pessimism has been found to be related to high performance. Individuals with defensive pessimism may believe, in general, in a poor outcome. They use defensive pessimism to prepare for the upcoming stressful event. Therefore, taking measures during this preparation may lead to positive instead of the pre-conceived negative outcomes.

No research was found specifically evaluating optimism and its relationship to academic success in nursing. Findings of the current study were contradictory to previous literature. Therefore, recommendations include further research in this area be conducted.

### **Limitations**

Study limitations were noted related to sample and method. The first identified limitation concerns the study sample. This particular sample was very homogeneous. The population pool was a convenience sample at a 4-year university. Minimal age range was noted in the sample population. The majority of the population were females (89.52%) from 19 to 21 years of age (92.7%). Most self-reported as Caucasian (91.94%). A more diverse population would increase generalizability of results.

Grade reporting was retrospective due to utilization of final course grades for Human Pathophysiology from the summer 2015 semester. This was a limitation because all of participants had successfully completed Human Pathophysiology. Therefore, data on hope and optimism levels was not collected for students who were not successful in Human Pathophysiology.

Another limitation is range restriction. The participants self-reported their final course grade in Human Pathophysiology using a Likert-type scale with the numbers 1 through 6. This provides minimal grade range. Also, all participants had successfully completed Human Pathophysiology with a final course grade of 74.5 or greater; therefore, the score of 6 was not a valid choice.

Proposed changes to this study for future research would include modifying the sample and method. A recommendation for the sample is to increase diversity of the population pool. To do this, multiple geographic locations as well as different types of schools of nursing in both community college and university settings should be used. This change should lead to varied age and ethnicity of the population making the findings more generalizable. Recommendations for method include administering the AHS and LOT-R at the beginning of the semester then collecting actual final numeric course grades at the end of the semester--not a grade range using Likert scoring. This should give a greater grade range and reduce range restrictions. Collecting course grades at the end of the semester instead of retrospectively will allow students who were not successful in the course to have his or her hope and optimism levels evaluated in comparison with his or her course grade. In this study, all students who participated had successfully completed the Human Pathophysiology course. These modifications should provide increased value to future research.

### **Recommendations for Future Research**

Several recommendations for further research were identified. No research was found assessing the relationship between hope and optimism levels and course grades in a school of nursing. The limitations of this study provide opportunities for further research.

Recommendations to further the research include conducting a similar study with a larger, more

diverse sample population as well as modification of method as described previously. This will allow for better generalization and validation of results.

There were only two studies found that involved hope levels and nursing students. One study was strictly related to demographic data and hope levels. The second study evaluated the relationship of hope and high stakes testing. There were many additional opportunities for research in this area identified. A potential study topic would be to evaluate hope levels and nursing performance in the clinical setting. Attrition was a profound issue noted in schools of nursing; therefore, researching the potential relationship of hope and optimism retention in schools of nursing could prove beneficial.

It was identified that additional research was needed between the variables of academic success in general, in nursing, and other disciplines, and optimism levels. Although optimism has been researched and shown to have positive correlations with emotional and physical well-being, only a small amount of research was found evaluating the relationship between optimism and academic success. Academic optimism has been researched; however, these studies were usually focused on the school system not the student. This would provide another topic for research; the academic optimism and academic and/or clinical success in schools of nursing. Specific suggestions for research include evaluating potential relationships between optimism and academic and clinical success in nursing. Another interesting research topic would be the evaluation of hope and optimism levels in a sample population of students who were readmitted to a school of nursing following a withdrawal from the program.

As discussed previously, Rand (2009, p. 248) proposed a model of goal attitude which incorporated both the hope and dispositional optimism. This dynamic model shows relationships

between the constructs and outcomes. This model of Goal Attitude should be considered for future research of hope, optimism, and academic achievement.

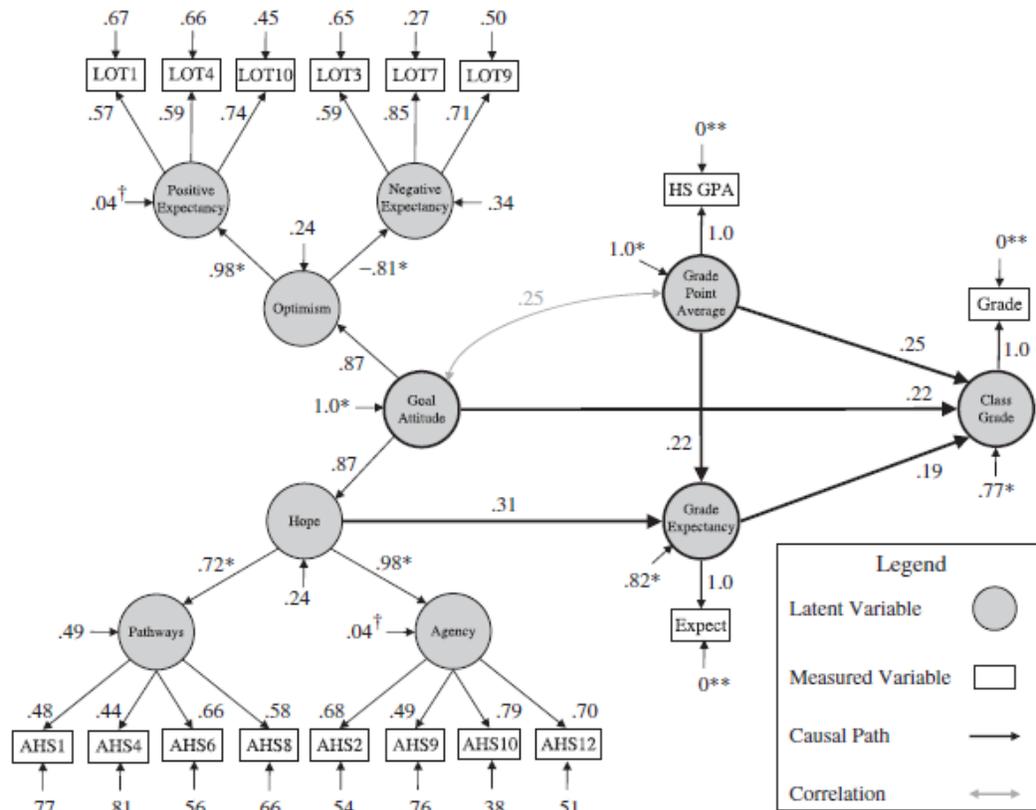


Figure 3 Goal attitude.

Further research is needed to fill the gap in literature regarding hope and optimism and academic success in nursing.

Less discussed topics in this paper but still of importance include performance perfectionism and defensive pessimism. These have been shown to be related to outcomes, both negative and positive. These two separate topics need to be evaluated for relationship to academic success to include attrition.

There were many research topics identified with probable impacts on academic success in nursing. Valuable information obtained by these research topics may contribute to nursing student success, subsequent graduation and entrance into the lacking nursing workforce.

### **Conclusion**

There is currently a shortage of qualified nurses related to demand. The shortage of nurses is expected to grow in the future. To help increase the numbers of nursing graduates ready to join the work force, research needs to be conducted to identify predictors of academic success in nursing. Disciplines such as psychology, education, and health care have been researched and identified as being correlated with positive outcomes with hope and optimism. One specific positive correlation is academic success; however, very minimal research has been conducted on hope and/or optimism levels related to nursing student success. Identifying indicators of academic nursing success then development of strategies to foster these indicators can be implemented with the ultimate goal of increasing retention, successful graduation, and entrance into the workforce. In this study the predictor variables of hope, agency, and pathways were not found to have a relationship to the nursing student's course grade. Optimism was found to have an inverse relationship to nursing students' course grade in Human Pathophysiology. This foundational study made a point for further research on hope, optimism, and nursing student performance and further research needed to fill the gap in literature.

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APPENDIX A  
ADULT DISPOSITIONAL 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 2= Mostly 3= Somewhat 4= Slightly 5= Slightly 6= Somewhat 7= Mostly 8= Definitely  
False False False False True True True True

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

APPENDIX B

REVISED LIFE ORIENTATION TEST (LOT-R)

## Revised Life Orientation Test (LOT-R)

### Instructions:

Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

- 0 = strongly disagree
- 1 = disagree
- 2 = neutral
- 3 = agree
- 4 = strongly agree

Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers

1. In uncertain times, I usually expect the best
2. It's easy for me to relax.
3. If something can go wrong for me, it will
4. I'm always optimistic about my future.
- 5 I enjoy my friends a lot.
6. It's important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don't get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

### Scoring:

1. Reverse code items 3, 7, and 9 prior to scoring (0=4) (1=3) (2=2) (3=1) (4=0).
2. Sum items 3, 4, 7, 9, and 10 to obtain an overall score.

*Note* Items 2, 5, 6, and 8 are filler items only. They are not scored as part of the revised scale.

The revised scale was constructed in order to eliminate two items from the original scale, which dealt more with coping style than with positive expectations for future outcomes. The correlation between the revised scale and the original scale is .95.

APPENDIX C

ADULT DISPOSITIONAL HOPE SCALE AND REVISED LIFE ORIENTATION TEST

Q1 Directions: Read each item carefully. Using the scale shown below, please select the option that best describes YOU.

Q2 I can think of many ways to get out of a jam.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
I can think of many ways to get out of a jam. (1)	<input type="radio"/>							

Q3 I energetically pursue my goals.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
I energetically pursue my goals. (1)	<input type="radio"/>							

Q4 I feel tired most of the time.

	Definitely False (0)	Mostly False (0)	Somewhat False (0)	Slightly False (0)	Slightly True (0)	Somewhat True (0)	Mostly True (0)	Definitely True (0)
I feel tired most of the time. (1)	<input type="radio"/>							

Q5 There are lots of ways around any problem.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
There are lots of ways around any problem. (1)	<input type="radio"/>							

Q6 I am easily downed in an argument.

	Definitely False (0)	Mostly False (0)	Somewhat False (0)	Slightly False (0)	Slightly True (0)	Somewhat True (0)	Mostly True (0)	Definitely True (0)
I am easily downed in an argument. (1)	<input type="radio"/>							

Q7 I can think of many ways to get the things in life that are most important to me.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
I can think of many ways to get the things in life that are most important to me. (1)	<input type="radio"/>							

Q8 I worry about my health.

	Definitely False (0)	Mostly False (0)	Somewhat False (0)	Slightly False (0)	Slightly True (0)	Somewhat True (0)	Mostly True (0)	Definitely True (0)
I worry about my health. (1)	<input type="radio"/>							

Q9 Even when others get discouraged, I know I can find a way to solve the problem.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
Even when others get discouraged, I know I can find a way to solve the problem. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 My past experiences have prepared me well for my future.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
My past experiences have prepared me well for my future. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11 I've been pretty successful in life.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
I've been pretty successful in life. (1)	<input type="radio"/>							

Q12 I usually find myself worrying about something.

	Definitely False (0)	Mostly False (0)	Somewhat False (0)	Slightly False (0)	Slightly True (0)	Somewhat True (0)	Mostly True (0)	Definitely True (0)
I usually find myself worrying about something. (1)	<input type="radio"/>							

Q13 I meet the goals that I set for myself.

	Definitely False (1)	Mostly False (2)	Somewhat False (3)	Slightly False (4)	Slightly True (5)	Somewhat True (6)	Mostly True (7)	Definitely True (8)
I meet the goals that I set for myself. (1)	<input type="radio"/>							

Q14 Instructions: Please answer the following questions about yourself by indicating the extent of your agreement using the below options. Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

Q15 In uncertain times, I usually expect the best.

	Strongly Disagree (0)	Disagree (1)	Neither Agree nor Disagree (2)	Agree (3)	Strongly Agree (4)
In uncertain times, I usually expect the best. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16 It's easy for me to relax.

	Strongly disagree (0)	Disagree (0)	Neither Agree nor Disagree (0)	Agree (0)	Strongly Agree (0)
It's easy for me to relax. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 If something can go wrong for me, it will.

	Strongly Disagree (4)	Disagree (3)	Neither Agree nor Disagree (2)	Agree (1)	Strongly Agree (0)
If something can go wrong for me, it will. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q18 I'm always optimistic about my future.

	Strongly Disagree (0)	Disagree (1)	Neither Agree nor Disagree (2)	Agree (3)	Strongly Agree (4)
I'm always optimistic about my future. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19 I enjoy my friends a lot.

	Strongly Disagree (0)	Disagree (0)	Neither Agree nor Disagree (0)	Agree (0)	Strongly Agree (0)
I enjoy my friends a lot. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 It's important for me to keep busy.

	Strongly Disagree (0)	Disagree (0)	Neither Agree nor Disagree (0)	Agree (0)	Strongly Agree (0)
It's important for me to keep busy. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21 I hardly ever expect things to go my way.

	Strongly Disagree (4)	Disagree (3)	Neither Agree nor Disagree (2)	Agree (1)	Strongly Agree (0)
I hardly ever expect things to go my way. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q22 I don't get upset too easily.

	Strongly Disagree (0)	Disagree (0)	Neither Agree nor Disagree (0)	Agree (0)	Strongly Agree (0)
I don't get upset too easily. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23 I rarely count on good things happening to me.

	Strongly Disagree (4)	Disagree (3)	Neither Agree nor Disagree (2)	Agree (1)	Strongly Agree (0)
I rarely count on good things happening to me. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24 Overall, I expect more good things to happen to me than bad.

	Strongly Disagree (0)	Disagree (1)	Neither Agree nor Disagree (2)	Agree (3)	Strongly Agree (4)
Overall, I expect more good things to happen to me than bad. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q25 Please select the appropriate numeric range for your numeric course grade in Human Pathophysiology.

- 95-100 (1)
- 90-94 (2)
- 85-89 (3)
- 80-84 (4)
- 75-79 (5)
- Less than 75 (6)

Put “Research Invitation” on the message line of an e-mail or the title of a webpage.<sup>1</sup>

Nicole Camp, MSN, RN, Principal Investigator from the University of Alabama, is conducting a study called "The Relationship of a Course Grade to Hope and Optimism in Nursing Student's Success". She wishes to find out if there is a relationship between nursing student’s hope and optimism score and academic performance. This will be completed by utilizing two self-report surveys the Adult Dispositional Hope Scale and the Life Orientation Test – Revised. The student’s self-reported grade in Human Pathophysiology will be analyzed in relation to the student’s hope and optimism scores.

Taking part in this study involves completing a web survey<sup>3</sup>, with two questionnaires, that will take about 4 to 10 minutes.<sup>4</sup>These surveys contain questions about hope and optimism.

We will protect your confidentiality by using a secure platform called Qualtrics. Only the research team members will have access to the data. The data are *password protected*. Only summarized data will be presented at meetings or in publications.<sup>5</sup>

There will be no direct benefits to you. The findings may be useful to future nursing for nursing student academic performance.<sup>6</sup>

The chief risk is that some of the questions may make you uncomfortable. You may skip any questions you do not want to answer.<sup>7</sup>

If you have questions about this study, please contact Nicole Camp (*investigator*) at 256-347-0634 (*telephone*) or by email nelockhart@crimson.ua.edu. If you have questions about your rights as a research participant .contact Ms. Tanta Myles (the University Compliance Officer) at (205) 348-8461 or toll-free at 1-877-820-3066. If you have complaints or concerns about this study, file them through the UA IRB outreach website at [http://osp.ua.edu/site/PRCO\\_Welcome.html](http://osp.ua.edu/site/PRCO_Welcome.html). Also, if you participate, you are encouraged to complete the short Survey for Research Participants online at this website. This helps UA improve its protection of human research participants.

**YOUR PARTICIPATION IS COMPLETELY VOLUNTARY.** You are free not to participate or stop participating any time before you submit your answers.<sup>8</sup>

If you understand the statements above, are at least 19 years old, and freely consent to be in this study, click on the \_\_\_\_\_ (CONTINUE or I AGREE) button to begin.

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<sup>1</sup> A statement that the study involves research

<sup>2</sup>An explanation of the purpose(s) of research

<sup>3</sup>A description of the procedures to be followed

<sup>4</sup>The expected duration of the person's participation

<sup>5</sup>A statement describing the extent to which confidentiality will be maintained

<sup>6</sup>A description of benefits to the individual or society that may reasonably be expected

<sup>7</sup>A description of any reasonably foreseeable risks or discomforts

<sup>8</sup>A statement that participation is voluntary, refusal involves no penalty or loss of benefits to which the participant may be entitled, and that the participant may discontinue participation at any time without penalty or loss of benefits to which s/he may otherwise be entitled.

APPENDIX D  
IRB APPROVAL

Office for Research  
Institutional Review Board for the  
Protection of Human Subjects

THE UNIVERSITY OF  
**ALABAMA**  
R E S E A R C H

September 15, 2015

Nicole Camp, MSN, RN  
Department of ELPTS  
College of Education  
The University of Alabama  
Box 870302

Re: IRB # EX-15-CM-105 "The Relationship of a Course Grade to Hope and Optimism in Nursing Student's Success"

Dear Ms. Camp:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your protocol has been given exempt approval according to 45 CFR part 46.101(b)(2) as outlined below:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
- (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
  - (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your application will expire on September 14, 2016. If your research will continue beyond this date, complete the relevant portions of Continuing Review and Closure Form. If you wish to modify the application, complete the Modification of an Approved Protocol Form. When the study closes, complete the appropriate portions of FORM: Continuing Review and Closure.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,



358 Rose Administration Building  
Box 870127  
Tuscaloosa, Alabama 35487-0127  
(205) 348-8461  
FAX (205) 348-7189  
TOLL FREE (877) 820-3066

[Redacted Signature]  
Carpanato T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer  
Office for Research Compliance