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Academic Performance of Baccalaureate Nursing Students: The Influence of Autonomy Support and Autonomous Motivation

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ACADEMIC PERFORMANCE OF BACCALAUREATE NURSING STUDENTS: THE INFLUENCE OF AUTONOMY SUPPORT AND AUTONOMOUS MOTIVATION

DISSERTATION

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by

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Abstract

Background: Nursing education in the 21st century has led to the use of sophisticated teaching strategies. Economic conditions have challenged nurse educators to teach more with less time, resources, and support which may negatively affect student motivation. A supportive environment and a strong sense of autonomy are necessary for students to achieve academic success. Spirituality may help students to adjust to the rigor of the nursing program. However, limited research regarding baccalaureate nursing students' motivation and spirituality exists.

Purpose: The purpose of this study was to test students' self-determination by exploring the relationships between autonomy support environments including select demographics, autonomous motivation (spirituality) and engagement, which were all expected to contribute to the academic performance of nursing students in a baccalaureate nursing program.

Theoretical Framework: The Self-Determination Theory provided the framework for this study. The concept of spirituality was also used as an exploratory lens to study the autonomous motivation of this population.

Methods: A cross-sectional, correlational design was used to examine the relationship among the major study variables. Data was analyzed using descriptive, correlation, and regression analysis. The sample comprised 150 nursing students. Instruments were the demographic questionnaire, Learning Climate Questionnaire, Spiritual Involvement and Beliefs Scale and Work Engagement Scale.

Results: The sample was primarily composed of Caucasian females, average age of 23 years, who were single, unemployed, and Protestant.. They reported an average overall

GPA of 3.36 and greater. Seventy-five percent of the sample had never repeated a nursing course. Three hypotheses were tested. Two hypotheses were accepted revealing significant relationships between autonomous motivation (spirituality) and engagement and between engagement and academic performance. Age, gender, religious denomination, and university contributed to the model.

Conclusions: Findings revealed the students were autonomously motivated and were able to engage in their courses, although the learning environment was not supportive. Student assessments and strategies to promote autonomy must be developed and implemented as a means of ensuring a favorable learning environment. Future research may include the investigation of spirituality and autonomous motivation as two separate variables.

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I thank my Lord Jesus Christ for His plan for my life, *plans for good and not for disaster*, to give me *a future and a hope* (Jeremiah 29:11, New Living Translation).

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DEDICATION

The LORD directs the steps of the godly. He delights in every detail of their lives. Though they stumble, they will never fall, for the LORD holds them by the hand (Psalm 37:23-24, New Living Translation).

Lord, I give this work to You. You are the one who gave me the self-determination to run this race and the motivation to endure to the end to receive this prize.

I dedicate this dissertation in loving memory of my father, Elton Phillips, Sr., my mother Sarah Phillips, and my grandmother Lizzie Riley. From your shoulders I have stood with my feet firmly planted and have learned the value of dedication, commitment, and hard work. I also dedicate this book to my brothers and sisters, Gail, Elton, Jr., Karen, Valeria, Morris, and Torrence, my husband Kevin, my children Xavier, Taylor and Avery, and to my nephews and nieces who supported me throughout this process.

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CHAPTER ONE

Over the last 10 to 20 years, nursing has been inundated with challenges for 21st century education, which has been undergoing rapid change. Challenges such as the nursing shortage, technological advancement, student diversity, and generational gaps between students and faculty have transformed nursing education for both students and faculty. Nursing practice has become more sophisticated, now requiring multifaceted approaches of nursing education with less time, less support, and fewer available resources. As a result, it is common for students to feel overwhelmed and incapable of fulfilling course requirements, which can of course impede academic progress. While some students seek social supports, others may engage in spiritual practices to meet their needs, spiritually and emotionally, as a means of self-motivating to cope and continue in their academic pursuits (Hegge & Larson, 2008; McGregor, 2005).

Background of the Study

National Enrollments and Attrition

The National Center for Education Statistics (2011) reports that the average number admitted to college across the United States (U.S.) was greater than 1.8 million in 2007–08, and undergraduate full-time student enrollment increased by 39% between 1999 and 2009. The number of undergraduate bachelors' degrees that were conferred from 2008 to 2009 was 64% for public institutions, 31% for private not-for-profit colleges, and 5% for for-profit colleges. Of the number of degrees awarded, 120,500 degrees were in health professions and related clinical sciences. Remedial courses and skills enhancement programs were also necessary for developing social and studying

habits of low achieving students as a means of improving attrition and graduation rates as well.

In nursing, there is a continued need to attract and retain nursing students from all backgrounds as a means of meeting the needs of an ever-growing and ever-more-diverse patient population. Reports from the U.S. Census Bureau (2012), indicates that more than one-half of the growth of the total population was due to a 43% increase in Hispanic populations, and almost five percent of non-Hispanic populations, from 2000 to 2010. The persistent shortage of nurses in the U.S. has also prompted increasing research to determine both the cause and possible solutions (Bowles & Candela, 2005). According to The National Sample Survey of Registered Nurses (HRSA, 2010), nurses who received education in baccalaureate programs increased from 31% to 33.7% from 2004 to 2008. "Despite the growth in the volume, the overall length of employment will be foreshortened" due to the increasing percentage of 30 and 40 year olds enrolling in nursing programs (NLN, 2006, p.4). Student enrollment in baccalaureate programs increased by 3.5 % in 2008-09, and by 5.7% in 2010 (AACN, 2011). However, the increase of student enrollment was not considered sufficient to meet the projected demands for nursing because of faculty shortages and budget constraints. This deficit may have been exacerbated by the low pre-licensure graduation rates in baccalaureate programs, which slowed to only 2.3% in 2007 (AACN, 2011).

Florida Enrollments and Attrition

The enrollment number for undergraduate education in Florida for the fall of 2009 was reported as being approximately 600,000 students (NCES, 2011). Overall retention rates of undergraduate students were reported as 74% for full-time students and 52% for

part-time students. Although retention rates were greater than 50%, graduation rates faltered in a 2003, four-year cohort (men: 45%, women: 48%). Asian and white students had a higher overall graduation rate (58% and 52%, respectively, as compared to black (37%), Hispanic (43%), and Indian (36%) students. In health professional and related clinical sciences, a total of 6,776 degrees were awarded for the fall of 2009.

According to the Florida Center for Nursing (2011), over 20,000 qualified applicants were denied admission into nursing programs throughout the state in the academic year 2009–10. Barriers to growth were noted as decreased funding, a lack of faculty, and limited campus and clinical resources and sites. Despite these barriers, legislative changes were enacted to change the process for approving new nursing education programs in 2009, which resulted in a 67% increase of new nursing programs overall from 2008–2011. Baccalaureate programs increased enrollment by 11%, in comparison to Associate degree in nursing bridge programs (designed to prepare previously trained nurses for professional nursing careers), which increased by as much as 106% (OPPAGA, 2012). From 2008–09, graduation rates from baccalaureate programs increased to 7.8% (FCN, 2011). After changes in the laws, however, retention rates in baccalaureate programs increased gradually, and pre-licensure graduations rose by only 5% from 2008–11 (OPPAGA, 2012). During this same period, graduation rates of licensed practical nursing programs declined by six percent.

Student Motivation

Students throughout the U.S. and the world enter college with expectations of success. As students discover independence, they are also faced with challenges that may hinder or abort their progress towards obtaining their goal. However, students are often

able to remain positively motivated toward successful achievement when they feel autonomous in their efforts (Dearnley & Matthew, 2007; Deci & Ryan, 2006; Black & Deci, 2000; Hegge & Larson, 2008). According to Deci and Ryan's 1985 Self-Determination Theory, having positive outcomes are seen more among persons with self-determined actions, because that contributes to fulfillment, motivation, success and well-being (Ryan & Deci, 2000). Motivation is considered to influence one's movement toward an action to reach a goal and gives purpose and direction to specific behaviors. As in health-related disciplines where links between motivation, achievement and behavior have been a focus of research for many years, student motivation, achievement, and behaviors to excel and succeed during their tenure in health-related programs have also become an area of research interest; particularly, self-determined types of motivation and voluntary and persistent efforts geared towards task completion and successful outcomes (Ballmann, & Mueller, 2006).

Historically, the nursing profession has been influenced by psycho-cognitive-social theoretical perspectives. In recent years, holistic perspectives (i.e., spiritual and environmental) have also affected the profession. Such perspectives can be useful in understanding factors that affect student motivation. In nursing programs, threats of failure and high stress levels, heavy academic workload, ability to perform, and sometimes, interpersonal relationships with faculty and peers serve as major impediments to the process of becoming a nurse (McGann & Thompson, 2008; McGregor, 2006). Strict program requirements and expectations may also lead to stressful encounters and low levels of motivation as well as low ability and lack of effort (Soric, 2009). Family and financial problems as well as a need for remediation and tutoring are other factors

described as stress-provoking and as being causes of withdrawal or dropout from nursing programs (Sutherland, Hamilton, & Goodman, 2007).

Furthermore, students entering into nursing programs do so with excitement, regardless of personal, cultural, or gender differences. Success may depend on the student's level of autonomy and self-determination as well as their ability to cope effectively with stressors when attaining goals. Spirituality, beliefs, and faith in God were found to be necessary components for making sense of situations and finding meaning (Cobb & Robshaw, 1998; Pesut & Meyerhoff, 2005). Students who are able to adjust to the rigor of nursing program demands can do so by seeking God's help and desiring to be close to God (Hegge & Larson, 2008; Wehmer, White, Quinn Griffin & Fitzpatrick, 2010), by finding comfort in their spirituality (Wehmer, White, Quinn Griffin & Fitzpatrick, 2010), and by having strong social supports (Hegge & Larson, 2008). In addition, faculty who commit to educate nursing students holistically are able to support students' ability to mature personally and professionally (Rankin & DeLashmutt, 2006).

Problem Statement

The college experience tends to be arduous and disorienting for students in general, potentially threatening their sense of well-being. In nursing, this problem is compounded by generational differences that exist among older faculty and young adult students, as well as ethnic and cultural differences about high expectations for excellence in nursing practice. Faculty who exhibit decreased sensitivity to student needs and lack an introspective position on their own personal beliefs and practices may further create conflict that can cause student motivation to stall (Peter, 2005).

The problem stems from a perceived lack of support from faculty that may lead to decreased motivation and decreased performance. When faced with fears of failure, some students may become frustrated and disappointed and may withdraw from a course or the program altogether, while others desperately seek other mechanisms to cope and remain motivated. Students who view themselves as being self-determined can even find themselves deplete and devoid of dreams and desires when help is insufficient and unavailable. Student nurses are sometimes expected to function in some ways as a professional nurse even though they are "considered novices who do not yet possess clinical knowledge, and their relational and other knowledge is sometimes overlooked" (Beckett, Gilbertson, & Greenwood, 2007, p. 30). Still, they must be able to gain the necessary education that leads to entry into the profession. While significant emphasis in nursing education is placed on identifying and meeting the spiritual needs of patients to help them to gain or retain a sense of wholeness and well-being, little attention has been given to identifying and meeting the spiritual needs of nursing students, specifically as it relates to their motivation and well-being. Studies to address motivation and spirituality of baccalaureate nursing students are currently minimal.

Purpose of the Study

The purpose of this study was to test students' self-determination using the constructs of the Self-Determination Theory (SDT) (Deci & Ryan, 1985). Specifically, the relationships between the constructs of autonomy support, autonomous motivation (noted as spirituality), and engagement were measured as contributors to academic performance among nursing students in a baccalaureate nursing program. Demographic

variables including age, gender, race, marital status, employment status, courses duplicated due to failure, GPA, and religious practices were also measured.

Research Hypotheses

Three research hypotheses were used to achieve the purpose of this study. These hypotheses originated from the theory and tested theoretical construct relationships.

Hypothesis 1

Research hypothesis. There will be a significant positive relationship between the variables of autonomy support environment (select demographics and learning climate) and autonomous motivation (spirituality) among students in a baccalaureate nursing program.

Hypothesis 2

Research hypothesis. There will be a significant positive relationship between autonomous motivation (spirituality) and academic engagement among students in a baccalaureate nursing program.

Hypothesis 3

Research hypothesis. There will be a significant positive relationship between academic engagement and academic performance among students in a baccalaureate nursing program.

Theoretical Framework

Research on extrinsic and intrinsic motivation in human behavior began in 1971, and eventually resulted in the Self-Determination Theory (SDT) in 1985 (Deci & Ryan, 1985; Deci, Vallerand, Pelletier & Ryan, 1991). The concept of autonomy and self-

determination has been discussed by philosophers throughout history (Deci & Ryan, 2006). In 1890, the theory of will and volition was developed by James (Deci & Ryan, 1985). Later, drive theories were developed to explain motivation from psychoanalytic and empirical psychology, respectively. Theories of intrinsic motivation, explained by White in 1959 (Deci & Ryan, 1985), and by Ricoeur in 1966, looked at the experience of autonomy as being reflective of one's will and favored dependence of autonomy on one's consent to act (Ryan & Deci, 2006). These beliefs supported theories regarding personal causation, developed by Heider and deCharms in 1958 and 1968, respectively, when SDT evolved. Further recognition is given to the works of Lewin's concept of intention, along with other theories of Heider, Seligman, and Rotter who were concerned with intentional and non-intentional outcomes (Deci, Vallerand, Pelletier & Ryan, 1991).

Based on these theories, the concept of autonomy is supported by either the approval or endorsement of actions, or by critical recognition of behaviors. Thus, SDT is viewed as a broad approach to the study of human volition, initiative, and personality (Deci & Ryan, 1985; Ryan & Deci, 2000). It is a meta-theory that comprises five interrelated sub-theories, with each sub-theory explaining a phenomenon of motivation.

SDT proposes that individuals actively work toward mastery of their internal and external environments by choice, and supports the reality that "the development and exercise of extrinsic and intrinsic motivation" has contributed to variations in human behaviors and experiences (Deci & Ryan, 1985, p. 35). Extrinsic and intrinsic levels of motivation denotes significant associations of higher levels of meaning, orientation, persistence, and well-being, and has the potential for enhancing achievement (Ryan & Deci, 2006).

Major Concepts of the Theory

Constructs of self-determination are established along a regulatory continuum of motivation (see Figure 1).

Extrinsic motivation. Extrinsic motivation consists of external regulation (to obtain a reward or avoid punishment), introjected regulation (to avoid guilt or shame), identification (motivation is valued and accepted of behavior), and integrated regulation (endorses values and goals but looks to attain personal outcomes).

Intrinsic motivation. Intrinsic motivation serves as a model for autonomy, which is described as a volitional action that is performed out of one's interest and involves one's perceived locus of causality. Behaviorally, the more internalized the identified, integrated, and intrinsic motivation and autonomy, the greater the effort and performance, which helps to ensure successful outcomes as well as personal well-being (Ballmann & Mueller, 2006; Deci & Ryan, 1985; Ryan & Deci, 2000). Introjected regulation and extrinsic motivation result in low self-determination and ill-being while amotivation is associated with no self-determination.

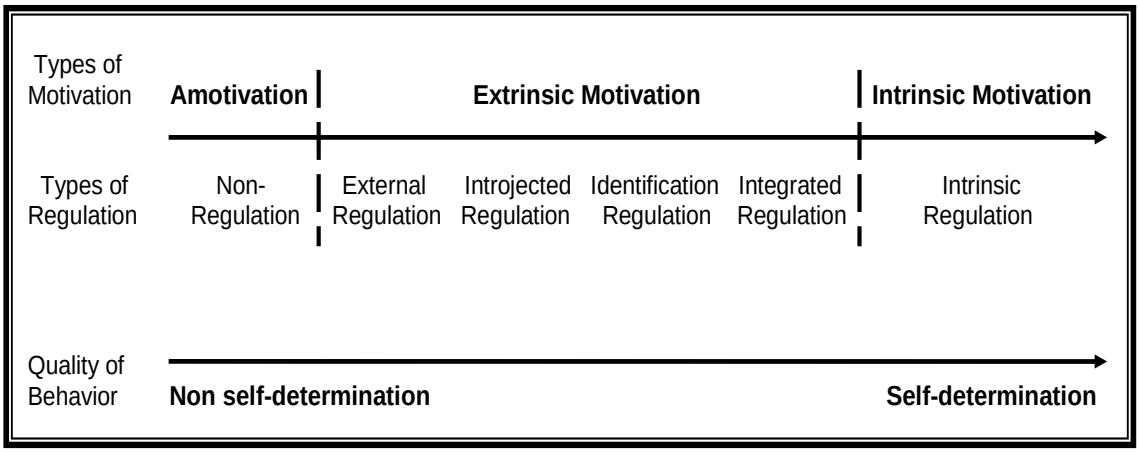

Figure 1. Self-determination continuum with types of motivation and types of regulation as an inclusive construct of extrinsic motivation, by E. Deci & R. Ryan, 2002, *Handbook of Self Determination Research,* p. 16. Copyright 2002 by the University of Rochester Press.

Importance of Autonomy in Motivation

In Self-Determination Theory, autonomy is considered as the "key to understanding the quality of behavioral regulation" (Ryan & Deci, 2006, p. 1562). Early research on SDT was based on deCharms's 1968 concept of perceived locus of causality which focused on individual choice and self-initiated actions (self causation), noting differences between self-determined and controlled behaviors and their regulatory processes. These causal perceptions also play a key role in ones' autonomy and motivation, and in their orientation to the environment and to the resulting behavior. SDT was distinctly different in that self-determined behaviors were considered as intentional motivated actions that are engaged in by individuals of their own volition and sense of self.

The phenomenon of autonomous motivation is guided by the theory through a description of the constructs in their relationship to the phenomenon. First, the cognitive evaluation sub-theory provides a strong foundation for intrinsic motivation and

explains social and environmental supports that either aide or hinder motivation (Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001; Ryan & Deci, 2000). "It describes contextual elements as autonomy supportive, controlling and amotivating and it links these types to the different motivations (Deci & Ryan, 1985, p. 9). These social and environmental supports are also dependent on three essential needs identified as competence, relatedness, and autonomy. These needs must be satisfied for one to experience intrinsic motivation and a sense of well-being. Competence is explained as the ability to succeed and attain desired outcomes, relatedness establishes a sense of respect and reliance on and with others, and autonomy is the ability to choose and initiate one's own actions (Deci & Ryan, 1985; Deci & Ryan, 2000; Deci & Ryan; 2002). These essential needs facilitate optimal functioning of social and cultural conditions, which can either promote or undermine one's initiative, well-being, performance, and autonomy.

Relationship of Self-Determination Theory to the Current Study

In this study, autonomy and autonomous motivation was examined as a means of determining whether students were able to effectively regulate their behaviors in order to achieve academic success. Both social and environmental supports that evolve from the constructs of extrinsic and intrinsic motivation were utilized to guide the phenomenon of spirituality as it related to the motivation of nursing students.

Environmental climates such as family support, financial stability, and religious denomination, and employment status served as an autonomy support environment. In addition, the learning climate was also considered as an autonomy support environment.

The learning climate is the place where students come in contact with faculty. It is in this environment that students seek to be understood and accepted by faculty and

peers as well. Students may also search for guidance or may simply need to feel a sense of caring and support during difficult and painful experiences in the learning climate. On the other hand, faculty members may, at times, demoralize students and lose awareness of their needs, which may ultimately negatively affect their ability to effectively support the students' autonomy. Autonomy support environments ultimately allow satisfaction of competence, autonomy, and relatedness, which facilitates movement toward autonomous motivation (Deci, et al., 2001; Deci & Ryan, 2000; Deci & Ryan, 2002).

Autonomous motivation produces variability in intrinsic motivation and allows one to experience a sense of competence and relatedness (Ryan & Deci, 2000). Autonomous motivation was represented by spirituality, which serves as a mediator between autonomy support environments and academic engagement. Engagement occurs when emotional involvement is present and when the need for competence and relatedness are met (Reeve, as cited in Deci & Ryan, 2002, p. 194), resulting in self-determined behaviors that lead to academic performance (see Figure 2).

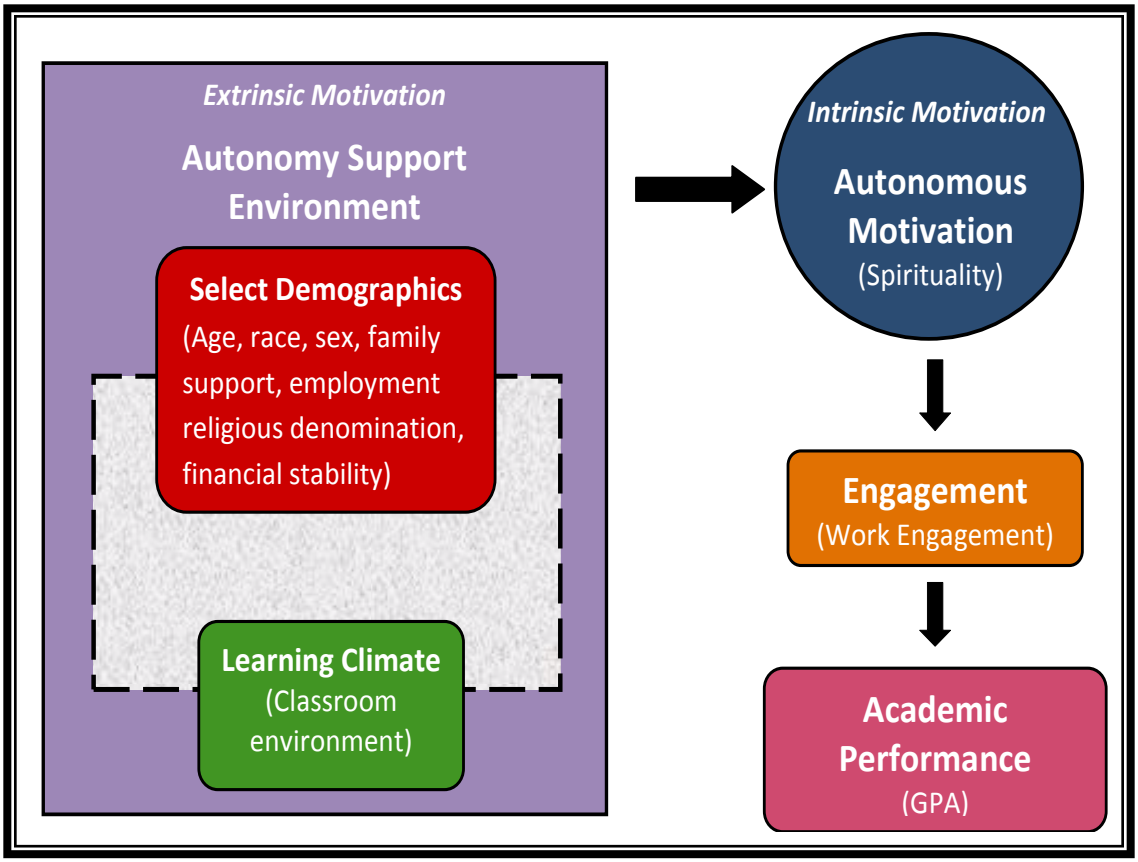

Figure 2. Bronson's conceptual model of self-determination theory, adapted by permission from Deci & Ryan (2000), showing relationships of autonomy supportiveness, autonomous motivation (represented by spirituality), engagement, and academic performance.

Definition of Key Terms

The selected theoretical constructs of autonomy support (extrinsic motivation), autonomous motivation (intrinsic motivation), engagement, and academic performance were examined and their relationships were tested (see Figure 2). The constructs of anxiety and general self-esteem were not included in this test of the model. The theoretical definitions were based on the theory. The operational definitions were synonymous with the theoretical definitions and explained how each construct would be measured to provide answers to the research questions and hypotheses.

Autonomy Support

Theoretical definition. Autonomy support occurs when one attempts to engage in a challenge or situation and has the necessary social contexts or nutriments, which allows for need fulfillment and autonomous motivation (Ryan & Deci, 2002).

Operational definition. Autonomous support was operationalized by means of the Learning Climate Questionnaire (LCQ □ (Ryan & Deci, 200 consisted of 15-items to which the participant marked a response on a 7-point Likert-type scale. Responses to the items were calculated by averaging the individual item scores after subtracting scores from question 13 from question 8 (eight). Higher average scores represented a higher level of perceived autonomy support.

Autonomous Motivation

Theoretical definition. Autonomous motivation is defined as one's self-initiation and choice to orient toward an autonomy-supported aspect of the social environment (Deci et al., 2001). Supports of competence and relatedness are vital for autonomous motivation.

In this study, autonomous motivation was represented by the construct of spirituality, which was delineated as a world view that is multidimensional and experienced by all across the life span (Delaney, 2005). Spirituality was found to encompass four domains that interact personally, interpersonally and transpersonally. These domains have been described as *higher power* or *universal intelligence* which essentially mean a belief in a higher power exclusive of formal religious practice, *self-discovery* or the spiritual journey where self-reflection and identification of one's self meaning and purpose are discovered, *relationship* which is the deep connection to others

and is integral to the experience, and *eco-awareness* which is another integral relationship occurring with a connection to nature, and the earth.

Operational definition. Autonomous motivation was operationalized by means of the Spiritual Involvement and Beliefs Scale (SIBS) (Hatch, 1998). The SIBS consisted of 26 items to which the participants responded on a 5-point Likert-type scale. Responses to the items were calculated by first reverse scoring negatively worded questions and then averaging all of the individual item scores.

Engagement

Theoretical definition. Engagement is defined as the fulfillment of competence, autonomy and relatedness to optimal experience and well-being in daily life (Ryan & Deci, 2000). Engagement is a demonstration of satisfaction in life roles (e.g., student) that is relative to one's own satisfaction, and results in involvement, commitment and active participation in the job, duty or skill (Deci et al., 2001).

Operational definition. Engagement was operationalized by means of the Work Engagement Scale (WES) (Baard, Deci, & Ryan, 2004). The WES consisted of a 12-item, 7-point Likert type scale. Responses were averaged with some items being reversed in the calculation. Higher scores indicate engagement and commitment.

Academic Performance

Theoretical definition. Academic performance is defined as a students' ability to meet the requirements of a specific program. Academic performance may include students' ability to study and answer questions, an ability to adjust and cope with course expectations, and an ability to accomplish specific tasks and achieve passing scores on examinations.

Operational definition. For this study, academic performance of students in the nursing program was evaluated. Academic performance was operationalized by means of a self-report of GPA on the demographic questionnaire, developed by the researcher.

Theoretical Significance to the Study

The purpose or agenda of Self-Determination Theory (SDT) was to provide framework for personality growth and development, specifically as individuals interact in social environments (Deci & Ryan, 1985). The majority of literature using this paradigm is quantitative in nature and has demonstrated goodness of fit with the paradigm's constructs and assumptions (Baard, Deci &Ryan, 2004; Black & Deci, 2000; Hayamizu, 1997; Senecal, Nouwen & White, 2000; Soric, 2009). The tenets of SDT guide the research method based on questions that are used to determine how one construct influences the other when there is no prior knowledge of the relationships. Thus, for this study, determining aspects of environmental and social influences and motivation became a matter for empirical exploration using a quantitative lens.

SDTs' concept of autonomous motivation was used to help bridge theoretical frameworks across disciplines (Ryan & Deci, 2002). Gaps were identified between humanistic, psychoanalytic, and developmental theories, as well as behavioral, cognitive, and postmodern theories of motivation. Tenets of the SDT paradigm support the beliefs that responses to positive or negative influences are not significant when evaluating behaviors. The most important component is the outcome or position of motivation along the continuum. This finding was necessary for the purpose of identifying whether the influence of spirituality would have any bearing on student performance and their level of motivation.

The primary focus of the theory is targeted at self-determined behavior proposing that all individuals have natural intuitive tendencies to develop an experienced and mature sense of self. These tendencies are contingent upon three inherent needs identified as competence, relatedness, and autonomy, all of which are "universal necessities" for self-determined motivation (Deci & Vansteenkiste, 2004). Effects of the environment may either be supportive of motivation or they may hinder one's ability to function. Hence, it is believed that SDT supported the proposed study. The paradigm was used to frame the purpose of this study, which was to investigate the academic performance of baccalaureate nursing students.

The constructs of motivation and spirituality can be examined using a quantitative approach. Quantitative research is a systematic empirical investigation of a socially related phenomenon. It is founded on mathematical principles that measures objective behaviors, and is centered on truth and logic. This research method follows the philosophy of logical positivism (truth, laws, logic, and predictions) that is reductionistic (Burns & Grove, 2001), or deductive in perspective in that all components of the phenomena are understood by their relationships (Norwood, 2000). Deductive reasoning is narrow in nature and is concerned with testing or confirming hypotheses, which may or may not be considered as confirmation of the stated theory. Quantitative studies are structured, and may be collected via surveys, questionnaires, or structured observations. Outcomes are predicted based on the associations that are made. In addition, data collected from quantitative research is often referred to as hard data and is capable of being replicated (Burns & Grove, 2001).

The method used in quantitative research describes variables and examines any relationships that might exist, as well as detect any cause and effect interactions of the variables. Two types of quantitative methods were appropriate for this study – a descriptive method and a correlation method (Burns & Grove, 2001). Descriptive methods helps with discovery of what exists with the phenomena, the frequency of occurrence of the phenomena, the category of the phenomena, and it helps to find meaning for the phenomena. Correlation methods help to identify relationships in the variables and allow the researcher to determine the strength of that relationship, whether positive or negative. Correlation methods are useful in cause and effect research as well as for hypothesis testing, and allows for generalizations and trends to be made about a specific population. The method of the study is usually defined by the research question. Thus, for this study, the quantitative research question was: Is there a significant relationship between autonomy support and autonomous motivation (spirituality) among students in a baccalaureate nursing program?

Assumptions

Assumptions of the study include the following:

- The SDT as a framework for research is supported by empirical studies.
- Instruments that will be utilized in the study are valid and reliable as referenced in validity and reliability studies.
- Components of the theoretical framework will serve as a valid lens for the study.
- Participants will complete the self-reported questionnaires truthfully.
- Satisfaction of needs (competence, autonomy, and relatedness) will lead to

effective work ethic, self-motivation, and well-being while hindrances of these needs will result in a lack of function and decreased self-motivation.

- Controlled motivation will lead to decreased performance in abstract tasks, but will lead to better performance on systematic procedures.
- Autonomy-supportive climates will facilitate internalization of extrinsic motivation and will result in a higher level of autonomous self-regulation of extrinsically motivated behavior, and
- Higher levels of motivation are attained through a combination of extrinsic and intrinsic motivation.

Significance of the Study

The findings of this study have significance to nursing research, practice, education, and public health policy.

Nursing Education

As nurse educators develop educational programs, textbooks, and/or technological aides to enhance learning, it is imperative that they have knowledge of motivational supports to foster education. Establishing guides to assess student perceptions of autonomous motivators and coordinating measures to further advance these motivators during the learning process is essential. The same would apply to the nursing educator working in the hospital, nursing home, or clinic setting. Having insight to factors which increase engagement and performance, the nurse educator becomes better equipped to teach, lead, and promote nursing autonomy. Contributions will aide in college administrators, nursing faculty and academic counselors' ability to increase awareness of spirituality as a motivating force to guide student success. Furthermore, elements

affecting academic motivation and performance may encourage the development of self-determination motivational styles of teaching.

Nursing Practice

Nurses who experience autonomy often display more confidence in their abilities. However, without proper support, nurses may feel stifled and micromanaged. An ability to determine supportive contexts in the practice area is a common concern among nurses (Brown, Wickline, Ecoff & Glaser, 2008). This study will help to identify factors that may support or hinder autonomy of current nursing students in their future nursing practice. In addition, the identification of autonomous motivation measures, such as spirituality, not only encourages increased engagement, but will also promote improved patient care practices and improved patient outcomes. When autonomy and support is provided, retention in practice settings may improve.

Nursing Research

This study may better equip nurse researchers regarding student motivation or impediments to academic performance. The existing nursing literature regarding the construct of motivation is often clinically-focused with acute care patients. Therefore, further research is warranted to assess motivation of nursing students to better inform nurse educators. In addition, nurse researchers may find that additional studies focusing on motivation and work performance of new nurse graduates is an important and vital finding for hospital nurse retention rates.

Public Health Policy

Environmental supports via public health policies and state mandates may be viewed as an obstruction to motivation among professional nurses. The effects of these

mandates may also incapacitate nursing programs as well (i.e., budget cuts and state and/or national regulations). At times, the work environment for nurses may not be supportive when fostering learning opportunities and autonomy, and the demands of the job may be perceived as not being suitable for practice (Brown, Wickline, Ecoff & Glaser, 2008). This study will be significant in that it that should help to guide policy-makers in the instigation and development of strategic supports necessary to enhance nursing in general. More specific structural supports should be established by those responsible for creating policies at the institutional level as a means of retaining satisfied nurses and improving outcomes of the patient customer.

Therefore, the importance of investigating motivation and spirituality from a nursing perspective is based on the need to attract and retain students in nursing programs for the continued profession of nursing. Student motivation and academic performance may be based on personal meaning and the importance of spiritual values (Komarraju & Karau, 2008).

Limitations of the Study

Limitations of the study include the following:

1. Participants will be from a state in the southeastern U.S. and thus may limit the generalizability of the findings to nursing students in general and to nursing students in other states.
2. Sampling bias may occur due to convenience sampling methods, limiting generalizability to similar populations.
3. Incomplete surveys received could affect the results of the study.

4. Participants may not answer questions truthfully which may affect the results of the study.

Validity

When assessing data, it is important that the relationships that may exist among variables are valid and meaningful. To ensure validity of a study, scores from one measure should be relatable to scores in another measure, which is essential for making decisions regarding the truth of the data collected (Cone & Foster, 2006). Several forms of validity were identified, including but not limited to face, content, construct and discriminant validity, and were employed based on the nature of the study, the sample population, the research question, or the scores to be used when analyzing the data. In research, internal or external threats to validity may also exist with the potential of affecting the integrity of the study findings (Burns & Grove, 2001).

Threats to External Validity

External validity is concerned with generalizability of the study to the population at large. Sampling bias may further limit generalizability of the study's findings due to convenience sampling methods. In this study, all participants will be from a state in the southeastern U.S., which may prevent generalizability of the findings to all students in baccalaureate nursing programs.

Threats to Internal Validity

Internal validity is the based on the effects of one variable on another as a true representation of the variable and gives inferences regarding cause and effect relationships. Threats to internal validity can be controlled. There are eight general threats that must be considered: history, maturation, testing, instrumentation, regression,

selection, subject attrition, and effects with selection (Burns & Grove, 2001). For this study, the design and methodology will be utilized to reduce threats by controlling the environment, sample, treatment, and measurement(s).

Chapter Summary

In summary, this chapter discussed the purpose of the study, the problem, and the theoretical framework that was used to conduct the study. Nursing programs are increasing enrollment rates, yet, the demands of the program may be overwhelming for students. Students who are motivated have higher potentials for persistence, well-being, and enhanced achievement. Consequently, the problem with keeping students motivated may be compounded by a lack of support from faculty due to generational, ethnic, and cultural differences that may exist. However, students may also find motivation through their spirituality and beliefs.

The purpose of this study was to explore students' self-determination using the constructs of the Self-Determination Theory. The relationships between autonomy support, autonomous motivation (spirituality), engagement, and select demographic variables were measured as contributors to academic performance among nursing students in baccalaureate nursing programs. Understanding how supportive contexts affect motivation, learning and academic performance may prove to be beneficial for both the student and the educator.

CHAPTER TWO

Review and Critique of the Literature

A critical review of the relevant literature was conducted related to studies that used the Self-Determination Theory as a framework and concepts such as autonomy, intrinsic motivation, extrinsic motivation, self-determination, and autonomous motivation. A search was done using major electronic databases in the fields of nursing, medicine, education, psychology, and sociology. Using EBSCO and ProQuest Direct search engines, the following databases were accessed: Educational Resource Information Center (ERIC), the Cumulative Index to Nursing and Allied Health Literature (CINAHL) Plus, PsychINFO, Medline in PubMed, Ovid, and Dissertation Abstracts.

The keywords and phrases used in the search included *motivation, intrinsic motivation, autonomy, self-determination, self-determination and nursing students, motivation and nursing students, achievement, achievement and nursing students, autonomy and nursing students, academic success and student spirituality and motivation, college student attrition, nursing student attrition, student retention* and other combinations of these words, as well as searches for specific authors that were cited in found articles. Citations were limited to English language articles and by subject to exploration of the concepts published after the year 2005. Earlier publications were included if they contributed to the study. Studies were reviewed in which the experience of motivation or self-determination was explored. The literature reviewed was divided by discipline into the major theoretical and research literature addressing autonomy support, autonomous motivation, engagement, and academic performance. Synthesis of the

literature revealed what is known and not known about autonomy support, autonomous motivation, engagement, and academic performance.

Student Attrition and Faculty Support

Attracting quality students is no longer enough for nursing programs and for nursing in general. Resources must also be incorporated in as a means of increasing success in order to keep students in nursing programs, achieve graduation status, increase competence, and become caring nurses (Shelton, 2003). Factors that have influenced academic performance, such as interpersonal psychological factors and external supports in the environment, influence the students' choice to persist and to attain academic success.

Credé & Kuncel (2008) examined the study skills of 344 college students. Specifically, they examined the study habits, skills, and attitudes of students, as well as their study motivation, which played a critical and central role in determining academic performance. Strong relationships were found with study habits, skills, attitudes and motivation with academic performance (p = .20, p = .16, p = .12, and p = .20, respectively).

The relationship between study habits, skills and attitudes and four academic performance criteria revealed large validity coefficients with general GPA and performance in individual classes (p = .33 for study skills, p = .28 for study habits, p = .31 for study attitudes, and p = .50 for study motivation. In addition, the relationships between personality constructs and study attitudes revealed strong relationships with neuroticism (r = -.40), openness (r = .30), conscientiousness (r = .30), external locus of control (r = -.28), and achievement motivation (r = .20). At the same time, study habits

were weaker in relationship to personality constructs, specifically in achievement motivation, conscientiousness, and self-concept. Academic anxiety was also found to negatively influence academic performance. Students with high levels of study habits, skills, and attitudes were more likely to display strength in both academic performance and cognitive ability. In addition, since students' personality traits partially influenced attitudes and habits towards studying it was suggested sound study attitudes and habits might best support high academic performance.

In 2009, Peterson conducted a descriptive correlational study to examine relationships between academic performance, self-esteem, and self-efficacy and academic success of 350 full-time nursing students in their first semester of study and academic success was measured by GPA at the end of the semester. Self-esteem was measured by the Rosenberg Self-Esteem Scale and self-efficacy was measured using the General Self-Efficacy Scale. When examining demographic data, findings revealed that age, gender, and ethnicity were not significantly correlated with academic success. Of 63% of students who had GPAs of 3.0 on admission, only 15% maintained this GPA on completion of the semester and 29 of 66 participants were unable to progress to the second semester accounting for 43.9% retention. There was a significant positive correlation ($F = .514$, $p < .01$) between variables. Self-esteem and self-efficacy were significantly correlated ($r = .453$, a = .01); however, there was no significant relationship between academic success and self esteem ($r = -.022$), or academic success and self-efficacy ($r = -.025$).

A study conducted by Rouse & Rooda (2010) further contributed to the data regarding the attrition of accelerated baccalaureate nursing students. Their examination was based on two cohorts of students ($n = 39$); 34% were older than age 30, and 35%

were male. Their results provides several reasons for elevated attrition rates which included the health of either the student or a family member (5%), academic dismissal (5%), change of major (2%), undisclosed personal reasons (2%), or electing to continue on a part-time basis (2%). Students also contributed multiple clinical hours per week plus long hours in lecture, in addition to holding a job, as additional factors affecting attrition.

In addition to personal problems that affect student attrition, Salamonson, Andrew, Clauson & Cleary (2011) also addressed demographic characteristics. They completed a three year prospective study (n = 357) which considered students' demographic characteristics as predictors of nursing student progression and completion. Variables of the study included age (Pryjmachuk, Easton & Little, 2008; Salamonson, et al., 2011), gender, part-time employment status, and cultural diversity (Salamonson, et al., 2010). Three student groups were assessed (dropout, still enrolled and completers). Analysis indicated that at the end of the 3-year period, approximately one-third of the students withdrew from the course, one-third remained in the course, and one-third completed the course. The mean GPA was 3.5 (*SD*: 1.7). Students with higher GPA scores were most likely to complete the course at the end of the three years ($p < 0.001$). Native English speaking students also were more like to complete their education within the 3-year period ($p = .012$). Students who either do not complete the course, or who fail the course, generally experienced low self-esteem, negative self image and feelings of a loss of control, which further compounds chances for success. Furthermore, the effect of employment on student performance proved to be a detriment to high GPAs, particularly for students who worked more than 16 hours. At the same time, students who speak

English as a second language may also struggle with writing skills that often contribute to stress and anxiety with course work completion (Salamonson, Koch, Weaver, Everett, & Jackson, 2010), and potentially widens the problems with attrition.

In her study, Williams (2010) noted that students might have difficulty adjusting and connecting with faculty and peers alike. The faculty member may also be left wondering about what works for the student (Williams, 2010). Based on comments pertaining to the challenges students face, suggestions for faculty to connect with and relate with students is important. Students believed better communication via a phone call, email, or small group meetings would lead to better outcomes. Targeting specific interventions (i.e., test reviews) and encouraging students to create a visual image about their future career might also aide in strong work ethics and persistence toward their goal.

Shelton (2003) examined faculty support in student retention using Tinto's theory of student retention. She indicated that students must feel integrated in both their academic and non--academic environments through interactions with each other. Students must also identify similarities and goals, values, and abilities of others as well, or they will not experience integration, which determines whether they will persist with the task to remain enrolled in a program.

The study was conducted utilizing 458 students from ADN programs. The mean age was 30.3, 80% were women, 38% were married, 40% were not married, approximately 22% were divorced, widowed, or separated. Over 50% had children while 13% and other dependents to care for. Three groups of students were evaluated for levels of persistence. Students who persisted without withdrawal from the institution (n = 300), students who voluntarily withdrew (n = 83), and students who withdrew due to academic

failure (*n* =75). Of these groups, 40% of the students felt financial resources were not adequate enough to meet their needs while 8% received financial aid. More than 80% were also employed. Although most of the students were licensed practice nurses, over half of them reported in college GPA of 3.1 or higher. A Perceived Faculty Support Scale was developed and used by the researcher (alpha coefficients were .92 for the pilot study and .96 for the actual study). No additional statistical analysis was provided.

In summary, in hopes of depleting the persistent shortage in nursing, it is then vital for nursing programs to successfully decrease attrition and increase retention rates of students overall. Factors contributing to high attrition rates, such as burnout and a lack of sound study habits may best be improved when faculty and staff alike establish a supportive and sensitive environment for successful learning (Williams, 2010; Salamonson, et al., 2011). This study investigated the motivation of nursing students and expected to find that students who face difficulties are able to develop coping skills and utilize safeguards established by nursing programs as a means of strengthening and creating good study habits. Having the support of other faculty, family, friends, and peer nursing students was expected to increase academic achievement.

Autonomy Support in Motivation

Motivation is a multidimensional construct and has been considered to be altruistic and influential, especially when convincing others to act out a desired behavior (Carter & Kulbok, 2002). Inquiries contributing to the depth of the concept of motivation include topics in health behaviors/health promotion seeking behaviors such as smoking cessation, alcohol use, medication and diet management and safe sex practices (Deci & Ryan, 2000). Furthermore, the paradigm of Self-Determination Theory (Deci & Ryan,

1985) will serve as the foundation for motivation. Motivation will be driven by extrinsic and intrinsic factors that lead to autonomy. Therefore, in this study, extrinsic motivation will encompass external influences (autonomy supports) and rewards (autonomous motivation and engagement) while academic performance (GPA) will represent intrinsic motivation.

Autonomy Supports in Health

Autonomy occurs as a result of self-regulated and self-initiated actions often used to promote a sense of well-being and adjustment (Deci, Vallerand, Pelletier & Ryan, 1991). Autonomy should be supported before one can be motivated to engage and be successful.

As regards motivation and health, Senecal, Nouwen, & White (2000) conducted a study to test the range of applicability of the central constructs arising from the SDT and social-cognitive theory in relation to dietary self-care and life satisfaction among individuals with diabetes. Of a total of 2500 members of the Quebec Diabetes Association, 638 individuals (313 women, 324 men, and 1 participant who did not specify gender) participated in the study. A Dietary Self-Efficacy Scale was used to rate the confidence of participants in their ability to follow recommended dietary self-care activities on a regular basis, and a Therapy Motivation Scale was adapted to measure autonomous self-regulation of dietary self-care activities. A Life Satisfaction Scale was also employed to assess the extent to which participants feel generally satisfied with their life.

Findings revealed significance in a motivational model of dietary self-care (χ^2 (85, N = 638) = 157.48, $p < .001$). All path coefficients, factor loadings, covariances, error

residuals, and factor residuals were significant (*zs* > 1.96). Self-efficacy was associated with self-reported adherence to self-care activities (β = .54) and life satisfaction (β = .15) while autonomous self-regulation was associated with self-reported adherence to dietary self care and life satisfaction (β = .31 and .34, respectively). Self-efficacy was found to be a better predictor of self-reported adherence to dietary self-care activities than was autonomous self-regulation, which was a better predictor of life satisfaction. Although adherence seemed determined primarily by self-efficacy, whether one feels happy in life may be related to whether those self-care activities have personal significance. However, autonomous self-regulation was independently related to adherence. Being confident about one's ability to carry out self-care activities may generate feelings of satisfaction even when such activities are not embedded into one's value system. Autonomy support occurred when significant others devoted time, attention, and resources to the individual participant.

To measure how patients feel supported in their autonomy by their primary care provider, Schmidt, Gensichen, Petersen, Szencsenyi, Walther, Williams & Freund (2011) conducted a cross-sectional study to validate the German version of the Health Care Climate Questionnaire and to research autonomy supportive communication and the effects on health care and outcomes of 351 patients, from 11 practices, who were included in the study. Internal consistency revealed a defining alpha of 0.80. The mean age of the participants was 52.9 years (*SD* = 17.9). In addition, 96.3% of the patients had been treated by their doctor for an average treatment time of 10.3 years.

Overall high mean values associated with primary care services were seen in the analysis, which indicates that any changes or reductions in patient satisfaction with care

may be a reflection of their clinical status. The authors further indicate a close relationship between family practitioners and patients in Germany, historically the "highest annual consultation rates per inhabitant in the world." As a result, it is believed that high perceptions of autonomy support exist between the patient and their primary care providers.

Autonomy Support in Work Environments

Individuals are motivated in some way on a daily basis and may be evident in the worlds of work and worship (Baard, P., as cited in Deci & Ryan, 2002). In 2006, Baard, Deci, and Ryan conducted a descriptive cross-sectional correlation design using a convenience sample of bank employees. The purpose of this study was to explore autonomy support of managers and to predict whether a relationship existed between need satisfaction, performance evaluation, and psychological well-being of the employees. The sample size included 528 relevant employees, 38% were female. Instruments used in the study included the Work Climate Questionnaire, adapted from two comparable questionnaires to assess patient and student perceptions of autonomy support ($\alpha = .92$ & $.96$, respectively), a Vitality questionnaire ($\alpha = .84$), an adjustment indicator, and a performance evaluation.

Findings from the study revealed that males were higher on performance evaluations (means [males] 2.42 vs. 2.31 [females]), t (526) = 2.93, $p < .02$) and adjustment (means [males] 0.12 vs. -0.62 [females], t (526) = 2.75, $p < .01$). Males perceived the work climate to be more autonomy-supportive, and they had marginally higher satisfaction of the need for relatedness than did females. Also, work performance ($r = .24$, $p < .001$), adjustment ($r = .46$, $p < .001$) and perceived autonomy orientation ($r =$

.21, $p < .001$) were significantly correlated with overall intrinsic need satisfaction and with satisfaction of the three separate needs. Perceived autonomy support and autonomy orientation were expected to predict intrinsic need satisfaction. Regression analysis showed significant independent variants in overall need satisfaction by perceived autonomy support ($\beta = .58$, $p < .001$) and autonomous casual orientation ($\beta = .14$, $p < .001$). Further regression analysis was done to observe for fitness of the data. All paths were significant (all $ps < .01$) and overall fit of the model was found (χ^2 (6, $N = 528$) = 10.18, $p = .12$).

Limitations of the study revealed the complex nature of the low percentage of female managers (18%), which added to the differences in autonomy-support of managers; and issues with data collection, which may have led to unverified responses of employees' performance evaluations. Future investigations encourage the use of independent measures of managerial autonomy support between males and females when determining patterns of gender differences, and measurements of the strength of need satisfaction. In addition, the study supports the principle that individuals require nutriments that are necessary for growth and survival. It also supports motivation in workplace settings. Therefore, it is believed that SDT will be useful for the assessment of student motivation in a classroom setting as proposed. Rather than managerial autonomy support, instructors/faculty, peers and family will serve as the autonomy-supportive environment.

In a similar cross-cultural study conducted by Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva in 2001, constructs of the self-determination theory (need satisfaction, motivation, and well-being) in the work organizations were evaluated. The sample size

included 431 Bulgarians from 10 companies (66% were females) and 128 Americans from a small firm (75% were females). Instruments used in the study included a Work Climate Survey to assess managers' autonomy support (Chronbach alphas (α) were .69 for supervisor support, .79 for top management support, and .80 for supportive climate for Bulgarian data and .75, .81, and .75 for each item for American data, respectively); the Need Satisfaction Scale to assess workers' experience of satisfaction of the three basic needs of competence, autonomy and relatedness (α = .81, .57, and .62 for Bulgarian data, and .73, .84, and .79 for American data, respectively); the Work Engagement Scale to assess the workers' degree of active involvement in their job (α = .69 Bulgarian sample and .79 for American sample); and, the General Health Survey to assess workers' recent feelings of anxiety (α = .85 for Bulgarian data and .61 for American data), and the General Self-Esteem subscale from the multidimensional Self-Esteem Inventory (α = .78 for Bulgarian data and .66 for American data).

Findings of the study indicated that the degree of autonomy-supportiveness of the work climate predicted overall need satisfaction, and need satisfaction predicted task engagement and well-being. Cultural differences revealed greater satisfaction of the need for autonomy among workers in Bulgaria ($\chi^2 = 131df$ (402.38, $p < .001$) than those in America ($\chi^2 = 131df$ (259.34, $p < .001$) due to autonomy support from immediate supervisors and support in the immediate work environment. Invariance analyses were conducted to determine comparability of latent and structural model constructs of a path model that showed significant support in both cultures ($p < .01$) and suggested that basic psychological needs is essential for autonomy support, motivation, and well-being. Measurement coefficients were significant ($p < .001$; χ^2 (257) = 662.06, $p < .001$),

revealing fitness of the model which indicates autonomy support enhances need satisfaction while decreasing anxiety simultaneously. Autonomy support to satisfaction was stronger in the US, while need satisfaction to anxiety was stronger among the Bulgarians. Additionally, Americans may be more influenced by managerial support than factors such as relationships with peers.

Basic psychological needs may be relevant in the American mainstream and across cultures and value systems, rather than being generalized in American work cultures only. Future research may help to determine the influence of socio-cultural factors on how individuals experience need satisfaction across cultures. A study to evaluate the basic psychological needs of students in a nursing programs' classroom work environment may also prove to be useful in determining motivation and well-being during their tenure in the program.

Autonomy Supports in College

The learning environment can be ubiquitously controlled and autonomy may be ignored. Therefore, to understand the importance of student motivation, learning, and performance, Komarraju & Karau (2008) investigated linkages between college student perceptions of instructional techniques and individual differences in academic motivation. This study was done as a part of a larger study that examined the relationship between personality, situational factors, and academic motivation. A sample of 172 undergraduates enrolled in psychology or business courses were included in the study. All courses provided technological assistance via website management, which included details about the course, sample test, assignments, feedback to students, and other support information. The researcher developed a scale to assess student perceptions of the value

of the course websites, active learning, and traditional lectures. The Academic Motivations Inventory (AMI) was also used to measure 16 dimensions of academic motivation.

Findings revealed that 93% of the students found course websites to be useful while 91% desire to have more information made available to them via websites. Significant correlations, ranging from .17 to .32, suggested that academic motivation and specific instructional strategies were preferred among students. Factor analysis of the 16 subscales produced three factors, engagement ($\alpha = .79$), avoidance ($\alpha = .75$), and achievement ($\alpha = .80$). Regression analysis indicated an influence of significant predictors on engagement and achievement. Engagement motivation explained all instructional techniques (F (3,129) = 10.08, $p < .001$, adjusted R^2 - .17). For achievement motivation, one instruction technique was found to be significant (F (1,133) = 9.79, $p < .01$, $R^2 = .06$). Engagement showed positive relationships with the perceived value of all instructional techniques while achievement was positively correlated with the value of lectures and course websites. It is believed that students are more engaged, they appear to be more motivated as result of strategies employed. Avoidance showed no relationships to either of the instructional techniques due to perceived experiences with anxiety and worry, from withdrawal or disengagement from the learning process, or from feelings of dislike and discouragement about school. Overall, students' academic motivation and achievement was found to be associated with a variety of teaching techniques.

A limitation of the study revealed moderate levels of internal consistency on the subscales of the AMI. It was suggested that the Academic Motivation Scale by Vallerand, et al. (1992) could be used for the purpose of having alternative measures of academic

motivation with good psychometric properties. Future research to examine student learning and academic motivation using the lens of cultural factors, personality, and other dynamics to learning may also be instrumental in identifying areas of support to enhance student engagement and achievement.

As learning takes place, students also have a tendency to display attitudes and behaviors of entitlement. A study was conducted by Greenberger, Lessard, Chen & Farruggia (2008) to investigate the topic of academic entitlement among college students. Factors that were identified as contributors to academic entitlement included high expectations for rewards based on lackluster effort, expectations of accommodations and special consideration by faculty, poor work ethic, low degree of concern for others, familial socialization practices, high-achievement expectations of parents, and possibly coping strategies for poor performance. Using a sample of 466 undergraduate students, they found that students on average reported modest levels of academic entitlement, which was not associated with exaggerated self-esteem. However, expectations of rewards and disregard for treatment towards peers and others were consistent with work orientation, socialization, and academic entitlement.

A second study, on parenting, was conducted with 353 undergraduate students at the same location (Greenberger, et al., 2008). In this study, the Extrinsic Academic Motivation scale was utilized and was found to be negatively correlated with the Academic Motivation Scale (Vallerand, et al., 1992). "Students' anxiety over doing well in college and, especially, their drive to do well for the sake of extrinsic rather than intrinsic rewards (e.g., satisfaction from learning new and interesting things) contributed directly to the variation in academic entitlement, rather than mediating the effects of

parenting practices" (Greenberger, et al, 2008). One of the limitations of the study was based on the design of the study that did not allow for causal inferences.

Moreover, differences in the age of students have been found to effect student success. According to Pryjmachuk, Easton, & Littlewood (2008), older students (mean age of 26 years) are believed to perform better academically with less likelihood of withdrawing from a nursing program. However, Salamonson, Everett, Koch, Wilson, & Davidson (2009), found that self-regulated learning strategies in interprofessional education between college educators and students (mean age of 24.4 years) served as support when differences in student motivation and learning were not enough to contribute to successful outcomes. Both studies agreed that nursing students were found to have higher mean scores for extrinsic goal oriented motivation and lower scores for peer learning, help-seeking, critical thinking, and time and study environment management than other students in the study.

Komarraju & Karau (2008) further noted avoidance as a key factor in motivation when investigating student perceptions of faculty instruction. This level of motivation would be equivalent to extrinsic motivation that is self-regulated based on rewards or approval (Ryan & Deci, 2000). Interestingly, as students displayed different types of academic motivation and drives based on varied receptivity of instructional techniques, avoidance was found to be associated with anxiety and worry about poor performance and discouragement, leading to withdrawn behaviors (Komarraju & Karau, 2008). Value of traditional lectures emerged as a significant predictor of motivation.

In addition, in Li & Yang's (2009) study on stress and coping, motivation was proposed as a mediator that existed in this relationship due to its close relation to self

efficacy. Self- efficacy and secure attachment were found to influence coping. Low levels of self-efficacy and trait resistance lead to avoidance of stressful situations and decreased motivation.

In summary, without the support for autonomy and changes in behaviors, students can become dependent on others and lack the maturity to reach desired academic goals. In the classroom, feelings of connectedness with faculty and peers have enhanced motivation and potential for learning (Levett-Jones, Lathlean, McMillan, & Higgins, 2009). This study examined the students' environment, both in and out of the classroom setting. The expectation was that students would have the support they needed to establish a sense of autonomy. Thus, the evaluation of the basic psychological needs of students in a nursing programs' classroom work environment might also prove to be useful in determining motivation and well-being during their tenure in the program.

Autonomous Motivation in College Students

When autonomous, individuals experience their behavior as an expression of the self, even when outside influences exists, confirmation of those feelings often result in initiative and value of the experience (Ryan & Deci, 2000) which may be attributed to self- regulated learning.

In Black and Deci's (2000) sentinel study, they proposed that college students involved in science classes will "sink or swim" or are "weeded out" if they are unqualified for careers in these fields, particularly if they lack the innate ability or motivation to succeed. The study included 137 college students who were enrolled in an introductory organic chemistry course. It was hypothesized that students who took the organic chemistry course would do so for autonomous reasons, and that student

perceptions of autonomy-supportive leaders would result in perceptions of increased competence, interest, and enjoyment for chemistry with less anxiety and grade orientation. The Learning Climate Questionnaire (LCQ), developed by Williams and Deci (1996), is a 15-item Likert measure that was also used to evaluate student autonomy based on leaders' support. The internal consistency of the LCQ revealed alpha values of .93 and .94 for autonomy support scores. In addition, scores of the LCQ from both samples were significantly correlated (r (136) = 0.50, $p < .0001$). In addition, the Learning Self-Regulation Questionnaire (LSRQ), adapted for medical students by Williams and Deci (1996) was also used to evaluate why students were studying organic chemistry (an assessment of intrinsic or autonomous and extrinsic or control perceptions). Subscale alphas were .75 and .67 for autonomous and for controlled, respectively. Other scales used in the study included the General Causality Orientations Scale, the Perceived Competence Scale, the Interests/Enjoyment measure, the State-Trait Anxiety Inventory, and the Grade-Orientation measure. Autonomous reasons were correlated with general autonomy orientation (r (136) = 0.44, $p < .001$) and controlled reasons correlated with controlled orientation and impersonal orientation of the General Causality Orientations Scale (rs (127) = 0.28 and 0.34, respectively; both $p < .01$) providing validity.

The results of the study revealed three major findings related to motivation and students' relative autonomy and perceived leader autonomy support to adjustment and performance (Black & Deci, 2000). Significant relationships supported the prediction between autonomous motivation and positive experiences. The more autonomously motivated student was more likely to remain in the course. Students who initially had relatively low autonomy were more likely to drop out of school, especially if the course

was not taken for autonomous reasons ($F = 4.15$, $p < .05$). Regression analysis regarding leader autonomy support, as a predictor of student autonomy and adjustment, revealed significant relationships when controlling for exam grades (perceived competence [$\beta = 0.13$, $p < .05$]; interest/enjoyment [$\beta = 0.13$, $p < .05$]; and anxiety [$\beta = -0.23$, $p < .001$]. However, students' relative autonomy did not relate to course learning or performance. Students' perceptions of leader autonomy revealed significant increase of relative autonomy and self-regulation for studying. In addition, students performed better when their leaders were more supportive. As students performed better in the course, their perceptions of the leader became more positive and their self-perception also improved. Leader autonomy support and student autonomy were significantly related to course grade ($\beta = 0.23$, $p < .01$). Furthermore, students who were not autonomously motivated or had low relative autonomy at the beginning of the course needed the leader support to perform better ($\beta = 0.44$, $p < .001$). Students who had high relative autonomy at the beginning of the course showed no effect. In essence, students' perceived autonomy support of their leaders correlated significantly with average course grades (r (41) = 0.19, $p < .05$).

Causal relationships between autonomy support and dependent variables could not be determined in this study contributing to a limitation. In addition, a single assessment of leader autonomy support may have provided a more accurate depiction of study findings. Attrition was also a limitation due to the process by which questionnaire administration was conducted. Recommendations of the study support a shift in teaching strategies that are designed to provide support for students of autonomy as well as an active learning environment to enhance achievement.

In 2008, Ballmann & Mueller conducted a descriptive cross-sectional study, using a convenience sample of 122 college students enrolled in an allied health program, to investigate reasons for why students attend college. The Academic Motivation Scale (α = .81) was employed to assess students educational tendencies toward types of intrinsic motivation, extrinsic motivation and amotivation. Statistical analysis was completed to calculate frequencies for the total sample, each discipline, and for gender.

Results revealed a 100% response rate to the study. Findings were based on frequencies of the types of motivation, which revealed that the highest percentage of motivation (98.6%) was in the identified form of extrinsic motivation and 94.1% indicated the least autonomous form of extrinsic regulation as their reason for attending college. Ranked mean scores comparing motivation styles show that extrinsic motivation (identified; 6.179) was strongest, while extrinsic motivation (regulated; 5.7919), intrinsic motivation (to know; 5.466), extrinsic motivation (introjected; 4.8604) and intrinsic motivation (to experience stimulation; 3.5135) followed consecutively. Amotivation was lowest, with a mean score of 1.536. Students who are satisfied in their needs displayed a more identified level of extrinsic motivation and variations in degrees of intrinsic motivation. Those who were internalized were more likely to do homework, study and participate in class, thus leading to success. Essentially, college students were shown to be both intrinsically and extrinsically motivated, although not all were self-determined. The lack of self-determination functioned primarily for them to meet outside demands, to avoid guilt, or to attain ego enhancements.

The study was limited to one of eight allied health programs in a private Midwestern university and cannot be applied to other academic programs, or within other

universities (Ballman &Mueller, 2006). The authors support the propensity for autonomy-supportive environments, methods, and modeling behaviors, and suggest future research from a qualitative lens as a means of finding directions on how to facilitate the development of self-determination motivational styles and life success for students at various levels of education.

Autonomous Motivation in Nursing Students

Nilsson & Stomberg's 2008 descriptive cross-sectional correlation study investigated how students estimated the degree of motivation in different semesters during their education. The study sample included 315 students who gave consent during a visiting lecture and who were registered in a three-year nursing program. Using a triangulated methods approach, students were administered a questionnaire to acquire a self-grade of their motivation on a scale of 0 to 10, and they were asked an open-ended question to identify which factors exerted an influence on their motivation.

Statistical analysis was done using statistical calculations of the data and by inductive analysis that was similar to content analysis. Results revealed significant differences in mean scores between semesters (*SD*: 1.8 – 2.3). More than one-third of the students scored high (≥ 6) when explaining reasons for motivation. Although females were significantly more motivated than males ($p = 0.0007$), mean scores ranking values for motivation was 5.8 for men and 6.84 women. Findings also revealed higher scores of students in their fourth semesters than those in other semesters. Students who were in their first, second and third semesters ranked their motivation at mean values of 6.7, 6.7, and 6.5, respectively, while students in fourth, fifth, and sixth semesters were ranked 7.4, 5.7, and 7.0; noting a small difference in scores. Extrinsic motivators such as friendship,

teachers' involvement, future occupation, and program organization received higher scores than intrinsic factors identified as attitude and study results. Students who were frightened affected motivation levels due to decrease self efficacy and beliefs regarding ability to meet professional demands. One student who scored "0" as a motivation graded contributed this result to failure on examinations.

A limitation to the study occurred when a rating scale was used to obtain students opinions about their motivation, as well as comparing students from different semesters. Students who are able to perceive their own competency and ability may positively affect motivation. In addition, promoting academic achievement through tutorial support along with personal study plans was suggested as a means of improving motivation and learning outcomes.

According to Peter (2005), high attrition rates in nursing programs may be a result of differences that may exist among traditional and nontraditional faculty. Working with a core group of faculty, a learning assistance program (Learning for Success [LFS]) was developed and instituted and was based on Pintrich and Schrauben's learning model which states that student learning occurs as a result of motivation, using appropriate learning strategies and demonstrating an ability to manage; simply, an act of skill, will, and self -management (Rachal, Daigle, & Rachal, 2007). Faculty, who were recruited and trained as coaches, used the Learning and Study Strategies Inventory (LASSI) to measure students' learning strategies and study skills (Peter, 2005). They also used the nurse Entrance Test (NET), to evaluate student achievement in reading comprehension, mathematics, test taking, stress level, assertiveness, and learning style. Academic success was also measured by all of the following: GPA, course grades of "C" or above,

retention in the program, increase in LASSI post-test scores, and self-reports of correct usage of learning and motivation strategies through self management of the learning process.

Students who were at-risk were identified at the onset and during the semester in which the study was conducted. Mean GPA scores was 3.18 for at-risk students and 3.48 students who were not at risk. Although no additional inferential statistics were provided, other findings revealed that some at-risk students failed to utilize available resources and returned to old behaviors once the program was completed. Posttest scores also revealed significant improvement in motivation, anxiety management, concentration, selecting the main idea, and test taking skills. It was also noted that students improved in time management and test preparation. Furthermore students who participated in study groups from the beginning of the semester, and utilized peer tutors on a consistent basis demonstrated increased success, had stronger work ethics, and were more organized and accountable for their preparation. Therefore, a recommendation for students included continued encouragement from faculty regarding participation in tutoring and study groups.

In summary, Perrot, Deloney, Hastings, Savell & Savidge (2001), makes the suggestion that student's motivation should be measured by their goal orientation, which includes their mastery, or self-directed learning, and performance, as well as their perceived locus of control. An investigation of nursing students' autonomous motivation, which may be inclusive of their environmental and socially-related goals or autonomy supports, may help to identify motivations towards expectations to excel and achieve academically.

Academic Engagement and Motivation

To meet personal demands and college expectations, students must be able to engage and commit to learning. A recent study completed by Zysberg & Zisberg (2008) was initiated to evaluate nursing students' expectations of the college experience at the early stages of their education. Using a semi-exploratory approach, two studies were used to examine this issue. In the first study, 95 of 100 freshman college students from various programs including philosophy, mathematics, physics, psychology, nursing, and theology agreed to participate by answering a questionnaire developed by the authors which tested construct validity and internal consistency of the tool. Exploratory factor analysis was conducted followed by Cronbach's alpha for each factorial score, which resulted in 3-factors (α = .84, .78, and .68 for each factor). The three factors were moderately correlated (r = 0.42 to .052, p < .01). The model accounted for more than 65% of the total variance, which suggested that the instrument had reasonable reliability and construct validity. The second study comprised 160 students from the same University and included 52 nursing students enrolled in a four year BSN program. The sample consisted of 38 men and 122 women and was composed of students from multiple ethnic backgrounds. The Expectations Questionnaire developed in the first study was used in addition to a demographic questionnaire, which included information on age, gender, student status, year in college and program of study.

Factorial grades were calculated to examine expectation differences. Subscales did not significantly differ between samples. The comparison of grades revealed patterns of students' expectations of college. Expectations were identified as professional expectations (t = 3.13, 154.24 *df*, p = 0.00), self-betterment expectations (t = 2.0, 137.73

df, $p < 0.04$), and social expectations ($t = 2.77$, 158.00 *df*, $p < 0.00$) and were ranked as first, second, and third in pattern, respectively.

Limitations to the study occurred as a result of a small sample size from a single site with one unified socioeconomic and cultural trait, which supports the recommendation to conduct the study using a more diverse sample. In addition the new instrument developed for the study would require further testing to ensure more scrutiny of the psychometric properties. Regardless of major, the resulting expectations revealed motivations were geared toward practical, instrumental goals as well as spiritual, social, and community-related goals. Students in this sample showed low expectations of acknowledgment of academic excellence, and the relatively low expectations to excel and achieve academically in nursing education was disconcerting.

In another study, Rachal, Diagle, & Rachal (2007) studied learning problems of college students and investigated their problems with engagement in academic tasks. They believed that the elements of a students' willingness to use academic resources and their cognitive investment and the self-regulation of their learning are essential components to engagement. Regression analysis yielded significant differences between student classification and anxiety (χ^2 (3), $N = 485$) = 16.03, $p < .001$). In addition, freshman reported significant differences in test anxiety and difficulty than seniors (z – score = -3.73, $p < .000$). It was also noted that students' behaviors to engage is often motivated by personal beliefs, thoughts, and attitudes. Successful students actively engage in predictive behaviors including class attendance, utilization of skills and effective learning strategies. Greater than 50% of the students reported difficulty in areas including being distracted while studying (87%), maintaining vigilance (83%), beginning

to study (79%), writing fast (75%), and memory (73%). However, problems with learning for all students are often associated with information processing, reading comprehension, mathematics, test taking skills, and the motivation to initiate studying (Rachal, Daigle, & Rachal, 2007).

Giancarlo, Blohm & Urdan (2004) measured the concept of critical thinking skills to further support the domains of competence and autonomous motivation. Designing a scale to focus on mental motivation – the degree of cognitive engagement and mental motivation towards intellectual activities among students in secondary education programs, these researchers were able to identify four domains of mental motivation (open-mindedness, self-regulation, commitment to learning and mastery, and problem solving). They suggested the critical thinking scale would enable educators to better assess student's motivations while at the same time gaining understanding of the effects of motivation on academic achievement.

Intrinsic Motivation and Academic Success

Successful performance academically is a desire of most students. An investigation of the role of effort on motivation and academic performance of college students was conducted by Goodman, Jaffer, Keresztesi, Mamdani, Mokgatle, Musariri, Pires, and Schlechter in 2011. Using a cross-sectional relational design, and a sample size of 254 college students, the relationships between students' intrinsic motivation, extrinsic motivation, and academic performance were explored. An online questionnaire was used to measure intrinsic motivation, extrinsic motivation, and effort; academic performance was measured using cumulative GPA scores.

Findings of the study imply that based on gender, age, intelligence and year of study, students who apply effort perform better academically. High levels of extrinsic motivation positively influenced students and encouraged the application of it in their performance. GPA had a significantly weak positive correlation with intrinsic motivation ($r = .281$, $p < .01$), extrinsic motivation ($r = .205$, $p < .01$), and effort ($r = .276$, $p < .01$). As students matriculated through the program, their level of effort increased as did their academic performance ($F = 12.935$, $p < .01$, $R^2 = .134$). Intrinsic motivation and effort also predicted academic performance ($t = 3.011$, $p < .01$; $t = 3.486$, $p < .01$, respectively). Multiple regression analysis further revealed that academic performance was significantly affected by intrinsic motivation ($\beta = .228$; $p < .01$) and effort ($\beta = .220$; $p < .01$).

Pryjmachuk, Easton, & Littlewood (2008), conducted a retrospective cohort study to identify factors that negatively affect nursing student completion rates in a pre-registration program in the United Kingdom. Data of 1259 students from four Diploma of Higher Education cohorts from 2002-2003; completion status was available at the end of 2006. Almost 85% were women, across the four cohorts, men ranged from 13-18%. Mean age was around 26 years.

Results revealed statistical significance ($p \leq 0.05$) for two categories – completion and did not complete. Chi Square analysis was used for four-category completion (completed, on time; completed, late; did not complete, resigned; did not complete, removed) and logistic regression analysis was also used for a two-category completion (completed; did not complete) with statistical significance for test variables ($\chi^2 = 28.886$, $df = 4$, $p < .001$, $N = 1222$). The study was limited due to the predetermined data

collected, and could not be generalized to other cultures even though commonalities in the findings exist.

The most robust finding was that students who completed qualifications on entry tended to be three years older at entry than those not completing, and those with minimum entry qualifications were less likely to complete. Older students (mean age of 26 years) are believed to perform better academically with less likelihood of withdrawing from a nursing program and are more likely to be mastery oriented (Perrot et al., 2001). Once admitted, the key to retention and student nurse attrition seems to be a combination of course structure and support (Pryjmachuk, Easton, & Littlewood, 2008). Often, nursing students require pastoral support, but they use a variety of agencies and individuals for that support, including family, friends, tutors, teachers, and multi-level student support systems that are considered as strategies for improving outcomes and attrition. Additional support to attrition might also be found in self-regulated learning strategies that serve as support when differences in motivation and learning are not enough to contribute to success (Salamonson, Everett, Koch, Wilson & Davidson, 2009). This strategy applies most to students with a mean age of 24.4 years.

Students who are mastery-oriented are better prepared with skills that are necessary for a life time of learning (Perrot, et al, 2001). In their study, Perrot et al. (2001) evaluated students (n = 252) in professional programs, including nursing with the purpose of identifying and validating goal orientation of student motivation. They used the Goal Orientation Theory which purports that students' goal orientation could be measured by either mastery or performance orientations, or by academic alienation (Perrot, et al., 2001), while student attitudes of their expectations of the college

experience are dominated by professional expectations and self-betterment (Zysberg & Zisberg, 2008).

Results from the study confirmed that motivation has three goal orientations, which were noted as mastery, performance and alienation (Perrot, et al., 2001). Students strongly believed they had control over their lives, whether they were mastery-oriented learners or performance learners. It is vital for students to remain motivated and to develop and maintain learning habits if they are to function competently as professional practitioners (Perrot, et al, 2001). Issues negatively affect opportunities for self-development may also be a constraint to motivation (McLaughlin, Moutray & Moore, 2010).

Consideration of student perceptions supports the need for educators to remain creative without becoming obsolete in an ever changing cultural and technological environment (Perrot et al, 2001). Avoidant behaviors are also associated with anxiety and worry about poor performance and discouragement, leading to withdrawn behaviors (Komarraju & Karau, 2008). Stress and coping mechanisms can also affect motivation, either positively or negatively. Meeting student needs and maintaining an atmosphere that drives autonomously motivated behaviors encourages students' abilities.

Clear influential factors of motivation are needed in order to operationalize and measure causes of motivation. Therefore, identifying the factors that may contribute to motivation and motivation levels of the participants of this study will help to distinguish the association between support systems, self-determined actions and academic motivation.

Spirituality

In addition to motivation, spirituality has also been recognized as an important component of human emotion, ability, and wellness. Spirituality has evolved from ancient systems of dualism to the New Age movement. Culturally it has come to be viewed as a multidimensional phenomenon that transcends race, gender, color, and national origin; it is a basic search for meaning and purpose in life (Young & Koopsen, 2011). It is also a response to a search for existential meaning within a life experience with reference to a power other than the self, which may not necessarily be called 'God' (Cobb & Robshaw, 1998). A common thread of spirituality involves the connection between the mind (psychological), the body (physical), and the spirit (spiritual dimension), and has evolved from previous worldviews where spirit and physical dimensions were functional yet incongruent (Purnell, 2005; Reed, 1992). According to Dossey et al. (2005), spirituality is the essence of being, permeating all aspects of life, interconnecting self with others, nature, and God. Some theologies conceptualize spirituality as 'faith seeking understanding,' and encompassing a person's life and actions as they relate to God (O'Brien, 2011). Nightingale found spirituality to be essential for healing the mind, soul or spirit and body. To her, spirituality was a "life principle," the "thinking, motivating, and feeling part of the human experience" (Dossey, Selanders, Beck & Attewell, 2005, p. 7).

Theoretically, the research done on spirituality has proven to be similar in relationship, yet differences in terminology and understanding contributes to debate. Because there is no clear concise understanding of what spirituality is, vast variations of the meaning of the concept have resulted in definitions often resembling the practice of

religion. Religion is primarily an active participation of expression and although different from spirituality, is often intertwined with its characteristics. Religion may be understood as the recognition of a 'God' power represented by a system of faith interpreted by rules, regulations, customs, practices, and beliefs of the named religion, and the worship experience that expresses the inherent spirituality (Cobb & Robshaw, 1998). For some, religion may be considered as a limiting practice where one must follow rules, regulations, and norms must be strictly adhered to. As a result, the innate spirit and underlying spiritual expression ultimately fades in its desire to be free.

Uses of the Concept

There are many intangible aspects about spirituality that are intensely personal and may carry different meaning to different people (Young & Koopsen, 2011). For example, from the sociological perspective, spirituality is examined through group cultures that are strongly influenced (Meraviglia, 1999). As individuals seek to make sense of life, spiritual experiences become more engaging as individuals recognize what is important in life; religiosity and religious practices decline. (Cobb & Robshaw, 1998). Furthermore, spirituality has emerged as a form of asceticism where the body is in relationship with the sacred and takes a holistic view of humanity through emotions, feelings, and physical and sexual experiences (Giordan, 2009). Spirituality has been interrelated with faith, reason, nature, and culture, and the complexities of the relationships reveal a continuous negotiation of social and cultural contexts. Psychological views suggest that spirituality is considered to be an active expression of internal desires. The focus is on one's self rather than God (Meraviglia, 1999). Social support and optimism has been associated with spirituality and religion to determine

psychological adjustment. Essentially, the effect on individuals who are more spiritually in tune with themselves and with others is an improvement in psychological function and mental health (Salsman, Brown, Brechting, & Carlson, 2005) when their spiritual dimension centers on matters of the heart rather than one's intellect (Meraviglia, 1999). Theological views conceptualize spirituality as "faith seeking understanding" that encompasses a person's life and actions as they relate to God (O'Brien, 2011). According to O'Brien, nursing has its own parallel in Christian theology as acting as "anonymous ministers," which is supported by the Biblical excerpt of the Good Samaritan. She explained that nurses should be non-discriminating and explicit in the care they provide. From a theological perspective, spirituality is not only for terminally ill patients at the end of life, but for every individual, in illness and in health. Based on this perspective, nursing education and research on spirituality in nursing has appeared to be more grounded in the context of the spiritual care of the patient.

How is Spirituality Defined?

Philosophers and wise men have explored and discussed the phenomenon of spirituality, which encompasses the life of every human being, though the experience is individually different. The root word of spirituality, and its' related terms, is spirit which is derived from the Greek term *pneuma* which signifies 'wind' or 'air' and the Latin term *spiritus* which means 'breath' and *spirare* which means 'to blow, breathe'(Encarta Dictionary, 2011). Spirit is defined as an animating or vital principle that gives life to physical organisms (Merriam-Webster Online Dictionary, 2011). Spirituality then is the relationship and involvement with the spirit and the quality of being dedicated to God. In addition, spirit is considered to be that of a supernatural being or essence as in the

Holy Spirit. Christian theology often refers John 14 that speaks of the Holy Spirit as the Third Person of the Holy Trinity (God-Christ-Holy Spirit) who serves in the capacity of "the comforter", "our advocate", and "our guide" (King James Bible, 1985; O'Brien, 2011, p. 121-122). Each of these characteristics gives individuals optimistic meaning and hope for life as they relate to "The Holy Spirit". Faith then becomes essential as one focuses on the contribution of this spiritual entity (Cobb & Robshaw, 1998; Malinski, 2002; Meraviglia, 1999). However, Christianity is not practiced by all, yet spiritual experiences are still experienced through other personal means and are evident when individuals are able to express feelings of a sense of well-being, satisfaction, and are able to find purpose and meaning in life. Other definitions of spirit focus on individual behavior where mood has been used to define spirit, explaining that individuals can be lively and highly energetic (Merriam-Webster Online Dictionary, 2011). Nightingale described this as "vital force" explaining that spirit resides in the physical body and expresses itself through the physical body (Dossey, et al, 2005).

Attributes of spirituality include, but are not limited to faith, connectedness, and experience in life. The manifestation of spirituality is closely associated with each attribute and presents a challenge when explaining them separately as they all may occur simultaneously (Meraviglia, 1999). Faith is one's belief in things that are "hoped for, but not seen" (King James Bible, 1985) and results as a positive affirmation of life (Meraviglia, 1999). Faith is then considered as the foundation of spirituality (Cobb & Robshaw, 1998), the basis of one's personal relationship with God (O'Brien, 2011), and personal beliefs or confidence (Young & Koopsen, 2011). The development of faith therefore helps to strengthen and build ones' meaning and purpose in life. Connectedness

with God, nature and others brings inner strength, stability, support and security, all of which gives one the faith to be hopeful and have expectations toward an outcome of wholeness and well-being (Cobb & Robshaw, 1998; Dossey et al, 2005). One may connect through touch, specifically since both require linking one thing to another inwardly, outwardly, and upwardly (Reed, 1992). Touch is either internalized or expressed externally through verbal and nonverbal actions. Touch requires oneness to connect self with others, with nature, or with a higher power. The essence of spirituality is fortified through connectedness (Miner-Williams, 2005).

Furthermore, experiences in life, the last attribute, are vital for human well-being, as daily changes may easily hinder, delay, crush, or destroy one's personal inner security or spirituality. Life experiences are shaped by our environment and personal involvement with others, they are what one values (Miner-Williams, 2005) and they can be unpredictable, posing the continual task of changing and shifting in order to find meaning and purpose in life (Malinski, 2002).

Spirituality may then lead to physical, psychological and spiritual well-being (Malinski, 2002), especially in the presence of love, hope, trust, creativity, religiousness (Meravilgia, 1999), meaning and purpose in life, well-being and health (Meravilgia, 1999; Malinski, 2002), and self transcendence (Reed, 1992; Meravilgia, 1999; Malinski, 2002; Miner-Williams, 2005).

Nursing programs cannot afford to lose students, and neither can the nursing profession. Increasing the knowledge base of faculty regarding spirituality and the spiritual needs of the student is important. Because spirituality is such a broad concept, most empirical indicators have primarily focused on spiritual health, well-being, and

quality of life (primarily for terminal illness). Investigations have also focused on concepts that were related in some way to spirituality including spiritual sensitivity, spiritual care, presence, nurse healers and caring. In addition, the majority of research articles were found to address the issue of teaching nursing students specific techniques or assessments regarding patient spirituality and spiritual care. Limited data exists on nursing student motivation, possibly as a result of the belief that students in nursing are generally highly motivated individuals. Thus, paucity in research regarding nursing students' motivation and spirituality reveals a gap that this proposed study seeks to inform.

Spirituality in Nursing Literature

Research on spirituality has proven to be similar in relationship and meaning with variations in terminology. In nursing, Watson (2002) elaborated on her 1985 theory of human caring through the introduction of transpersonal perceptions which conveys "a connection beyond the ego" (p. 13). She proposed that individuals are capable of connecting, not only with themselves, but with others, with nature and with the universe through spiritual dimensions, and these dimensions deepens one's sense of satisfaction (Easter, 2000). Reed (1992), described spirituality as the developmental capacity for self-transcendence noting that it is both integrative energy and a transcendent quest for meaning and happiness. This quest for meaning is also believed to contribute to health and the alleviation of suffering (Miner-Williams, 2006), as well as a genuine interest in ones' well being (Cobb & Robshaw, 1998). Parse (1992) viewed spirituality as "human becoming," and as one's connection with their universe through meaning, rhythmicity, and transcendence.

College Student Spirituality

Muller & Dennis (2007) conducted a cross-sectional study of undergraduate college students to determine if relations between life-change events and degree of spirituality existed. Out of 210 participants, 180 students, ages 18 to 26 years, completed online surveys. Survey instruments included the Schedule of Recent Experience which was used to quantify life-change over a 12-month. Examples of life-change events included death of a spouse, change in schools, marriage, pregnancy, holidays, and course subjects. The Life Attitude Profile was also used to measure meaning in life. Outcome variables of this tool include health and life satisfaction and are scored and profiled in terms of six subscales (purpose, coherence, choice/responsibility, death acceptance, existential vacuum, and goal seeking) and to composite scale (personal meaning index and existential transcendence). Internal consistency for all subscale and composite scores ranged from .77 to 91.

Using statistical analysis and linear regression analysis, study results revealed spirituality scores were lower among male students than female students. Students who had more life-change events, either positively or negatively, had less spirituality. Although students desire to be spiritual, or to find spirituality, they lacked the motivation to search for their purpose in life.

The study was limited due to the abstract nature of the concept, as well as difficulty in quantifying the concept, and by the use of only one scale to measure the concept (Muller & Dennis, 2007). To improve the generalizability of results, a large and more equally stratified sample is recommended. In addition, educators are encouraged to help students increase their spiritual dimensions of health due to the connection of life-

changed since occurring in the areas of physical, mental, emotional, and social health of college students.

Kneipp, Kelly, and Cyphers (2009) also completed a study to examine the relationship between religiosity and spirituality, with spiritual well-being as a more likely predictor of positive college adjustment than religiosity. Participants (n = 233) included undergraduate students enrolled in psychology courses. The average age of the participants was 21.3 years. There were 135 females participating in this study sample as well. Often response items regarding a more religious/denominational affiliation were addressed in a demographic questionnaire.

Instruments used in this study included the Religious Measure self-report questionnaire, designed to measure religious influence, religious involvement, and religious hope (r = .08, .14 and .21, respectively); the Spiritual Well Being Scale, used to measure and individuals well-being and overall life satisfaction in two dimensions, vertical (ones spiritual life in relation to God) and horizontal (one's adjustment to self, community, and environment), internal consistency reliability coefficients ranged from .82 to .94; and the Student Adaptation to College Questionnaire, which is used to determine how well a student adjusts to college. Coefficient alphas for the scale ranged from .81 to .95.

Descriptive statistics, correlations and multiple regression analysis revealed significant relationships between college adjustment and spirituality and religiousness. Spirituality, conceptualized as the “intangible internal motivation” was more predictive of a college student’s ability to adapt than religion. It was suggested that mental health professionals could better assess college students struggling to adjust by acknowledging

the coexistence of spiritual concerns, as well as by creating environments in which students would feel free to discuss spiritual or religious concerns.

Fisher (2009) also found that college students' "personal experiences colored their perceptions," believing that more help should be provided to nurture spiritual well being, and that nurturing spiritual well being should be of high priority for educators. Moreover, students with strong spirituality had fewer academic problems, in that social support aspects of religion, and the operation of personal beliefs, were both more influential on academic performance for European and African American students, respectively (Walker & Dixon, 2002). Accordingly, the assessment of nursing student spirituality and internal motivators may help to evaluate student adjustment to the rigors of nursing programs and may identify student needs to benefit academic achievement.

Fisher (2009) investigated spiritual well-being and spiritual health of students and the effect that school has on spiritual well-being. Fisher's study was conducted in Australia. Students' worldviews of spirituality are often built on social settings of home, school, and their community, which is in turn composed of particular social and religious groups and organizations. A total of 351 education students from three universities in Australia participated in the study. The Spiritual Health & Life-Orientation Measure (SHALOM) was used to measure spiritual well-being of the sample by eliciting views on three aspects of spiritual well-being, including how important are items for the ideal state of spiritual well-being, how each item reflects personal experience, and what help should schools give students to aid in spiritual well-being maturity.

Students at the Christian universities were both younger students (40%, 18–20 years old) and male gender (34%). No major differences were noted in marital status by

gender or university groups. They found that for students in both religiously-affiliated universities and secular ones, spirituality was of higher importance than religion. Students from the private, religiously affiliated universities described activities such as prayer, Scripture, and church/religious activities being particularly supportive of their overall well-being, whereas state university students believed that happiness and proximity of friends and family were their greatest form of support. Chronbach alpha values for personal, communal, environmental and transcendental domains indicated high internal consistency, which ranged from 0.80 to 0.91. Christian university students scored higher on transcendental spiritual well-being, especially with regards to how they felt and their expectation of help for students (df = 349, t = -19.6 (ideal), -15.5 (feel) and -5.70 (help), $p < .001$). State university students scored higher on the environmental domain (df = 349; t = 4.77 (ideal), 5.7 (feel) and 5.78 (help)). Furthermore, religious affiliations were significantly different in all domains. However, no additional data was. Fisher (2009) also found lower ideals for personal and communal spiritual well-being among students with no religious affiliation. Protestant students scored lowest on environmental spiritual well-being. Other religiously affiliated students scored lowest on transcendental spiritual well-being. Protestant students in the Christian university expected to receive less help from environmental spiritual well-being. Students' views of help provided while in school was most influenced by their lived experiences of each domain of spiritual well-being (personal: $\beta = .39$, communal: $\beta = .44$, environmental: $\beta = .51$ and transcendental: $\beta = .60$).

From a faculty perspective, Lindholm & Astin (2008) assumed that certain qualities were also expected to play a role in how faculty who self-identified as being

spiritual approached their interaction with students as well as their teaching style. These qualities were described as transcendence, interconnectedness, wholeness, self-awareness, and authenticity. Data for this study was based on a 2004–2005 National Faculty Survey of Faculty in two- and four-year colleges and universities. The sample (n = 40,670) was composed of full-time undergraduate teaching faculty; 61% of whom were males and 31% of whom were females. Within the sample, 28% were from public colleges, 16% were from nonsectarian colleges, 25% came from public and private universities, and 7% were from two- year colleges. Thirteen percent were from non-Catholic religious colleges, and 8% were from Roman Catholic colleges

Cross-tabulations and stepwise regression measured faculty profiles and their teaching approach with their personal values and evaluated individual characteristics of faculty, including spirituality, and how instructional context related to student centered pedagogy ($\alpha = .81$). Significant correlations of faculty's high value on student development ($r = .29$) and employment at a student-centered institution ($r = .09$) were noted. In addition, significant negative correlations were found between faculty use of student-centered pedagogy and their research orientation. Descriptive findings relating to spirituality revealed that 81% of faculty considered themselves as being spiritual while two-thirds of faculty sought opportunities for spiritual growth. Almost half (47%) found spirituality to be a very important or essential component of their lives. High student-centered pedagogy was also found among 12% of low spirituality scores in faculty. Critical correlations of student-centered pedagogy also resulted in highly significant relationships with spirituality ($R = .21$, $\beta = .12$, $p < .01$). They found that faculty who teach in social, biological, and physical sciences, and in math, statistics, and engineering,

were not likely to use student-centered pedagogy. The same was true for senior faculty, faculty who are older, or faculty who have politically conservative views. The researchers further noted that faculty members who utilize student-centered approaches are also "civic minded" in both their personal views and in practice, they are considered as having overall job satisfaction, they often serve as role models, and they value students' personal development, which is important for student success. The effects of spiritual changes and development on student outcomes such as academic engagement and performance, satisfaction with college, and degree completion, should also be considered by faculty and administrators who have direct responsibility in the students' college experience (Astin, Astin & Lindholm, 2011).

In summary, although spirituality is a universal experience, many do not understand what spirituality is or how it may influence the lives of others. Student's spiritual well-being should be considered as an important component of their ability to function and adjust. Thus, in this study, an examination of student spirituality as an internal motivator was conducted. It was expected that as students found satisfaction and well-being, their autonomy and engagement in academic pursuits would be enhanced.

Chapter Summary

Current nursing literature lacks empirical studies regarding the association between autonomous motivation and spirituality of nursing students. Individuals who are autonomy-oriented are usually self-regulated and are capable of making decisions and choices as they pursue personal goals (Deci & Ryan, 1985). Decisions are based on extrinsically or intrinsically motivating factors that influence self-determined behaviors.

However, a large number of students in baccalaureate nursing programs do not graduate (Peterson, 2009). Multiple factors may contribute to their attrition in addition to extrinsic and intrinsic motivators. Academic staff should be consciously sensitive toward students who have transitioned into college life, as well as explore ways to engage students who are at risk (Salamonson, et al., 2011).

The role of spirituality may provide insight into students' choices and behaviors. Faculty must also be cognizant of their attitudes and behaviors toward spirituality when interacting with students. In addition, few studies were found to address spiritual motivation in nursing students. Less attention has been paid to students' individual experiences of their spiritual beliefs and practices, especially in relation to their autonomous motivation and academic performance. Thus, these issues provided justification for the study.

CHAPTER THREE

Methods

The purpose of this study was to test students' self-determination using the constructs of the Self-Determination Theory (SDT) (Deci & Ryan, 1985). Specifically, the relationships between the constructs of autonomy support, autonomous motivation (noted as spirituality) and engagement were measured as contributors to academic performance among nursing students in a baccalaureate nursing program. Demographic associations including age, race, sex, employment, religious denomination, family support, and financial stability were also measured. Deci & Ryan's' (1985) Self-Determination Theory provided the framework for the study. This study utilized the Learning Climate Questionnaire (LCQ), the Spiritual Involvement and Beliefs Scale (SIBS), and the Work Engagement Scale (WES) to collect data.

The independent variables were select demographic variables (age, race, sex, employment, religious denomination, family support, and financial stability), autonomous motivation - depicted by spirituality and engagement and the dependent variable was academic performance.

Overview of the Design

A cross-sectional correlational design was employed to examine the relationship of the predictor (independent) variables: autonomy support environment (select demographics and learning climate), autonomous motivation, engagement, and academic performance. Cross-sectional designs are appropriate for studies occurring at a specific point in time. Correlational designs are useful for identifying characteristics of a

phenomenon and their relationships, without cause and effect identifiers (Norwood, 2000).

The primary focus of the theory, which supports the design, is targeted at self-determined behavior proposing that all individuals have natural intuitive tendencies to develop an experienced and mature sense of self (Deci & Ryan, 1985). These tendencies are contingent upon three inherent needs identified as competence, relatedness, and autonomy, all of which are "universal necessities" for self-determined motivation (Deci & Vansteenkiste, 2004 p. 25). Effects of the environment may either be supportive of motivation or it may hinder ones' ability to function. Hence, it was believed that Self-Determination Theory would support the proposed study to be conducted by this researcher whereby the paradigm would be used to frame the area of interest. In addition, the study design was expected to support the examination of the relationships between the variables.

Hypothesis Testing

Three hypotheses were tested in this study:

Hypothesis 1: There will be a significant relationship between autonomy support and autonomous motivation (spirituality) among students in the nursing program.

Hypothesis 2: There will be a significant relationship between autonomous motivation (spirituality) and academic engagement among students in the nursing program.

Hypothesis 3: There will be a significant relationship between academic engagement and academic performance among students in the nursing program.

The following tests were used to analyze each hypothesis:

Hypothesis 1: There will be a significant relationship between autonomy support and

autonomous motivation (spirituality) among students in the nursing program. Descriptive statistics, measures of central tendencies, measures of variability, histograms, box plots, and Pearson's product moment correlation were used to analyze this hypothesis.

Hypothesis 2: There will be a significant relationship between autonomous motivation (spirituality) and academic engagement among students in the nursing program will be analyzed using Pearson's product moment correlation analysis, ANOVA, and linear regression.

Hypothesis 3: There will be a significant relationship between academic engagement and academic performance among students in the nursing program was analyzed by use of descriptive statistics, ANOVA and linear regression (see Appendix F).

Setting

Participants for this study were recruited from four universities in the Southeast United States. Schools of nursing on each campus served as the setting. Each setting was chosen because of the availability of students enrolled in their last year of program coursework.

University one (1) was a state land-grant institution that awards undergraduate, graduate, professional, and doctoral degrees. The university consisted of 13 colleges and schools and one institute. The rate of minority graduates in various fields such as pharmacy, law, and nursing were among the highest in the U.S. There were four satellite campuses that included a college of law, and all of which were located in the Southeast. The university's student population was made up of nearly 12,000 students; 90% of whom were black, 5% of who were white, and 5% who identified as other races.

This institution offered both the Bachelor of Science (BSN) degree, which

spans five semesters, and the Master of Science in Nursing (MSN) degree. All students in the program attended classes on the campus and were enrolled full-time. No distance learning options were being offered on the undergraduate level. There were approximately 172 students in the program; 94% of whom were female, 6% of whom were male. The majority of students (94%) were African-American.

Recognized as one of the leading teaching institutions in the country, University Two (2) was a private liberal arts college that comprised three colleges, and that offered seven bachelor's degrees in over 30 subjects, and four graduate degrees (nursing, business, education and orthodontics). An Adult Degree had been established for nontraditional students, as well as programs for studying abroad, research, leadership, and community service learning. Student enrollment was approximately 3,400, with a male-to-female ratio of 1:1. Approximately 25% of the student population was minorities from 44 states and 55 foreign countries.

Furthermore, the School of Nursing supported both on-campus and distance learning for the BSN and MSN programs. It had been recognized as offering one of the largest RN to BSN programs in the US. There were approximately 194 students enrolled in the nursing program—162 females and 32 males. Although the majority of students were Caucasian, other student ethnicities in the program included African-American, Hispanic, and Asian, including East Indian.

University Three (3) was a private Catholic institution that received national recognition for its diversity in higher education. The university was founded and governed by the Dominican religious order, and offered more than 100 undergraduate, graduate, professional, and doctoral programs. More than 8,500 students were enrolled at

the institution, including approximately 2,000 students who attended classes online or at additional sites within the Southeast. There were various ethnicities of students making up the university's population, the majority being of Hispanic and African-American decent.

The Division of Nursing had been exemplary in its support of minority nursing education. It had one of the largest student nurses associations and professional nursing honor societies. The program enrolled a large number of students from low-income families, approximately one third of its population. Sixty percent of the nursing students were enrolled in a non-traditional tract. In addition, 41% of the total undergraduate and graduate students were minorities.

Lastly, University four (4) was a state institution that was classified with the highest designation of the Carnegie Foundation, Doctoral/Research University-Extensive, and is the oldest educational institution in the state. It included a student body of over 40,000 students in 16 colleges comprised of undergraduate and graduate degree programs, including medicine and law, and specialists programs. It is a national leader in minority graduates from the doctoral, medicine, and law programs. The arts program, the creative writing program, physics, chemistry and political science made up the largest portion of the top academic programs.

The College of Nursing had been recognized for its' innovative programs designed to build the nursing profession while filling the gap in the nursing shortage. The college created a nursing learning community, which was designed to introduce freshmen nursing students to the profession and to encourage student interaction with faculty and peers. The college offered degree programs from undergraduate degrees to Doctor of

Nursing Practice. In addition, students were able to choose specialty concentrations as nurse practitioners, nurse educators, or clinical nurse leaders.

Entry to each school of nursing occurred through Institutional Review Board (IRB) approval of that institution. Once approved, a letter was sent via email to the nursing administrator or dean, and to faculty who taught in the last year of the nursing courses to announce my visit to the institution. The letter gave a brief description of the study, described the study's purpose, and requested that an announcement to be posted on the blackboard or verbally provided to the class, by the faculty, on the date of this researcher's visit. The announcement served as information to the class regarding voluntary participation for the study.

Sample

A convenience sample of students was recruited from four institutions in Florida who were enrolled in the last year of their professional level of nursing. Convenience samples are inexpensive and are often used in studies, not because they are representative, but because participants are easily accessed by the researcher. Based on the selection of the settings, the potential for obtaining an adequate sample size was favorable.

Determination of Sample Size

The sample size for quantitative research requires specific measures including a significance level, effect size, and power, all of which are necessary to measure the strength of the relationship between variables (Norwood, 2000). Based on these criteria, to determine an adequate sample size to analyze the data generated in this study, and a priori estimation of the sample size was made using G*Power 3.1 power analyses for

correlation (Buchner, Erdfelder, & Faul, 1997). G*Power 3.1 power analyses helps to control Type I and Type II errors occurring in research. Power helps to determine the probability that a significant statistical relationship or difference exists between variables. For a medium effect size, an accepted power is normally set at .80. Alpha significance for estimating appropriate sample size and was set at .05 ($\alpha = .05$). Thus, for this study, a total sample of 134 participants were required to achieve an anticipated medium effect two-tailed analysis with alpha set at .05 and power set at .80. To ensure the adequacy of the sample based on incomplete questionnaires, a projected sample of 150 participants was desired.

- **Inclusion criteria.** Participants were full-time or part-time students taking courses in the last year of the nursing program. Students who were repeating courses in the last year of the program also meet inclusion criteria.
- **Exclusion criteria.** Students who were enrolled in RN to BSN programs and/or enrolled in online nursing courses were excluded.

Ethical Considerations and Protection of Human Subjects

To ensure that the rights and privacy of all participants were maintained, the researcher utilized all necessary steps to make sure that the study was conducted in an ethical manner. Participants were respected and protected as a means of establishing trust, thereby eliminating any possibility of compromise to the study. The study was anonymous. Furthermore, although the researcher was faculty in one of the nursing programs and was involved with academic advisement, teaching, and grade evaluation for specifically assigned students, during the data collection phase of this research process, the researcher had no access to study participants. The researcher did not have

access to participants from any other settings previously mentioned due to anonymity of the study. Any student knowledge of the researcher may pose a risk to the validity of the study as a result of bias in student responses.

Informing Participants

A cover letter explaining the research topic was provided to each person willing to participate (see Appendix B). Completion of the questionnaire(s) served as formal consent to participant in the study. No participant identifiers were used in the study as a means of maintaining anonymity. Upon participant completion of the survey(s), a number was affixed to the top corner of the survey envelope for tracking and statistical purposes only.

Risks and Benefits of Participation

IRB approval was received prior to the initiation of the study. All responses were kept anonymous by the researcher. Participants in the study were not expected to experience any physical or psychological distress as a result of responding to the questions posed in each questionnaire. Participants could benefit from this study by gaining insight regarding their environmental supports, learning environment and spirituality, and could also increase their level of motivation and enhance their academic goals. Participants were able to decline or withdraw from the study without penalty at any point in time. Gifts or honorariums were not provided in response to consent and participation in the study.

Data Storage

Upon completion of questionnaires, participants were asked to place their questionnaire into a sealable envelope and then place the envelope into a data collection

box. The researcher collected all envelopes, and at the end of data collection, the researcher stored completed surveys in a locked file cabinet accessible to the researcher only. During data analysis, computer generated data was protected by password protection and was analyzed with statistical software. Survey instruments and computer files will be stored for five years and then destroyed per IRB protocol.

Procedure

A letter was sent by e-mail to nursing administrator(s) and nursing faculty at approved institutions who taught courses in the last year of the baccalaureate curriculum. The letter requested a visit to the nursing program for the purpose of conducting a survey with the students enrolled in the last year of the nursing program. The letter requested approval for the use of the student lounge on a schedule date and time that the researcher was able to utilize for data collection. The letter also requested that faculty who taught courses in the last year of the program would provide an announcement to students to inform them of the study and request their participation. Administrators and/or faculty were asked to respond to this researcher via email to confirm visitation. Once authorization was confirmed, the researcher provided an announcement that could be emailed to students or posted electronically on social or educational media sites for the selected classes. A flier was also made available for administrators and/or faculty to post on selected classroom doors, in high traffic areas and in the student lounge as a means of recruiting participants for the study.

The researcher was stationed in the student lounge at a table with the questionnaires, envelopes and a data collection box. The envelopes were used to seal completed questionnaires. Students who expressed a willingness to participate received a

questionnaire on a clipboard along with a pen and envelope. The questionnaires included 61 questions, with an average completion time of about 20 minutes. Questionnaires had no identifying information. Upon completion of the survey, participants were asked to place their completed surveys into the data collection box that was provided by the researcher. At the scheduled time to end the visit, the researcher removed all of the sealed questionnaires from the data collection box and placed them into a locked box. All pens, pencils, clipboards, unused questionnaires and envelopes, as well as the data collection box were removed from the university's setting and were taken by the researcher.

When preparing for input of data collected, the researcher unlocked the box, and removed the questionnaires from each sealed envelope. Questionnaires were checked for completeness. Surveys that had more than 30% of incomplete or missing data were not used in the analysis. Instead, incomplete surveys were placed in a manila folder and were returned to the locked box. Questionnaires that had more than 30% of the demographic data incomplete, but had all items on an instrument completed were used in the data analysis.

Instrumentation

The questionnaires used to collect data for this study comprised a researcher-developed demographic instrument and two additional instruments that were used to measure the variables of the study. The Learning Climate Questionnaire (LCQ) (see Appendix C) was used to assess perceptions of autonomy support among college-level students (Black & Deci, 2000); the Spiritual Involvement Beliefs Scale (SIBS) (see Appendix C) was used to assess spiritual beliefs and religious traditions (Miner-Williams,

2005). The Work Engagement Scale was utilized to measure behavioral and emotional engagement of students (see Appendix C).

These instruments have been used in diverse populations to measure the variables (Deci et al., 2004; Williams, Grow, Freedman, Ryan, & Deci, 1996). The questionnaire comprised a total of 61 items and took 15 to 20 minutes to complete. Permission to use each instrument was received by this researcher (see Appendices D and E).

The Demographic Questionnaire

A six-item demographic questionnaire (see Appendix C), developed by the researcher, was used to describe the participants and to measure selected variables. Item one (1), an interval level item, was used to measure the independent variable age. Item two (2), a nominal level item, asked the participant to identify their gender. Item three (3), a nominal level item, was used to describe the population and asked the participant to identify their ethnicity based on the choices of Caucasian, African American, Hispanic, American Indian, Caribbean, or other. Item four (4), a nominal level item, asked participants to identify their marital status based on the choices of single, married, divorced, separated, widowed, or other. Item five (5), a nominal level item, asked participants to list their employment status according to the responses given which were, full-time, part-time, unemployed, or retired. Item six (6), a nominal level item asked participants to indicate their religious denomination or practice listed as Catholic, Protestant, Presbyterian, Baptist, Methodist, Non-denominational, None, or Other. Item seven (7), an interval level item, was used to measure student's current overall GPA. Item eight (8), was a dichotomous item that was used to measure whether students had repeated a nursing course.

Autonomy Support: Learning Climate Questionnaire

The Learning Climate Questionnaire (LCQ) (Williams & Deci, 1996) was originally adapted from the Health Care Climate Questionnaire (HCCQ) (Williams, Grow, Freedman, Ryan, & Deci, 1996), and was designed to assess perceptions of autonomy support (see Appendix C). More specifically, the wording in the 15-item LCQ was adapted to measure autonomy support among college-level students enrolled in an organic chemistry class and group project (Black & Deci, 2000). Two teams of students were identified for the study (Team I and Team II).

Validity.

Upon completion of a 13-week chemistry project involving a total of 426 college students, content validity of the study revealed a one-factor solution that measured autonomy support. Students' knowledge of or familiarity with workshop leaders may have contributed to this increase.

Reliability.

The reliability of the HCCQ revealed alpha of .95. Subsequent studies using the LCQ indicated a single factor measure with high internal consistency. Alpha levels of .93 and .94 were achieved for Team 1 (T1) and Team 2 (T2), respectively.

Scoring.

Scoring of the LCQ was based on completion of each item. Summation of the 15 items also provided a score for Leader Autonomy Support (LAS) that could be used as an independent variable in similar studies. Items checked as *strongly disagree* received 1 point, *disagree* – 2 points, *disagree neutral* – 3 points, *neutral* – 4 points, *agree neutral* – 5 points, *agree* – 6 points, and *strongly agree* – 7 points. When scoring, prior to

calculating the scores, the score of item 13 must first be subtracted from the score on item eight (8). For example, if item 13 scored 7 and item 8 scored 2 then the result would be 7 – 2 = 5. The result (5) would then be used as the score for item 13.

Autonomous Motivation (Spirituality)

The Spiritual Involvement and Beliefs Scale (SIBS) was developed to assess spirituality of individuals across all religious traditions (Hatch, Burg, Naberhaus & Hellmich, 1998). In addition, the scale was developed as a means of bringing more attention and focus to the spiritual needs of individuals rather than solely evaluating the biopsychosocial aspects of patient care. The scale can also be used to assess spiritual involvement and activity, as well as individual actions. During the developmental stages of the scale, common principles of spirituality were identified with supporting references as a means of developing appropriate questions for research purposes. The final version of the SIBS scale was a 26-item questionnaire.

Validity.

Initial analysis included a comparison of the SIBS with other established measures of spirituality including the Spiritual Well-Being Scale (SWBS) and two of its corresponding subscales. Factor analysis revealed that similar answers existed among individuals, and supported the need to group questions with similar themes or factors together. In addition, orthogonal factor analysis initially yielded a six-factor structure. However two items were omitted resulting in four factors (F1 – External/Ritual; F2 – Internal/Fluid; F3 – Existential/Meditative; F4 – Humility/Personal Application). An oblique factor rotation analysis was also completed resulting in close similarities to factors found in the orthogonal analysis. The two items that were dropped during factor

analysis resulted in an insignificant change to the analysis. In addition, homogeneity of the scale suggested overall validity of the instrument.

Reliability.

The reliability of the SIBS was based on a sample size of 83 individuals, both family practice patience and family practice educators and revealed an overall coefficient alpha of .92. Test-retest reliability resulted in a stable coefficient of .92. Construct reliability resulted in .80 after comparing total SIBS scores with total SWBS scores.

Scoring.

Items that were positively worded and seemed to be more spiritual would indicate agreement and were scored as *strongly agree* = 5; *agree* = 4; *neutral* = 3; *disagree* = 2; *strongly disagree* = 1. Item numbers or positively worded questions were numbers 2, 4, 6, 7, 8, 10, 11, 12, 14, 17, 19, 20, 21, 23). Items that were negatively worded and seemed to be less spiritual would indicate agreement and were scored as *strongly agree* = 1; *agree* = 2; *neutral* = 3; *disagree* = 4; *strongly disagree* = 5. Item numbers that were negatively worded questions were numbers one, three, five, nine, 13, 15, 16, 18, 22. Items 22 - 26 were scored as *highest frequency* = 5; *next highest frequency* = 4; *middle frequency* = 3; *next to lowest frequency* = 2; *lowest frequency* = 1.

Engagement

The Work Engagement Scale (WES), a nine item measure, was originally created in 1989 to measure school engagement (see Appendix C). The format was adapted from the original Learning Self-Regulation Questionnaire (LSRQ), which was designed for 718 elementary school students (Ryan & Connell, 1989) and was used to assess academic achievement and prosocial behavior. In a recent study, the WES was used to assess the

concept of engagement and behavioral and emotional engagement on the job (Deci et al., 2004). The cross-cultural study involved a total of 431 former Eastern Bloc employees and 128 American employees.

Validity.

In the original study using the LSRQ, results from three samples of a total of 718 elementary school students (grades 3-6) revealed positive correlation. Based on the largest sample of the three sample groups, and exploratory factor analysis was completed resulting in a two-factor solution of external and internal patterns which supported good discriminant validity. A subsequent study using the WES to examine employee work engagement in two cultures indicated that the mean and standard deviation scores were strongly related in a positive direction and supported the theoretical model hypothesis for both cultures.

Reliability.

The original study (Ryan & Connell, 1989) using the LSRQ revealed alpha scores ranging from .62 to .82 showing moderate reliability. The recent administration of the adapted WES used among a total of 559 participants in two countries (Bulgaria and America) resulted in alpha values of .69 and .79. Another study (Baard, Deci, & Ryan, 2004) adapted two comparable questionnaires regarding patient perceptions of autonomy (Williams & Deci, 1996) and students' perceptions of autonomy support from their college instructors (Williams & Deci, 1996) to measure work engagement. Both studies revealed alpha scores of .92 and .96, respectively.

Scoring.

Scoring of the 9-item WES was based on completion of each item. Items

checked as *not true at all* received 1 point to *very true* – 7 points. Prior to scoring, items 3, 5, 6, 9, 10 and 12 were reversed and responses were then averaged by adding the total score for each item and dividing by the total number of items.

Academic Performance

The demographic survey, developed by this researcher, was used to gather data about student's academic performance. The questionnaire was reviewed by graduate students to establish face validity and to determine a more precise length of time for completion of the tool.

Data Analysis

All data responses received were entered and analyzed by means of the Statistical Package for Social Sciences (SPSS) for Windows v.21.0 (SPSS, 2012). Responses to dependent variables were subjected to analysis to assure that the data was psychometrically sound and met the assumptions of normal distribution needed to test the hypotheses. Data were analyzed using descriptive, exploratory, and inferential statistical techniques including correlation and regression analysis. In addition, descriptive analysis of the demographic data (frequency distributions, percentages and histograms), measures of central tendencies (means, medians, and modes), and measures of variability (standard deviations) were also completed. Box plots were also be used as additional techniques to graphically describe interval data and outliers revealed in the analysis.

Data Cleansing

Frequency distribution was conducted using SPSS to detect outlier data. Outliers are scores in the analysis data that are found to be two or more standard deviations above or below the mean score (Field, 2009), and are easily identified in box plots graphs.

Should outlier data be detected, the data will be rerun without the outlier data. If a significant difference is revealed in the results, the outlying data will be recalculated using a transformation process (Field, 2009) and measured for significance. If there remains a significant difference, the outlier data will not be used in the analysis.

Descriptives

Information received on the demographic survey was analyzed using descriptive statistics. Results were used to describe the sample. In addition, any measures of central tendency of scores received were reported using descriptive statistics.

Responses to the Measurements

Descriptive statistics were conducted to examine mean scores, percentages, and measures of central tendency. Demographic analysis containing categorical variables were measured on nominal and ordinal scales. Continuous data were measured with interval or ratio scales. A histogram was used to graphically determine normal distribution of the data. Skewed data resulting from outliers in the distribution were recalculated and transformed prior to comparison with theoretical constructs for fitness. Fit refers to how closely observed data matches and corresponds to the distribution (Vogt, 2005).

Reliability Testing

To ensure psychometric soundness and relationship between the theoretical constructs, responses were analyzed by means of parametric tests. Cronbach's alpha was used to measure internal consistency.

Chapter Summary

In summary, a cross-sectional correlation design was employed for the purpose of testing the relationships of the constructs of the self-determination theory of autonomy support and autonomous motivation (spirituality). A convenience sample of the target population of 150 nursing students, consistent with a medium effect size, was recruited from four universities in Florida. The sample was consistent with a medium effect size. Previously used instruments were used to measure constructs, specifically among nursing students. Data was analyzed assuring that assumptions for parametric testing were met. Three hypotheses were tested with Pearson product-moment correlation.

CHAPTER FOUR

Findings of the Study

The purpose of this study was to test students' self-determination using the constructs of the Self-Determination Theory (SDT) (Deci & Ryan, 1985). Specifically, the relationships between the constructs of autonomy support, autonomous motivation (noted as spirituality) and engagement were measured as contributors to academic performance among nursing students in a baccalaureate nursing program. Demographic variables including age, gender, race, marital status, employment status, courses duplicated due to failure, GPA, and religious practices were also measured. The Self-Determination Theory provided the framework for the study.

A cross-sectional correlational design was employed to examine the relationship of the predictor (independent) variables; select demographic variables (age, race, sex, employment, religious denomination, family support, and financial stability); autonomy support environment, autonomous motivation (spirituality), engagement, and the dependent variable, academic performance. Data were collected over a three-month period from students enrolled in their last year of a baccalaureate nursing program from four universities in the Southeast United States. A convenience sampling method was utilized to recruit participants at each setting. This study utilized the Learning Climate Questionnaire (LCQ) (Ryan & Deci, 2000), the Spiritual Involvement and Beliefs Scale (SIBS) (Hatch, 1998), the Work Engagement Scale (WES) (Baard, Deci & Ryan, 2004) and a researcher-developed demographic tool to collect data. Descriptive statistics were used to compute and to describe both the demographic characteristics of the sample and descriptive characteristics of the various scales. The hypotheses were tested using

descriptive statistics, Pearson's correlation, analysis of variance (ANOVA), and linear regression analysis. Data were analyzed using SPSS 21.0 (SPSS, 2012).

Sample Description

Through the use of convenience sampling, a total of 175 questionnaires were distributed, and 153 were returned. Three of the returned questionnaires were incomplete in that one or more pages were left blank. Although some participants omitted answers to one or more questions on an instrument, the data was used in the overall analysis. A total number of 150 eligible participant responses made the sample. The number of usable questionnaires exceeded the recommended sample size as calculated by G*Power 3.1 power analysis (Buchner, Erdfelder, & Faul, 1997).

Demographic and Background Characteristics

One hundred percent (N = 150) of the participants were students who were enrolled in the last year of their baccalaureate nursing program. Twenty-seven percent reported from university one, 17% reported from university two, 18% reported from university three, and 38% reported from university four (see Figure 1).

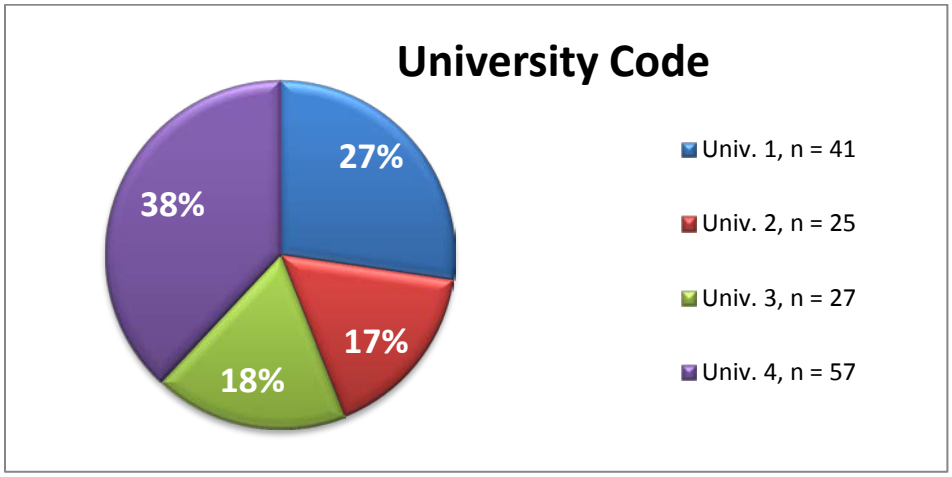

Figure 3. University sample and code (N = 150)

Participants (N = 147) ages ranged from 20-52 years (M = 23.2, SD = 3.8). Three of the participants did not report their age. Most of the participants were female (89%). Of the participants who responded to ethnicity (N = 145), the majority (51%) reported being Caucasian. Other ethnicities reported included African American (19%), Hispanic (19%), Caribbean (7%), and 4% other which included Haitian, Haitian American, African Cameroon, black-Indian, African, and Hispanic-Caucasian. Regarding marital status (N = 150), 88% of the participants reported that they were single and most were unemployed (51%). The denominational composition (N = 147) was reported as being the following: 49% Protestant, 35% Catholic, and 4% agnostic. In addition, seven percent reported other denominations without specification. Table 1 summarizes the demographic characteristics of the sample.

Table 1

Demographic Characteristics of the Sample (N = 150)

Characteristics	*n*	%
Gender		
Female	134	89
Male	16	11
Ethnicity		
Caucasian	74	51
African American	28	19
Hispanic	27	19
Caribbean	10	7
Other	6	4
Marital Status		
Single	132	88
Married	13	9
Divorced	3	2
Separated	1	.7
Other	1	.7
Employment Status		
Full-time	8	5
Part-time	64	44
Unemployed	74	51
Religious Denomination		
Protestant	72	49
Catholic	52	35
Mormon	1	1
Jewish	2	1
Muslim	3	2
Agnostic	6	4
Other	11	7
Course Repeat		
Yes	36	24
No	112	76

The overall average GPA (*N* = 144) was 3.36 (*SD* = .30). Minimum GPA was reported as 2.50 and maximum GPA as 4.10 (see Figure 2). In addition, 76% of the participants (*n* = 112) reported never having had to repeat a nursing course.

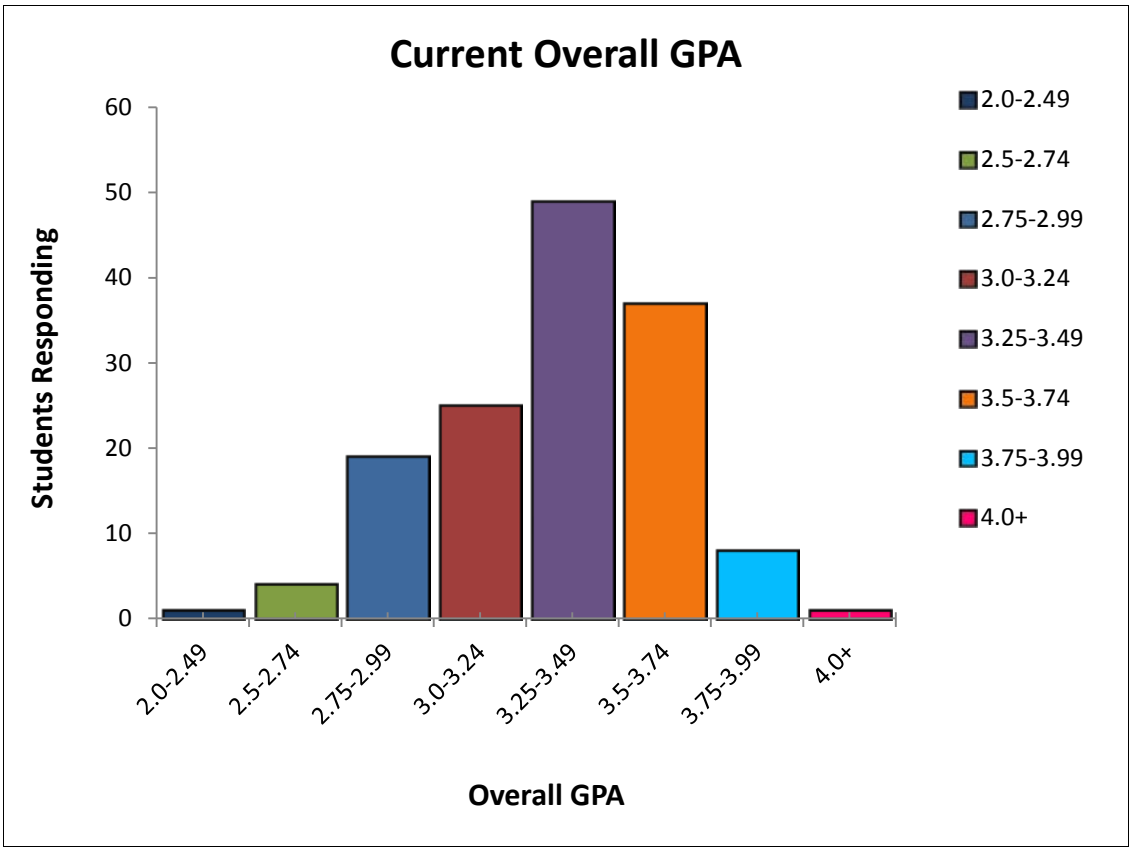

Figure 4. Demographic characteristics of current overall GPA (N = 144)

Exploratory Data Analysis for Measurement

To determine outliers, skewness, kurtosis, and missing values of all scale items, frequency distribution and histograms with superimposed normal curves were run. In addition, reliability estimates utilizing Cronbach's alpha for each scale was also computed for the sample study. Cronbach's alpha was compared with previous study results.

The Learning Climate Questionnaire (LCQ) was used in this study to measure perceived autonomy support in the learning environment at a nominal level. The

instrument consists of 15-items to which the independent variable, autonomy support was measured. Item responses were based on a 7-point Likert-type scale ranging from *strongly disagree* with a score of one (1) to *strongly agree* with a score of seven (7). Scores could range from seven to 105. Prior to calculating the scores, the scores of item number 13 were subtracted from the scores on item number eight. The final scores were then calculated by totaling the score on each item. Higher average scores would represent a higher level of perceived autonomy support. An index of skewness (-.545) indicated that LCQ scores resulted in a negatively skewed curve and distribution was considered to be quasi-normal based on Kurtosis of the sample at .033.

The Spiritual Involvement Beliefs Scale (SIBS), a 26-item instrument, was used to measure autonomous motivation (spirituality) of individuals across all religious traditions on a nominal level and to bring attention to and focus on the spiritual needs of individuals (Hatch, et al., 1998). Item responses were based on a 5-point Likert-type scale ranging from *strongly agree* with a score of five (5) to *strongly disagree* with a score of one (1). Scores could range from zero to 150. Positively worded questions were identified as numbers 2, 4, 6, 7, 8, 10, 11, 12, 14, 17, 19, 20, 21 and 23, and represented being more spiritual. Negatively worded items indicated being less spiritual and were scored as *strongly agree* with a score of one (1) to *strongly disagree* with a score of five (5). Negatively worded questions were identified as numbers 1, 3, 5, 9, 13, 15, 16, 18, and 22, and were all reversed prior to scoring the instrument. Items 22 to 26 were scored as highest frequency with a score of five (5) to lowest frequency with a score of one (1). The final scores were calculated by totaling the score on each item. Higher average scores represent a higher level of spirituality, which indicated a stronger ability to be

autonomously motivated. An index of skewness (-.459) indicated that SIBS scores produced a negatively skewed distribution. A Kurtosis value of -.215 suggested that the distribution of SIBS could be considered as normal; however, visualization of the histogram with a superimposed bell curve appeared as a quasi-normal distribution.

The Work Engagement Scale (WES) was used to measure student engagement in the classroom. The instrument is a 12-item Likert-type scale and scores could range from zero to 84. Item responses ranged from *not true at all* with a score of one (1) to *very true* with a score of seven (7). Prior to scoring, items 3, 5, 6, 9, 10 and 12 were reversed and responses were then totaled and averaged. High scores represented the students' ability to be engaged while in class. The skewness indicator (-.233) suggests that the WES scores produced a negatively skewed curve. View of the histogram for the WES show that the distribution appeared as normal, however the distribution was platykurtic in shape (Kurtosis = .458).

Measurements Assessment

Learning Climate Questionnaire (LCQ)

The LCQ was used to assess perceptions of autonomy support in the classroom setting. Cronbach's alpha reliability estimate was obtained ($N = 138$, $\alpha = .95$) which met the bench mark of $\alpha = .70$. This estimate fell within the range of alpha values found by Black & Deci (2000), who measured autonomy support among college-level students enrolled in an organic chemistry class and group project. The LCQ was used among two teams. Black & Deci reported alpha scores of .93 and .94 for Team 1 and Team 2, respectively.

Spiritual Involvement and Beliefs Scale (SIBS)

The SIBS scale was used to assess autonomous motivation, which was measured by spirituality and spiritual involvement and activity of students in a baccalaureate nursing program. High Cronbach's alpha reliability estimate was obtained for this scale ($N = 132$, $\alpha = .90$). Cronbach's alpha was consistent with scores reported by Hatch, Burg, Naberhaus & Hellmich (1998) of .92. Test-retest reliability scores resulted in a stable coefficient of .92, while construct reliability resulted in a score of .80.

Work Engagement Scale (WES)

The WES was used to measure behavioral and emotional engagement during school while in the classroom setting. Results of the reliability estimate, a Cronbach's alpha ($N = 141$, $\alpha = .84$) demonstrated high internal consistency. The results exceeded those originally reported by Ryan & Connell (1989) who used the Learning Self-Regulation Questionnaire (LSRQ), which revealed alpha scores were moderately reliable at .62 to .82. The LSRQ was adapted into the WES and was used by Deci, Ryan, Gagne, Leone & Kornazheva (2004). Alpha scores were found to be .69 and .79 for Bulgarian and American participants, respectively.

Response to Instrument Measurements

Scores for each instrument were screened for outlying data by boxplots and scatter plots. No outlying scores were noted. Further exploration for distribution was completed by means of the tests of normality using the Kolmogorov-Smirnov (K-S) statistic. The K-S statistic is used to compare sample scores with a normal distribution score. The test significance of $p < .05$ would indicate a non-normal distribution (Field, 2009). Results of the LCQ [$D(150) = .07$, $p = .20$], SIBS [$D(150) = .06$, $p = .20$] and

WES [$D(150) = .06$, $p = .20$] each revealed normal distributions. Histograms were all skewed in their distribution (see Figures 4, 5, and 6) and kurtosis did not support a normal distribution. However, Q-Q plots revealed relatively linear scores.

Descriptive Findings for Major Study Variables

Three research instruments were used in this study. The instruments were used to analyze the learning climate, autonomous motivation, and engagement in the classroom.

Learning Climate Questionnaire

As previously indicated, the LCQ was used to assess perceptions of autonomy support in the classroom setting. The instrument is made up of 15- items that are scored on a 7-point scale ranging from *strongly disagree* to *strongly disagree*. High scores suggested a very supportive learning climate. In this sample, scores for the LCQ ranged from 15 to 103 ($M = 70.60$, $SD = 18.99$) (see Figure 3).

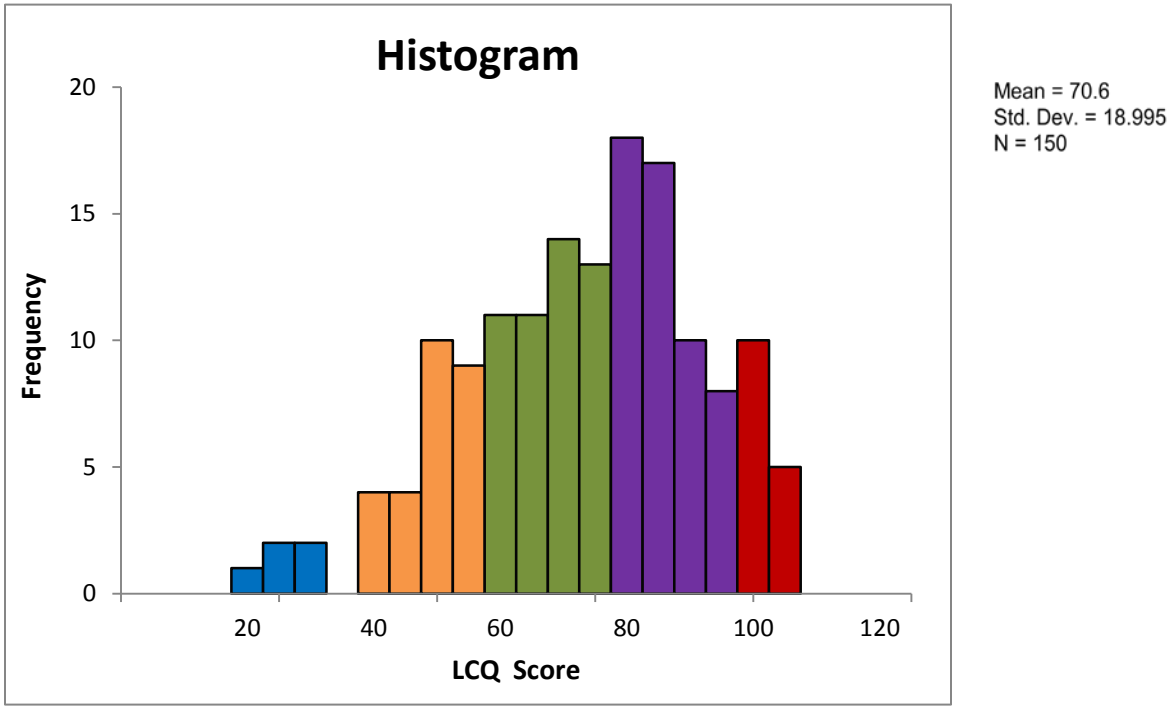

Figure 5. Histogram of scores for the Learning Climate Questionnaire

These results suggest that the learning climate was moderately supportive of student motivation. Study participants strongly agreed with the following items on the LCQ: "My instructor conveyed confidence in my ability to do well in the course" (*M* = 5.33, *SD* = 1.49), "I feel that my instructor accepts me" (*M* = 5.32, *SD* = 1.42), "My instructor made sure I understood the goals of the course" (*M* = 5.21, *SD* = 1.48), and "My instructor encouraged me to ask questions" (*M* = 5.53, *SD*, 1.289). Black and Deci (2000) reported the following scores among a group of students (*n* = 137) in a college-level organic chemistry course who were evaluated at two separate times. Time 1 and Time 2 variables revealed the following: *M* = 60.7, *SD* = 11.3 and *M* = 62.6, *SD* = 10.9, respectively. They found that over time, as students' perception of leader autonomy support increased, the student would also become more self-regulated in their study habits.

Spiritual Involvement Beliefs Scale

As mentioned earlier, the SIBS is a 26-item instrument that was used to examine autonomous motivation as measured by spirituality and spiritual involvement and activity of students in a baccalaureate nursing program. Items on this scale were measured on a 5-point scale with choices ranging from *strongly agree* to *strongly disagree.* Questions 20-23 were measured using the same 5-point scale with choices ranging from *always* to *never*. Also, items 24-26 were used to measure a range of responses with choices ranging from *10 or more times* and *more than 15 times* to *zero times*. Items 1, 3, 5, 9, 13, 15, 16, 18, and 22 were reverse coded and were totaled for a final score, which may range from 5 to 130. Higher scores represented higher levels of spiritual involvement and beliefs. In

this study, scores on the SIBS ranged from 59 to 121 (*M* = 96.93, *SD* = 13.88) (see Figure 6).

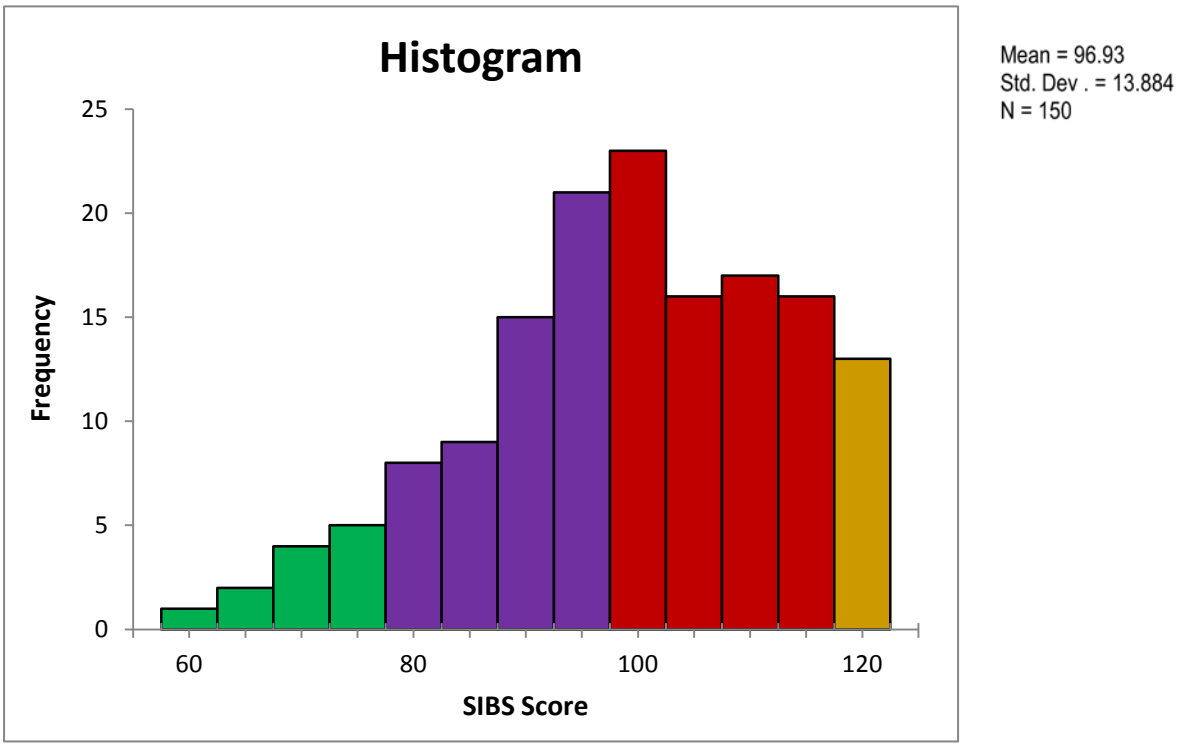

Figure 6. Histogram of scores for the Spiritual Involvement and Beliefs Scale

High scores suggested that the participants were more spiritual which also indicated that participants were able to be autonomously motivated. Study participants displayed strong agreement with the following scale items: "My life has a purpose" (*M* = 4.71, *SD* = .60) and "I believe there is a power greater than myself" (*M* = 4.59, *SD* = .73). Hatch, et al. (1998) did not report descriptive findings for their study (*n* = 82) which was done to develop the SIBS instrument.

Work Engagement Scale

As described earlier, the WES was used for this study to measure student engagement in the classroom. The instrument contains 12 items on a 7-point scale.

Choices ranged from *not true at all* to *very true*. Items 3, 5, 6, 9, 10 and 12 were reverse coded. The final score was calculated by totaling the scores of each item. Scores may range from 7 to 84. Higher scores would suggest that students were very engaged in their class work while in the classroom setting. In this sample, scores for the WES ranged from 34 to 84 (M = 61.41, SD = 10.77) (see Figure 6).

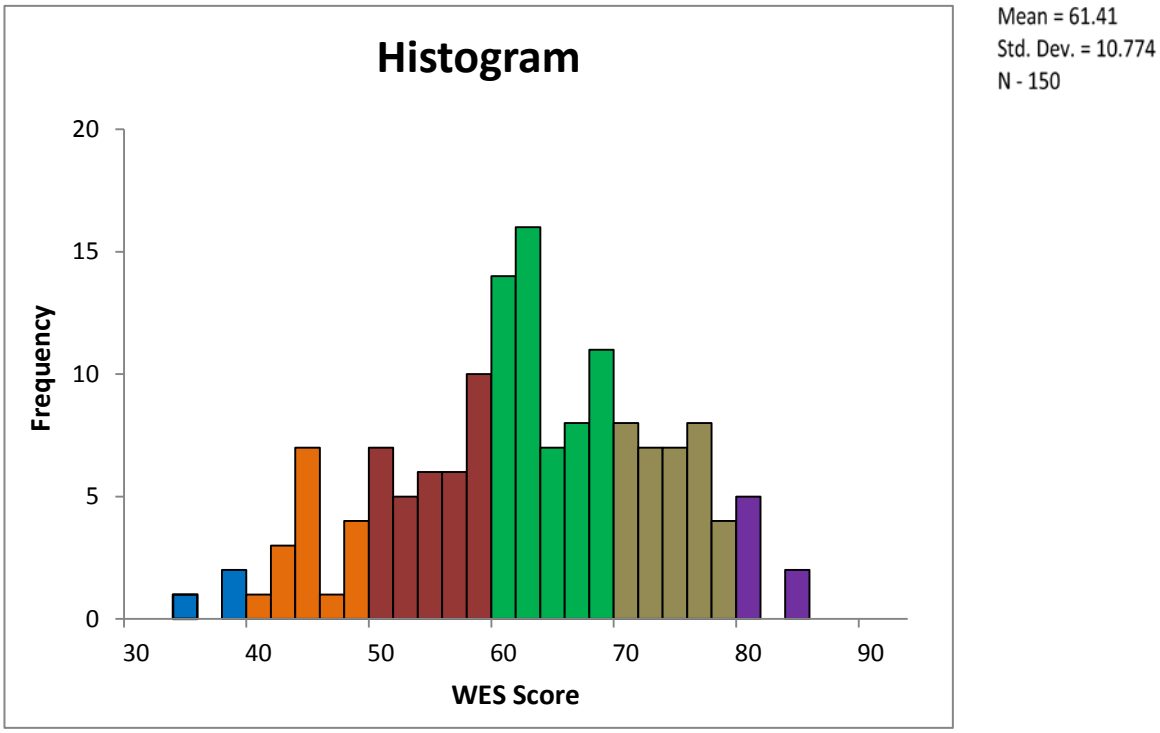

Figure 7. Histogram of scores for the Work Engagement Scale

These results indicate that the students engaged at moderately high to high levels while in the classroom. Study participants strongly agreed with the following items on the WES: "I try very hard to do well in my classes" (M = 6.42, SD = .97) and "I feel a sense of responsibility to my nursing program" (M = 6.25, SD = 1.10). Participants also strongly agreed to the item "I do not feel committed to work hard at my class work" (M = 6.05, SD = 1.43) which would indicate that although students tried to do well in class they were

not fully committed to working hard on class assignments. Deci et al. (2004) found that among a sample of 431 Bulgarians (M = 4.84, SD = .60) and 128 Americans (M = 5.60, SD = .89), autonomy support of supervisors in the work environment enhance employee satisfaction and supported their ability to engage in their work with less anxiety.

Table 2 provides a descriptive summary of the measurement instruments. For the Learning Climate (N = 150), the majority of participant responses were clustered close to the mean score (M = 70.60). However, the large standard deviation score (SD = 18.99) reveals variation below the mean which implies that some of the participants believed the environment was not supportive enough for enhancing motivation. This finding is consistent with the histogram found in Figure 1, which indicates a negatively skewed distribution. The same can be said about the Spiritual Involvement and Beliefs Scale (M = 96.93, SD = 13.88). The participants perceived themselves as being spiritual; however, there were some participants who fell below the mean, which indicated they were less spiritual than others. The distribution of this instrument also revealed a negatively skewed distribution. The Work Engagement scale revealed minimal variation around the mean and was more closely reflective of a normal distribution.

Table 2

Summary of Scores of the Measurement Instruments: LCQ, SIBS, and WES

Instrument	*N*	*M*	*SD*
Learning Climate Questionnaire (LCQ)	150	70.60	18.99
Spiritual Involvement and Beliefs Scale (SIBS)	150	96.93	13.88
Work Engagement Scale (WES)	150	61.41	10.77

Hypothesis Testing

In this study, three hypotheses were tested. Pearson's correlation and multiple regression analysis were used to test relationships. Multiple predictor variables were regressed with one outcome variable to further analyze test relationships. Prior to computing the multiple regression analysis, tests for multicollinearity and variance inflation factor (VIF) were performed. Multicollinearity is used when two or more independent variables in a model are strongly correlated in a linear relationship (Field, 2009). Multicollinearity increases the standard error. Variance inflation factor (VIF) is used to validate the relationship of the independent variables when inflated variables are found. VIF is calculated as $1/1\text{-}R^2$. Scores that are greater than '1' represents a biased model, while perfect collinearity will result in a score of'0'.

Hypothesis 1

The first hypothesis to be tested in this study stated that there would be a significant positive relationship between the variables of autonomy support environment (select demographics and the learning climate) and autonomous motivation (spirituality) among students in a baccalaureate nursing program.

The research hypothesis was rejected. Pearson's correlation ($r = .034$, $p = .676$) found no significant relationship between the select demographic variables, scores on the LCQ and scores on the SIBS among baccalaureate nursing students in the last year of the academic program (see Table 3). Of note, significant correlations were found between scores on SIBS and scores on WES ($r = .193$, $p = .018$) while no significant correlations were found between scores on WES and overall GPA ($r = -.116$, $p = .116$).

Table 3

Means, Standard Deviations, and Intercorrelations for the LCQ, SIBS, and WES

Instrument	*N*	Means	*SD*	1	2	3
1. LCQ	150	70.60	18.99	--	.676	.743
2. SIBS	150	96.93	13.88	--	--	.018*
3. WES	150	61.41	10.77	--	--	--

* $p < .05$.

Intercorrelations were also found between LCQ, SIBS and select demographics (see Table 4). The findings revealed significant correlations between LCQ and ethnicity ($p = .000$). This finding suggests that certain ethnicities found the learning climate to be supportive of their autonomy. Additional research may help to specify correlations of each ethnic group with LCQ. Correlations between SIBS and gender ($p = .030$) may be explained by the substantial number of female responses to male responses. SIBS and religious denomination were significantly correlated ($p = .004$) and was not anomalous to the findings.

Table 4

Intercorrelations for the LCQ, SIBS, and Select Demographics

Variables	1	2	3	4	5	6	7	8
1. LCQ	--	.676	.811	.251	.000**	.453	.748	.135
2. SIBS		--	.699	.030*	.176	.572	.422	.004**
3. Age			--	.023*	.040*	.000**	.005**	.338
4. Gender				--	.604	.411	.002**	.042*
5. Ethnicity					--	.071	.128	.672
6. Marital Status						--	.255	.643
7. Employment Status							--	.071
8. Religious Denomination								--

**p < .01.
*p < 0.5.

One-way ANOVA revealed significant correlation of LCQ (p = .000) both between groups and within groups among each university (see Table 5). These findings suggest that when comparing participant groups from each university, the groups independently found the learning climate to be supportive. In addition, participants within the same group also found the learning climate to be conducive to learning and supportive of individual autonomy. Autonomous motivation and spirituality was also supported and strengthened. Significance was also found in SIBS scores and WES scores both between and within university groups (p = .001 and p = .000, respectively). Again,

this finding suggests that the groups of participants felt autonomously motivated by their spirituality, which influenced their ability to engage in their course work.

Table 5

ANOVA Table: Comparison of Means of Universities

		df	Mean Square	*F*	Sig.
LCQ Score	Between Groups	3	3666.38	12.52	.000**
	Within Groups	146	292.88		
SIBS Score	Between Groups	3	956.48	5.40	.001**
	Within Groups	146	177.06		
WES Score	Between Groups	3	1824.58	22.54	.000**
	Within Groups	146	80.96		

Note: University 1, 2, 3 and 4 are included in the analysis.
**$p < .01$.

Regression analysis confirmed that there was no significant relationship uniquely or as a linear composite between the LCQ and SIBS. A variance of 9% in the outcome variable was accounted for by the predictor variables. The model was not significant, $F(8, 126) = 1.46$, $p = .178$. Regression revealed than only one predictor variable, religious denomination ($p = .033$), contributed to the model (see Table 6).

Table 6

Regression Analysis Summary for LCQ Scores and Select Demographic Variables Predicting Autonomous Motivation (Spirituality)

Variable	*B*	*SE*	β
LCQ Score	.044	.064	.063
Age	-.384	.350	-.107
Gender	4.250	3.929	.100
Ethnicity	1.132	.906	.120
Marital Status	.868	2.184	.036
Employment Status	.266	2.030	.012
Religious Denomination	-.808	.374	-.188*
Repeated Nursing Course	-2.067	2.778	-.067

Note. $R^2 = .085$ ($n = 126$, $p = .178$).
*$p < .05$.

Hypothesis 2

The second hypothesis for this study stated that there would be a significant positive relationship between autonomous motivation (spirituality) and academic engagement among students in a baccalaureate nursing program. Research hypothesis was accepted. As previously mentioned and noted in Tables 3 and 5 above, Pearson's correlation found significant relationships between scores on SIBS and scores on WES ($r = .193$, $p = .018$). One-way ANOVA also revealed significant correlation between SIBS and WES scores among each university group ($p = .000$).

Regression analysis further confirmed that a significant relationship was found between SIBS and WES scores. Twenty-eight percent of the variance in the dependent

variable was explained by the model (R^2 = .278, adj R^2 = .268). The relationship was significant, F (2, 147) = 28.28, p = .000. Regression revealed that university code contributed to the model.

Hypothesis 3

The third hypothesis stated that there would be a significant positive relationship between academic engagement and academic performance among students in baccalaureate nursing program. The research hypothesis was accepted. However, Pearson's correlation did not find a significant relationship between scores on WES and current overall GPA (r = -.116, p = .116). Further analysis was completed. A one-way ANOVA analysis revealed a relationship among the universities (p = .000). Regression analysis confirmed a significant relationship between WES scores and overall GPA. In the dependent variable, 17% of the variance was explained by the model (R^2 = .172, adj R^2 = .160). The relationships were significant, F (2, 141) = 14.66, p = .000. University code contributed to the model summary.

Linear regression was conducted to determine the overall model fitness. The dependent variable of current overall GPA was measured against predictor variables including the LCQ score, SIBS score, WES score, and significant select demographic variables including gender, ethnicity, religious denomination, repeated a nursing course, and university code. Findings revealed significant relationships (F (8, 127) = 7.123, p = .000). Gender, repeated a nursing course and university contributed to the overall model (see Table 7). Stepwise regression confirms significant contributions of gender (R^2 = .293, adj R^2 = .541), repeated a nursing course (R^2 = .196, adj R^2 = .443) and university code (R^2 = .263, adj R^2 = .513) to the overall model.

Table 7

Regression Analysis Summary of LCQ, SIBS, and WES Scores on Select Demographic Variables Predicting Academic Performance

Variable	*B*	*SE*	β
LCQ Score	.001	.001	.049
SIBS Score	-.001	.002	-.050
WES Score	.003	.003	.107
Gender	.175	.078	.175*
Ethnicity	-.012	.019	-.054
Religious denomination	.003	.007	.030
Repeated a nursing course	.255	.057	.353**
University code	.069	.025	.281**

Note. Dependent variable: Current overall GPA. Model summary of regression analysis (R^2 = .557, p = .000, n = 135). Specific demographic variables that previously revealed significant correlation with test variables were included in the regression.
**p < .01.
*p < .05.

Chapter Summary

This chapter discusses the findings and results of the study. A total of 150 students enrolled in baccalaureate nursing programs from four Universities in the southeast U.S. provided data for this study. Instruments that were previously developed and were found to be reliable were use to examine the population. The sample was primarily composed of female students (n = 134, 89%) with a mean age of 23 years of age (*SD* 3.8). Most of the students responding were Caucasian (n = 74, 51%), African American (n = 28, 19%) and Hispanic (n = 27, 19%). The majority were single (n = 132,

88%) and unemployed (*n* = 74, 51%), and a large number of participants were of Protestant (*n* = 72, 49%) and Catholic (*n* = 52, 35%) religious denominations. GPA scores ranged from 2.50 to 4.10 with an overall average of 3.36 (*SD* = .30). The majority of participants (n = 112, 76%) had never repeated a nursing course throughout their tenure in the nursing program.

In this study, three hypotheses were tested for relationships among the variables. The outcome measure was the academic performance of students, which was measured as GPA. Several demographic predictor variables were incorporated into the analysis including age, gender, ethnicity, marital status, employment status, religious denomination and repeat of a course. Other predictors included university code and scores of each instrument that was used to measure the learning climate (LCQ), autonomous motivation (spirituality) (SIBS) and engagement (WES). Regression analysis model summary noted gender, repeated a nursing course and university code as significant predictors of academic performance among this sample of nursing students enrolled in the last year of a baccalaureate nursing program.

CHAPTER FIVE

The purpose of this study was to explore autonomy support, autonomous motivation (spirituality), academic engagement, and academic performance of nursing students who were enrolled in the last year of a baccalaureate nursing program. The variables of age, gender, race, marital status, employment status, religious denomination, and nursing courses repeated were also explored to identify whether they influenced autonomous motivation, engagement, and academic performance.

Exploration of the Meaning of the Study

Nursing education has been presented with multiple challenges over the last 20 years including technological advancements and an increase in student diversity. The nursing shortage also necessitates the demand to attract and retain students in nursing. However, the number of baccalaureate prepared nurse graduates showed a minimal increased in graduation rates, from 31% to 33.7% from 2004 – 2008 (HRSA, 2010), and low pre-licensure graduation rates which slowed to only 2.3% in 2007 (AACN, 2011). In Florida, pre-licensure graduations rose by only 5% from 2008 – 2011 (OPPAGA, 2012). Several factors were found that can decrease student enrollment and student motivation (weakening autonomy), including family, personal, and financial issues, heavy academic workload, and threats of failure (Hegge & Larson, 2008; Soric, 2009). Although some students are comforted solely by their spirituality, others found that the support of faculty and peers also helped in their ability to cope with the rigor of the program (Hegge & Larson, 2008; Wehmer, White, Quinn Griffin & Fitzpatrick, 2010). A relevant review of the literature indicates that nursing students occasionally have difficulty adjusting and would require autonomy, the support of faculty and peers, spirituality and spiritual-well

being in order to achieve desired goals (Astin, Astin & Lindholm, 2011; Black & Deci, 2000; Kneipp, Kelly & Cyphers, 2009; Williams, 2010). Factors that influence student motivation may be extrinsically or intrinsically derived. Intrinsic motivation ensures autonomy. Thus, it is important to understand how spirituality serves as an autonomous motivator to facilitate academic performance.

The Self-Determination Theory (1985) provided the theoretical framework for this study. Specifically, the sub-theory of cognitive evaluation further helped to explain the phenomena of intrinsic motivation by explaining social and environmental supports that would aid or hinder motivation. The following hypotheses were tested:

Hypothesis 1: There will be a significant positive relationship between the variables of autonomy support environment (select demographics and learning climate) and autonomous motivation (spirituality) among students in a baccalaureate nursing program.

Hypothesis 2: There will be a significant positive relationship between autonomous motivation (spirituality) and academic engagement among students in a baccalaureate nursing program.

Hypothesis 3: There will be a significant positive relationship between academic engagement and academic performance among students in a baccalaureate nursing program.

However, understanding how these constructs contribute to the students' academic performance was unknown.

A cross-sectional correlational design was used to examine the relationship of the autonomy support environment, which included select demographic variables (age, race,

sex, employment, religious denomination, family support, and financial stability) and the learning climate, autonomous motivation (spirituality), engagement, and academic performance. Four instruments were used to collect the data and included a total number of 61 items. Instruments included a researcher-developed demographic instrument that included items to measure specific study variables, the Learning Climate Questionnaire (Ryan & Deci, 2000) which was used to measure student perceptions of the learning environment, the Spiritual and Involvement and Beliefs Scale (Hatch, 1998) which was used to measure autonomous motivation (spirituality), and the Work Engagement Scale (Baard, Deci & Ryan, 2004) which was used to measure student engagement and classroom. Data were collected over a three-month period from students enrolled in their last year of a baccalaureate nursing program. Participants (N = 150) were recruited from four universities in the Southeast United States. The hypotheses were tested using descriptive statistics, Pearson's correlation, analysis of variance (ANOVA), and linear regression analysis. Data were analyzed using SPSS 21.0 (SPSS, 2012).

From the four universities reporting, the sample was composed of 27% of the participants from University One, 17% from University Two, 18% from University Three, and 38% from University Four. The participants were students who were enrolled in the last year of their baccalaureate nursing program whose ages ranged from 20 – 52 years of age (M = 23.2, SD = 3.8). Most of the participants were females (n = 134, 89%) and reported being Caucasian (n = 74, 51%). The majority of the participants were single (n = 132, 88%) and most were unemployed (n = 74, 51%). Forty-nine percent (n = 72) of the participants were Protestant. The overall average for GPA among the participants was 3.36 (SD = .30). Seventy-six percent (n = 112) also reported they had never repeated

a nursing course.

Based on the statistical analysis of the data, Hypothesis 1 was rejected. A significant relationship between the autonomy support environment, measured by the Learning Climate Questionnaire, along with select demographic variables, and autonomous motivation (spirituality) which was measured by the Spiritual Involvement Beliefs Scale were not supported by the results. Hypothesis 2 was supported which indicated a significant correlation between autonomous motivation (spirituality) and academic engagement which was measured by the Work Engagement Scale. Finally, Hypothesis 3 was also accepted which was supported by a significant correlation between academic engagement and academic performance which was measured by current overall GPA.

Interpretive Analysis of the Findings

Finding of the study are discussed based on the demographic characteristics of the study participants. In addition, the hypotheses and their relationships among the major study variables are also discussed and compared with other major studies, where applicable.

Demographic and Background Characteristics

Through the use of a convenience sample, the study data was collected from nursing students enrolled in the last year of a baccalaureate nursing program in the southeastern U.S. To examine the generalizability of the findings, a discussion of the demographic and background results will be compared with other study findings. As mentioned earlier, the ages of the participants ranged from 20 – 52 years (M = 23.2, SD = 3.8) with the largest number (N = 118) ranging between the ages of 21 – 23 years. In

comparison, the national average of all nurse graduates ranged from 28 – 33 years, however, baccalaureate graduates tend to be five (5) years younger (HRSA, 2010). In Florida, the average age for generic baccalaureate student nurses is 25 (FCN, 2012). Since the study participants were still enrolled in the nursing program, the average age would increase by the time they graduate which would corroborate with national and state datum.

Furthermore, the majority of the participants were female (89%), five percentage points higher than the overall average of females in baccalaureate nursing programs in Florida, which was 84% in 2011 (FCN, 2012). Although male enrollments in nursing programs are increasing, the difference in the percentages could either be because fewer men were enrolled in the particular nursing programs that responded to this study, or because those male students who were enrolled did not choose to participate.

The Caucasian race is the largest ethnic race in the U.S. and in Florida. An average of 49% of generic baccalaureate student nurses in Florida was Caucasian (AACN, 2011). Thus, it was not surprising to find that the majority (51%) of the participants in the study were Caucasian as well. In addition, 18% of the participants were African-American and 18% were Hispanic. These percentages were generally the same as reported by the AACN (16% African American, 18% Hispanic). Slight differences in the results regarding ethnicity might be because only four universities were used in this study, which might have limited the number of African American student responses and increased the number of Caucasian student responses.

The majority of the participants were single (88%); only 9% were married or divorced (2%). In the U.S. during the time of the study, most marriages occurred between

the ages of 25–34 years (men = 43.9%, women = 41.8%; U.S. Census, 2011). Divorce rates were also at their highest for this age group. The results of this study were expected, given that most of the participants probably enrolled in college upon graduation from high school, without time off.

Over 50% of the participants were unemployed (n = 74). This might be because of the demands of program requirements and responsibilities. A significant percentage of the participants (44%) did work part-time, which might be associated with the increasing cost of higher education in Florida along with the commensurate decrease in federal and state financial assistance. Inflation may also have played a part by weakening the availability of parental financial assistance.

Almost one-half of the participants (49%) were Protestant and 35% were Catholic. Participants who identified as Protestant were able to further specify their denomination. Those included Adventist, Baptist, Evangelical, Holiness, Lutheran, Methodist, Nondenominational, Pentecostal, and Presbyterian. The high percentage of Catholic participants reflects the relatively high percentage within the state of Florida (25%) (PEW, 2010).

Among the study participants, the overall GPA was averaged as 3.36, which indicates that the participants are performing above the state-wide average in their courses. In addition, over 75% (n = 112) reported never having repeated a nursing course. Withdrawals from a nursing course(s) were not measured.

Relationships of Major Study Variables

Hypothesis 1

The first hypothesis suggested a positive correlation between the predictor variables and the outcome variable. Results of the correlation and regression analysis did not support this hypothesis, which indicated that no significant relationship was found between autonomy support and autonomous motivation (spirituality) among students in a baccalaureate nursing program. The results of this hypothesis compares to the findings of a previous study, which indicated that students' relative autonomy was not related to the learning environment (Black & Deci, 2000). Based on this finding, Bronson's conceptual model of Self-Determination Theory would be changed to reflect no association of the learning climate in the autonomy support environment. Yet, in contrast, Black & Deci (2000) also found a strong correlation between students who had high autonomous motivation and course performance. This finding may be because students who participated in their study were enrolled in an academic discipline other than nursing. In the autonomy supportive environment, students were better able to adjust which significantly increased their interest, enjoyment, and competence and decreased their anxiety. Furthermore, as students experienced autonomy support, they also felt need satisfaction (Deci, et al., 2000), they were intrinsically motivated (Levesque-Bristol & Stanek, 2009; Ballman & Mueller, 2006) and they applied effort to their work (Goodman, et al., 2011). It should be noted however that through ANOVA analysis of this study, the results from each independent university demonstrated that students felt their learning climate was an essential component to enhancing their autonomous motivation (spirituality).

The association between the learning climate and autonomous motivation is supported more in the literature, although no studies were found that directly measured the learning climate as a predictor of spirituality per se. The examination of the select demographic variables also revealed one significant correlation between the learning climate and ethnicity. It is possible that the relationship is seen in Caucasians based on the number of responses obtained (51%). However, the number of ethnically diverse students made up the other 49% of the sample, which makes validation of this association difficult. Further analysis would be required to identify which ethnic group found the learning climate to be more conducive to their autonomy.

In addition, two significant relationships between gender and autonomous motivation (spirituality) and religious denomination and autonomous motivation (spirituality) were evident. This finding was not surprising considering the low male-female study ratio and may thus not be significant. The relationship between religious denomination and autonomous motivation (spirituality) was also expected. This finding may be related to the students viewing their religion and their role in it very strongly, which would inevitably strengthen their autonomy. It is also possible that the support that students receive in their religious groups may help to facilitate autonomy, spirituality, and academic engagement.

Hypothesis 2

The second hypothesis proposed a positive correlation between autonomous motivation (spirituality) and academic engagement among students in a baccalaureate nursing program. The correlation and regression analysis supported this hypothesis, as well as ANOVA analysis. The result of this hypothesis was supported by the findings of

previous studies (Baard, Deci & Ryan, 2006; Deci, et al., 2001; and Komarraju & Karau, 2008) that indicate that as needs are satisfied, and autonomy is supported, students were able to engage and perform better academically. As for spirituality, in their quest to maintain autonomy, students may use their spirituality to gain a sense of comfort and calm, particularly when the demands of the learning environment become overwhelming. In addition, students may interact with others who practice the same religious beliefs that may serve as a spiritual connection. Through this connection, students may share commonalities in spirituality and spiritual meaning that may be advantageous to their ability to focus and engage. The findings of this study are further supported by Pashak & Laughter (2012) who found that spirituality was an essential component of life satisfaction. This finding suggests that life satisfaction contributes to engagement, just as need satisfaction contributes to performance (Baard, et al, 2004). In this study, university code was the only predictor that contributed to the model, which suggests that regardless of where students are enrolled into a nursing program, as long as they are autonomously motivated and spiritual, they are able to become engaged in their studies.

Hypothesis 3

The third hypothesis suggested a positive correlation between the predictor and outcome variables. The hypothesis was accepted after regression analysis revealed a significant relationship between academic engagement and academic performance. The findings are supported by gender, repeated a nursing course and university code which contributed to the model. However, a very weak negative Pearson's correlation (r = -.116, p = .116) was found between engagement and GPA which revealed no significant relationship.

The result of this hypothesis was supported by the findings of a previous study, which also revealed inconsistencies between need satisfaction and job performance (Baard, et al, 2004). In essence, to have need satisfaction, the basic psychological needs (autonomy, competence, and relatedness) must be evident for high performance to occur; but, job satisfaction does not require these needs in order for performance to occur. The weak relationship may indicate that further investigation needs to be conducted to include select demographic variables in the correlation, which may help to determine whether a path between the variables will exist.

To address the regression analysis that did support this hypothesis, comparatively speaking, the findings of previous studies revealed that individuals who were highly motivated were self-efficacious and had better performance (Nilsson & Stomberg, 2008), and they experienced need satisfaction which led to more energy and engagement in their work (Deci, et al., 2001; Klassen, Perry & Frenzel, 2011). These findings suggest that for this study, the female students were more likely to be engaged and to perform better than male students. This finding was expected due to the large number of female participants in the study compared to a far fewer number of male participants. In addition, the students were engaged in their coursework as a whole, and independently as a group from each university setting. Through their performance, students were able to adhere to course requirements, complete course assignments, and maintain above average GPA scores. Coincidentally, students who previously had to repeat a nursing course were also engaged. This result was not alarming. Students who are unsuccessful in a course tend to apply more time to study, review, and remediation in order to be more successful when they repeat the course. Perhaps students who once repeated a course

were not as autonomously motivated (spiritual) as other students and were less engaged in their coursework, leading to poor academic performance. However, further investigation on this issue is warranted.

Significance of the Study for Nursing Knowledge

As long as the nursing shortage persists, nursing programs will continue to attract, educate, and retain nursing students from all walks of life. Although student enrollment has shown a slight increase in baccalaureate nursing programs, the rising dropout rate is worrisome (AACN, 2010). The environment in a nursing program may often be mixed, with many elements requiring a student to utilize appropriate coping skills as she or he adjusts. Besides academic achievement and success, an understanding of how students are intrinsically motivated may be significant in determining the depth of the students' desire to learn, and should not be ignored (Rose, 2011). Self-determined actions emerge with intrinsic or autonomous motivation, rather than with extrinsic motivation where materialistic goals and external rewards are more valuable (Deci & Ryan, 1985, Ryan & Deci, 2000). Moreover, spirituality, thought of as an 'intangible internal motivator' may be the impetus to a students' academic performance, particularly when college adjustment and life satisfaction were attributed to student spirituality (Kneipp, Kelly & Cyphers (2009; Pashak, & Laughter, 2012). Findings from this study agree with current literature that indicates that autonomous motivation (spirituality) influences academic engagement and academic performance as hypothesized. These results will add to the body of nursing knowledge by providing data related to self-determination of baccalaureate nursing students in the last year of their nursing program, specifically their

autonomous motivation, which is synonymous with spirituality. Little attention has been given to this within the field of nursing until now.

Nursing Education

Nurse educators have always followed the example set forth by Florence Nightingale, who encouraged the education of new nurses. Her direction to view spirituality as a motivating component of the human experience should not be easily forgotten or overlooked by nurse educators, especially when educating the student nurse (Dossey, Selanders, Beck & Attewell, 2005). Findings of this study revealed high levels of autonomous motivation (spirituality), academic engagement, and academic performance among baccalaureate nursing students in their last year of the nursing program. Thus, educational programs and nursing educators alike should be commended and encouraged to continue to maintain quality nursing programs. Educators are also encouraged to be mindful of students' spiritual well-being by ensuring an environment that is conducive to learning. It is important to note that educators should also be aware of their own spiritual needs and have a knowledge of personal stimuli that motivates them. As well, advisors in nursing programs who are not nurse educators should also be able to support student autonomy, especially when students experience life-changing events.

Nursing programs are composed of culturally diverse students who will be responsible for the care of a culturally diverse society. Therefore, it is pertinent for nurse educators and administrators to be kept up-to-date on content concerning cultural competence issues surrounding student matriculation. Students are no longer homogenous and are likely to be reticent about personal issues that can easily have a

negative effect on their motivation and performance. Moreover, the incorporation of student assessments, specifically used to evaluate student autonomy on admission into the nursing program, and intermittently throughout the program, may serve as a preventative measure to reduce attrition. Educators should also serve as examples for the next generation of nurse educators by creating an environment that supports autonomy. In addition, educators are encouraged to gain a basic knowledge of the different ways that students process information, and to implement appropriate learning strategies (Rachal, Diagle & Rachal, 2007).

Elements affecting academic motivation and performance may encourage the development of self-determination motivational styles of teaching. As a result, the learning environment might also be enhanced to promote student autonomy.

Nursing Practice

The nursing shortage is growing and the retirement of older nurses is on the horizon (HRSA, 2010). As new nurse graduates enter into the work environment, nursing administrators and nursing staff have the responsibility of creating an environment that will promote autonomy. Meeting the basic psychological needs of autonomy, competence, and relatedness is relevant and should be supported in different work climates as a means of promoting motivation and sustaining the well-being of workers (Deci et al., 2000). This would suggest that nurses in practice should be given opportunities to express concerns, they should be supported in their efforts by supervisors and peers alike, and they should have access to open forums for communication that are designed to promote autonomy. In addition, to decrease job dissatisfaction and high turnover rates, consideration of nurse to high patient acuity ratios, as well as the need for

skills training and remediation should be a major matter for nursing supervisors, especially when morale and motivation is low. Furthermore, as a means of propelling students toward successful clinical practices, educators and nursing staff must be willing to partner with struggling or vulnerable students in the clinical setting (McGregor, 2005). At the same time, nursing supervisors should consider the fact that preceptors are serving in dual roles often without receiving additional pay (HRSA). This would suggest that the support of both the registered nurse and the student nurse are vital to job performance, skills building, and safe patient care.

Topics regarding spirituality, spiritual assessment and spiritual care of a patient have become a major component of the nursing regimen. Nurses are expected to be able to assess a patients' spirituality, many times without being particularly aware of their own spiritual beliefs. For a nurse to have awareness of her or his own spirituality is crucial to assessing the needs of the patient. To further strengthen their knowledge base, nurses should be encouraged to participate in nursing organizations such as the Holistic Nursing Association, and should be encouraged to attend professional conferences that enrich their knowledge of spirituality, as well as their confidence, competence, and autonomy.

Research has revealed a connection between the care of a baccalaureate prepared nurse and declining patient mortality rates (HRSA, 2010). These findings suggest that baccalaureate prepared nurses are more confident in their decision-making and intervention. Nurses should be commended on their hard work and ability to assess patients and save lives. A nurse who is motivated is able to better perform and engage in patient care. This too is significant for nursing administrators and supervisors to take into account. In practice, patients place their trust in the nurses' ability to help them heal.

Nurses should be able to put their trust in their supervisors' ability to guide, lead, and motivate them in their practice.

Nursing Research

The span of research studies pertaining to motivation has been a topic of interest for many years. Research studies addressing the autonomous motivation (spirituality) of nursing students in the last year of a baccalaureate nursing program are minimal. Specifically, attention to nursing students' individual experiences of their autonomous motivation (measured as spirituality), and the overall effect of being spiritual on the student's academic performance was not found in the literature. Thus, future research is necessary and should be designed to both explore and to seek to understand a student's perception of autonomy as well as her or his perception of spirituality. Presently, this study has supplied the momentum for continued research related to autonomous motivation and spirituality of nursing students. Future studies should be replicated with baccalaureate prepared nursing students on all levels in a nursing program. The expectation is that responses may differ among students are just entering into the nursing program in comparison to students who may be in the last semester of the program and preparing for graduation. The results of future studies should be compared with the results of this study. In addition, future studies may also include other types of nursing programs including associate degree programs, accelerated degree programs, and web-based programs. A consideration to include additional predictor variables may further enhance replication of the study.

Although this study was conducted using a cross-sectional study design, a longitudinal study may be useful for observing this same population for similarities and

differences. A cross-cultural comparative analysis of nursing students' from foreign countries may also be considered for future research to help identify additional characteristics and predictors of autonomy, as well as spirituality. To better understand student perceptions of their autonomous motivation (spirituality), qualitative research such as phenomenology and ethnography may further clarify influences that may affect autonomy and may help to explain the role of spirituality in academic performance.

The Self-Determination Theory was the theoretical framework for this study. This theory has been used in various populations to predict self-determination and motivation, with particular regard to autonomy, need satisfaction and performance. Two of the instruments from this theory were not utilized among this population before. The same can be said regarding the instrument used to measure spirituality. Thus, the three instruments should be used in future research to compare psychometric analysis with this study as well as the results of previous studies.

Nursing programs continue to increase in number as a means of addressing nursing shortage issues. The diversity of nursing students has also increased. As a result, to understand issues surrounding nursing student autonomy and to effectively support their autonomous motivation, further research is needed. Research that focuses on measures to improve the learning environment and student autonomy may provide contributions to improving attrition and retention rates of nursing students. Essentially, to add to the body of knowledge concerning the autonomous motivation (spirituality) of students in baccalaureate nursing programs, research regarding this problem must be amplified.

Public Health Policy

The urgency of nurses to become more involved in the public policy process is principal to the success of the nursing profession. Participation in leadership roles will allow nurses to have a voice that may help to influence change. Nursing leaders who are politically active should advocate for staff nurses who may frequently express feelings of job dissatisfaction due to limited staff that creates exhaustion and burnout. As advocates, nurse leaders and administrators must insist on equality of care and build support for change for healthy work environments to benefit both the nurse and the patient. Policy-makers must have an understanding, and be reminded of human needs—mental, physical and spiritual— in order to improve the healthcare of their constituents. Findings from this study may be utilized by nurse leaders to guide policy-makers in supportive strategies that will enhance nursing in general.

Student nurse representatives should also be encouraged to increase their political activism to advocate for policies to augment academic resources that can help further the academic success of nursing students. In addition, nurse educators who are members of professional nursing organizations on both state and national levels can help to advocate for change needed in nursing education overall, most especially change improving student assessment, retention, and progression.

Moreover, nurse liaisons should also encourage policy-makers to utilize information gained from this research as a means of strengthening current practices in student admission guidelines. The development of a standard rubric for admissions may help to increase recruitment into baccalaureate nursing programs, the low numbers for which currently pale in comparison to those for students entering associate degree

nursing programs (OPPAGA, 2012). Such a standard would cover a variety of subjects including student and faculty diversity assessments, autonomous motivation assessments, and evaluations of the nursing programs' teaching and learning environments.

Limitations to the Study

The results presented in this study offered important information and insight on the self- determination of nursing students in the last year of a baccalaureate nursing program. Specific attention was paid to student autonomy in a supportive environment and students' autonomous motivation (spirituality), academic engagement and academic performance. The information gained may help to improve student autonomy and overall performance. However, limitations to the study were evident and are noted as follows:

1. The convenience sample of nursing students in the last year of a baccalaureate nursing program limited the generalizability of the findings of this study to nursing students enrolled at any level of a program. Findings could not be generalized to students in online nursing programs, nursing bridge programs, associate degree nursing programs and licensed practice nursing programs. The convenience of the sample may have created sampling bias which may have potentially limited the findings as well.
2. By using a cross-sectional design, the nature and disposition of student autonomy could not be generalized to nursing students in general. In addition, the study was limited to only four university nursing programs in one state. Study findings may have differed with a larger population from various nursing programs in other states as well.

3. The self-reported nature of the research may have allowed participants to answer questions without reflective thought. Answers may have been based on perceptions of what the researcher may have desired rather than actual personal beliefs or practices. This too may have contributed to study limitations due to the potential for response biases.
4. Only one sub-theory of the self-determination theory was used to explain motivation, namely the cognitive evaluation sub-theory. In addition, all components of the self-determination continuum were not investigated.
5. Spirituality is a broad subject and was measured with only one instrument. The utilization of additional instruments may have provided additional characteristics of student spirituality. better reflection

Recommendations for Future Study

This study was conducted to provide an understanding of nursing students' autonomy. Recommendations for future research include the following:

1. A similar study should be conducted using a larger sample of participants who are student nurses from various nursing institutions. This addition may decrease sampling bias and may present differences in the study findings.
2. A qualitative study may help to identify and explain characteristics of a student' perception of autonomy and autonomous motivation (spirituality).
3. The Self-Determination Theory is broad and comprises five sub-theories that all measure a component of motivation. A look at student autonomy through the lenses of a different sub-theory may be useful for comparison with findings of this study.

4. Spirituality should be measured as an independent variable and should not be substituted or used synonymously with autonomous motivation.
5. In order to provide a better understanding of the influence of spirituality on academic engagement, the utilization of additional instruments to measure spirituality is encouraged. In addition, the inclusion of additional demographic questions such as parental involvement, coping strategies, and effort may also be useful in highlighting issues surrounding student autonomy.

Conclusion

This chapter summarized the purpose of this study and provided a discussion of the research. Findings that were associated with the demographic characteristics of the participants, relationships that were identified between the variables of the autonomy supportive environment (select demographics and the learning climate) and autonomous motivation (spirituality), academic engagement and academic performance among students in a baccalaureate nursing program were summarized. In addition, the significance of the study, the strengths and limitations of the study, and recommendations for future research were also discussed.

Since the results of this study indicate that students were autonomously motivated and able to engage in their courses, it is hoped that the findings from this study will be used to explore other variables in different samples. Some students felt no connection with their learning climate, so that it would behoove nursing administrators and educators to identify and develop strategies that would support student autonomy, with the goal of decreasing attrition rates.

Student assessments and collaborative intervention strategies could be developed and implemented to improve support in the learning environment. Thus, the results from this study have expanded the body of knowledge, requiring this research on baccalaureate nursing student motivation (spirituality) and academic performance. The relationships of the study variables have been identified, which should increase knowledge that may be useful when evaluating student motivation and the learning environment. Considerations for future research include the possible investigation of spirituality and autonomous motivation as two separate variables.

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Appendices

Appendix A

IRB Forms

- Research and Human Participants Protocol Form
- IRB Addendum: Recruitment Flyer
- Institutional Request for Access Letter
- Participant Introductory Cover Letter

Barry University

Research with Human Participants Protocol Form

PROJECT INFORMATION

1. Title of Project:

"Academic Performance of Baccalaureate Nursing Students: The Influence of Autonomy Support and Autonomous Motivation"

2. Principal Investigator

Student Number: [redacted]
Name: [redacted], MSN, ARNP
School – Department: Barry University School of Nursing
Mailing Address: [redacted]
Telephone Number: [redacted]
E-mail Address: [redacted]

3. Faculty Sponsor

Name: [redacted], PhD, ARNP, CNAA
School – Department: Nursing
Mailing Address: Barry University Division of Nursing
Telephone Number: [redacted]
E-Mail Address: [redacted]
Faculty Sponsor Signature: _____ Date: _____

4. Is an IRB Member on your Dissertation Committee?

Yes ____ No __X___

5. Funding Agency or Research Sponsor: NA

6. Proposed Project Dates: NA

Start __July 1, 2012_
End _June 30, 2013_

Note: It is appropriate to begin your research project (i.e., the data collection process) only *after* you have been granted approval by this board. Proposals that list starting dates occurring before the date of submission will be returned without review. Please allow time for approval when determining your start date. It is best if the end date you choose is one year after the start date.

Please Provide the Information Requested Below

A. Project activity STATUS is: (Check one of the following three as appropriate.)

_**X**_ **NEW PROJECT**
___ **PERIODIC REVIEW ON CONTINUING PROJECT**
___ **PROCEDURAL REVISION TO PREVIOUSLY APPROVED PROJECT**
(Please indicate in the **PROTOCOL** section the way in which the project has been revised.)

B. This project involves the use of an **INVESTIGATIONAL NEW DRUG (IND) OR AN APPROVED DRUG FOR AN UNAPPROVED USE** in or on human participants.
___ YES _**X**_ NO
Drug name, IND number and company:
_____

C. This project involves the use of an **INVESTIGATIONAL MEDICAL DEVICE (IMD)** or an **APPROVED MEDICAL DEVICE FOR AN UNAPPROVED USE.**
___ YES _**X**_ NO

D. This project involves the use of **RADIATION** or **RADIOISOTOPES** in or on human participants.
___ YES __**X**_ NO

E. This project involves the use of Barry University students as participants. (If any students are minors, please indicate this as well.)
_**X**_ YES Barry Students will be participants (Will minors be included? ___ YES _**X**_ NO)
___ NO Barry Students will participate

F. **HUMAN PARTICIPANTS** from the following population(s) would be involved in this study:

___ Minors (under age 18)
___ Abortuses
___ Prisoners
___ Mentally Disabled
___ Other institutionalized persons (specify)
___ Other (specify)
___ Fetuses
___ Pregnant Women
___ Mentally Retarded

G. Total Number of Participants to be Studied: __150__

Description of Project

1. Abstract

Nursing education in the 21st century has led to the use of sophisticated teaching strategies, such as simulation and internet-based instruction, to help students to develop nursing knowledge and proficiency in clinical and leadership skills. Economic conditions have challenged nurse educators to teach more with less time, resources, and support which may negatively affect student motivation and performance. A supportive environment and a strong sense of autonomy are necessary for students to achieve academic success. Spirituality may help students to adjust to the rigors of the nursing program. However, limited research regarding baccalaureate nursing students' motivation and spirituality exists. The purpose of this study is to test students' self-determination by exploring the relationships between autonomy support environments including select demographics, autonomous motivation (spirituality) and engagement which are all expected to contribute to the academic performance among nursing students in a baccalaureate nursing program. The Self-Determination Theory will provide the framework for this study. The concept of spirituality will also be used as an exploratory lens to study the autonomous motivation of this population. A cross-sectional, correlational design will be used to examine the relationship among the major study variables.

2. Recruitment Procedures

Students who are currently enrolled in a baccalaureate nursing program, either full-time or part-time, will be afforded the opportunity to participate in the study, following IRB approval. Recruitment flyers inviting students to participate in the study will be placed throughout the nursing building in visible, high traffic areas for easy accessibility (See Appendix A). In addition, both a cover letter and the recruitment flyer will also be sent via electronic mail to each instructor in the nursing program with the request to post the flyer on their course websites. Participants will also receive a cover letter explaining the purpose of the study and manner of involvement to include completion of a survey. Although the researcher is presently a faculty member in the nursing program at one of the sites where the study will be conducted, during the duration of the study, the researcher will not be involved with any courses in which participants are enrolled. This will decrease the possibility of conflicts, biases, or favoritism that may arise. The study will be anonymous.

3. Methods

A letter will be sent by e-mail to nursing administrator(s) and nursing faculty at approved institutions who teach courses in the last year of the baccalaureate curriculum. The letter will announce a visit to the nursing program for the purpose of conducting a survey with the students enrolled in the last year of the nursing program. The letter will request approval for the use of the student lounge on a scheduled date

and time. The letter will also request that faculty who teach courses in the last year of the program provide an announcement to students to inform them of the study and request for participation. Administrators and/or faculty will be asked to respond to this researcher via email to confirm visitation. Once authorization is confirmed, this researcher will provide an announcement that can be emailed to students or posted electronically on social or educational media sites. A flier will also be made available for administrators and/or faculty by this researcher and may be posted in high traffic areas, on selected classroom doors and in the student lounge as a means of recruiting participants for the study.

The researcher will be stationed in the student lounge at a table with envelopes and a data collection box. The envelopes will be used to seal completed questionnaires. Students who express a willingness to participate will be given a questionnaire on a clipboard along with a pen and envelope. The questionnaire includes 61 questions and can be completed approximately 20 minutes. Questionnaires will ask for no identifying information. Upon completion of the survey, the researcher will ask participants to place their completed surveys into the data collection box that will be provided by the researcher. At the scheduled time to end the visit, this researcher will remove all of the sealed questionnaires from the data collection box and will place them into a locked box to be taken by this researcher.

4. Alternative Procedures

There are no alternative procedures.

5. Benefits

Although there are no direct benefits to participants in this study, participants may benefit from this study by gaining insight regarding their beliefs, and may also increase their level of motivation and enhance their academic goals. Although the focus has been to educate students on how to identify and meet the spiritual needs of patients, little attention has been given to faculty's identification of and sensitivity toward meeting students' spiritual needs. Contributions of this study may aide in the ability of nursing administrators, educators, and policy-makers to understand the benefits of conveying spiritual care towards students, with specific regards to student autonomy, self-efficacy, and retention.

6. Risks

There are no known risks to the participants in this study.

7. Anonymity/Confidentiality

Data collected in this study will be anonymous. Participants will be instructed that they should not write their names or any other identifying information on surveys. Surveys will be distributed and collected in a group. **A request for exempt status is being made in accordance with Department of Health and Human Services**

(DHHS) Regulations, 45 Code of Federal Regulations (CFR) 46, exempt category 2(i) research involving survey or interview procedures (responses will be recorded in such a manner that the human subjects cannot be identified, directly or through identifiers linked to the subjects), and (ii) any disclosure of the human subjects' responses outside the research cannot reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. Additionally, waiver of signed informed consent is being requested since the only record linking participants and the research (i.e., anonymous survey) would be the consent document. In lieu of signed consent, participants will be instructed regarding the study's purpose and participation requirements both verbally and in a cover letter.

8. Consent

Please see the attached copies of the consent form.

9. Certification

I certify that the protocol and method of obtaining informed consent as approved by the Institutional Review Board (IRB) will be followed during the period covered by this research project. Any future changes will be submitted to IRB review and approval prior to implementation. I will prepare a summary of the project results annually, to include identification of adverse effects occurring to human participants in this study. I have consulted with the department or program faculty/administrators and the Dean of the school that is to be the subject of research and have received prior approval to conduct the research and/or to disseminate the results of the study. A copy of that approval has been included with this protocol.

_____ _____

Principal Investigator *Date*

***Reminder*: Be sure to submit (4) four individually collated and bound (i.e. stapled or paper clipped) copies of this form with your application.**

*NOTE: Your proposal **WILL NOT** be reviewed until the completed packet is received in its entirety.*

Barry University IRB Addendum

Recruitment Flyer

RECRUITMENT FLYER

Where Does Your Spirituality Fit In?

Currently enrolled in the last year of the nursing program? Then you may qualify to participate in a research study. The purpose of the study is to identify how spirituality influences motivation and academic success.

For more information, please contact:
[redacted], Doctoral Student, Barry University at [redacted] or email [redacted], or you may contact [redacted], Dissertation Committee Chair at [redacted] or email [redacted], and/or [redacted], Barry University Institutional Review Board's Point of Contact, at [redacted], or toll-free at 1-800-765-6000, extension [redacted].

Thank You!

Request for Access

Barry University
Division of Nursing

Date:

To:

Dear Dean,

As a doctoral student with Barry University in Miami, Florida, I am requesting access to students enrolled in the last year of the nursing program. I am also requesting IRB approval from both Barry University and XXXX to conduct a quantitative descriptive study to determine if autonomy support environments and autonomous motivation contribute to student engagement and academic success. This study emphasizes three components: (a) an exploration of nursing student autonomy support environments and their impact on autonomous motivation, (b) how autonomous motivation, examined through the lens of spirituality, contributes to students' academic performance, and (c) whether students who are autonomously motivated spiritually are able to better engage in order to perform better academically. This is an autonomous study, and results can provided upon request.

Subject Qualifications:
1. Full-time or part-time, pre-licensure nursing enrolled in courses in the last year of the nursing program
2. Any pre-licensure nursing student who is repeating or has repeated a course while in the nursing program

To participate in this study, students will be asked to complete a demographic survey. In addition, they will complete the research questionnaire consisting of a total of 61-items on a Likert-type scale. Completing the surveys will take approximately 20 minutes. Participation will be voluntary. The benefits of the study may be that students will gain insight regarding their personal beliefs and autonomy as well as how motivated they are towards their academic, and professional goals.

The college experience may be arduous and tenuous and may threaten students' sense of well-being. The problem is compounded by generational, ethnic and cultural differences existing among faculty and students. Faculty who exhibit decreased sensitivity to student needs can potentially hinder student motivation. Students may find motivation through their spirituality and beliefs. Limited data exists on nursing student motivation, possibly as a result of the belief that students in nursing are generally highly motivated individuals. Thus, paucity in research regarding nursing students' motivation and spirituality reveals a gap which this proposed study seeks to inform.

If you have any questions or concerns regarding this study, you may contact me, [redacted], or email me at [redacted]. My dissertation chair, [redacted] may be contacted at [redacted], or emailed at [redacted], and/or the Barry University Institutional Review Board's point of contact, [redacted], at [redacted], or toll-free at 1-800-765-6000, extension [redacted].

Thank you for your permission for access to your institution.

Sincerely,

Participant Cover Letter

Barry University
Division of Nursing

Date

Dear Participant:

Your participation in a research project is requested. The title of the study is Self-Determination Theory: The Influence of Spirituality on Autonomous Motivation and Academic Performance of Baccalaureate Nursing Students. The research is being conducted by [redacted], a doctoral student in the Division of Nursing at Barry University, and is seeking information that will be useful in the field of nursing. The aims of the research are to gain an understanding regarding the relationships of spirituality and motivation and its impact on academic performance among nursing students in a baccalaureate nursing program. In accordance with these aims, the researcher will conduct a survey to collect the data. The anticipated the number of participants will be 150 participants.

If you decide to participate in this research, you will be asked to complete a demographic survey. In addition, you will complete the research questionnaire consisting of a total of 53-items on a Likert-type scale. Completing the surveys will take approximately 20 minutes.

Your consent to be a research participant is strictly voluntary and should you decline to participate, or should you choose to drop out at any time during the study, there will be no adverse effects on your grades.

There are no known risks to you should you volunteer to participate in this study. However, the benefits to you for participating in this study might include gaining insight regarding your personal beliefs and increasing your level of motivation towards your academic goals. Your participation will also provide valuable information that may help nursing faculty and administrators develop and implement programs that may improve student autonomy and motivation in nursing programs.

As a research participant, information you provide will be kept anonymous, that is, no names or other identifiers will be collected on any of the instruments used. Any published results of the research will be done as group averages only and no names will be used in the study. Data will be kept in a locked file in my home office for a period of five years and then destroyed.

If you have any questions or concerns regarding the study, or your participation in the study, you may contact me, [redacted] at [redacted], or email me at [redacted]. My dissertation chair, [redacted] may be contacted at [redacted], or emailed at [redacted], and/or the Barry University Institutional Review Board's point of contact, [redacted], at [redacted], or toll-free at 1-800-765-6000, extension [redacted].

Thank you for your participation.

Sincerely,

Appendix B

Research Instruments

- Learning Climate Questionnaire
- Spiritual Involvement and Beliefs Scale
- Work Engagement Scale
- Demographic Questionnaire

Learning Climate Questionnaire

This questionnaire contains items that are related to your experience with your instructor in class. Instructors have different styles in dealing with students, and I would like to know more about how you have felt about your encounters with your instructors. Your responses are confidential. Please be honest and candid. CIRCLE the number that best represents your response (1 = strongly disagree, 2 = disagree, 3 = disagree neutral, 4 = neutral, 5 = agree neutral, 6 = agree, and 7 = strongly agree).

Example: I can color with crayons.	1	2	3	4	5	6	(7)
1. I feel that my instructor provides me choices and options.	1	2	3	4	5	6	7
2. I feel understood by my instructor.	1	2	3	4	5	6	7
3. I am able to be open with my instructor during class.	1	2	3	4	5	6	7
4. My instructor conveyed confidence in my ability to do well in the course.	1	2	3	4	5	6	7
5. I feel that my instructor accepts me.	1	2	3	4	5	6	7
6. My instructor made sure I really understood the goals of the course and what I need to do.	1	2	3	4	5	6	7
7. My instructor encouraged me to ask questions.	1	2	3	4	5	6	7
8. I feel a lot of trust in my instructor.	1	2	3	4	5	6	7
9. My instructor answers my questions fully and carefully.	1	2	3	4	5	6	7
10. My instructor listens to how I would like to do things.	1	2	3	4	5	6	7
11. My instructor handles people's emotions very well.	1	2	3	4	5	6	7
12. I feel that my instructor cares about me as a person.	1	2	3	4	5	6	7
13. I don't feel very good about the way my instructor talks to me.	1	2	3	4	5	6	7
14. My instructor tries to understand how I see things before suggesting a new way to do things.	1	2	3	4	5	6	7
15. I feel able to share my feelings with my instructor.	1	2	3	4	5	6	7

Spirituality Involvement and Beliefs Scale

Please answer the following questions by providing a check (√) in the corresponding box to indicate your response of Strongly Agree, Agree, Neutral, Disagree or Strongly Disagree. Please provide only one response for each question.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Example: I can chew gum.	√				
1. In the future, science will be able to explain everything.					
2. I can find meaning in times of hardship.					
3. A person can be fulfilled without pursuing an active spiritual life.					
4. I am thankful for all that has happened to me.					
5. Spiritual activities have not helped me become closer to other people.					
6. Some experiences can be understood only through one's spiritual beliefs.					
7. A spiritual force influences the events in my life.					
8. My life has a purpose.					
9. Prayers do not really change what happens.					
10. Participating in spiritual activities helps me forgive other people.					
11. My spiritual beliefs continue to evolve.					

12. I believe there is a power greater than myself.					
13. I probably will not reexamine my spiritual beliefs.					
14. My spiritual life fulfills me in ways that material possessions do not.					
15. Spiritual activities have not helped me develop my identity.					
16. Meditation does not help me feel more in touch with my inner spirit.					
17. I have a personal relationship with a power greater than myself.					
18. I have felt pressured to accept spiritual beliefs that I do not agree with.					
19. Spiritual activities help me draw closer to a power greater than myself.					

Please indicate how often you do the following. Answer each question by providing a check (√) in the corresponding box to indicate your response of Always, Usually, Sometimes, Rarely or Never. Provide only one response for each question.

	Always	Usually	Sometimes	Rarely	Never
20. When I wrong someone, I make an effort to apologize.					
21. When I am ashamed of something I have done, I tell					
22. I solve my problems without using spiritual resources.					
23. I examine my actions to see if they reflect my values.					

Please check (√) ONE answer for the following questions. Answer each question in the space provided. Give only one response for each question.

24. During the last WEEK, I prayed. . . (check one)

_____ 10 or more times
_____ 7 – 9 times
_____ 4 – 6 times
_____ 1 – 3 times
_____ 0 times

25. During the last WEEK, I meditated... (check one)

_____ 10 or more times
_____ 7 – 9 times
_____ 4 – 6 times
_____ 1 – 3 times
_____ 0 times

26. Last MONTH, I participated in spiritual activities with at least one other person... (check one)

_____ more than 15 times
_____ 11 – 15 times
_____ 6 – 10 times
_____ 1 – 5 times
_____ 0 times

Work Engagement Scale

Please read each statement and rate the degree to which it is true for you. CIRCLE the number that best represents your response (1 = not at all true, 2 = somewhat not true, 3 = mostly not true, 4 = neutral, 5 = true, 6 = mostly true, and 7 = very true).

Example: I can color with crayons.	1	2	3	4	5	6	(7)
1. I try very hard to do well in my classes.	1	2	3	4	5	6	7
2. I really like to devote myself to my class work.	1	2	3	4	5	6	7
3. When I'm on in class, I am often not really working.	1	2	3	4	5	6	7
4. I often think about ways to do my class work better.	1	2	3	4	5	6	7
5. When I'm in class, I often feel bored.	1	2	3	4	5	6	7
6. When I'm in class, I just try to look busy.	1	2	3	4	5	6	7
7. When I'm in class, I work as hard as I can.	1	2	3	4	5	6	7
8. I feel a sense of responsibility to my nursing program.	1	2	3	4	5	6	7
9. If I have things I need to do, I feel free to take time from my class work to do them.	1	2	3	4	5	6	7
10. I do not feel committed to work hard at my class work.	1	2	3	4	5	6	7
11. I like to take initiative in class to be sure things are done well.	1	2	3	4	5	6	7
12. When I'm in class, I often feel tired.	1	2	3	4	5	6	7

Demographic Questionnaire

Please answer the following items as completely and honestly and possible. If you do not feel comfortable answering any question(s), please leave the item blank and go to the next one.

Please do not write your name or any identifiers anywhere in this demographic questionnaire so that your responses may remain anonymous.

Thank you for participating in this study!

1. Age in years: _____

2. Gender: a. ___ Male b. ___ Female

3. What is your ethnicity?

   a. ___Caucasian
   b. ___African American
   c. ___Hispanic
   d. ___American Indian
   e. ___Caribbean (please specify _____)
   f. ___Other (please specify_____)

4. What is your marital status?

   a. ___Single, never married
   b. ___Married
   c. ___Divorced
   d. ___Separated
   e. ___Widowed
   f. ___Other (please specify_____)

5. What is your employment status?

   a. ___Full-time
   b. ___Part-time
   c. ___Unemployed
   d. ___Retired

6. What is your religious denomination?

   a. ___Protestant (i.e., Evangelical, Baptist, Methodist, Lutheran, Nondenominational, Pentecostal, Presbyterian, Holiness, Adventist)
   b. ___Catholic
   c. ___Mormon
   d. ___Jehovah's Witness

e. ___Orthodox
f. ___Jewish
g. ___Buddhist
h. ___Muslim
i. ___Atheist
j. ___Agnostic
k. ___Other (please specify _____)

7. What is your current overall GPA? _____ (please write in)

8. Have you ever repeated a nursing course? a. ____Yes b. ____No

Appendix C

Permission to use the Learning Climate Questionnaire and Work Engagement Scale

Edward Deci [deci@psych.rochester.edu]

Inbox

Monday, March 01, 2010 8:39 AM

You are welcome to use any of the scales from the SDT web site for your research. However, the ones you mentioned do not really fit together to test one of the conceptual models of SDT. As for a model, I suggest you use a variant of Figure 1 in the attached article. However, you would leave out the well-being dependent variables, using only engagement as an indicator of academic success (unless you also have some other indicator of success, in which case you could add that to the model. Further, you would change the need satisfaction variable to autonomous motivation, unless you prefer to keep need satisfaction instead of autonomous motivation.

Then you would use the LCQ from the Autonomy-Supportive Climate Questionnaires which is in the Questionnaires section of the web site to measure autonomy support. In addition, you would use the SRQ-R to assess autonomous motivation, unless you wanted to use the basic psychological needs questionnaire (adapted for spirituality). Finally, you would use the attached measure to assess engagement. This version of the questionnaire concerns work, so you would just change it to school. Where it say "When I am at work" you would change it to "When I am at school", and any other small changes like that so it is relevant to your nursing students.

Ed Deci

[redacted]

To: edward.deci@rochester.edu

Cc: richard.ryan@rochester.edu

Sent Items

Friday, February 26, 2010 7:39 PM

Good day Drs.,
My name is [redacted] and I am currently a first year doctoral student at Barry University in Miami, FL. I am currently beginning my work on a research topic that involves spirituality and nursing students academic success. I came across your website on Self-Determination Theory which was very informative and a theory that I believe will be a good fit for my study. However, I have not been able to locate a conceptual model for your framework which is required for the work. I have read several of the articles that may be applicable to this study, but none, so far, had a picture of the conceptual model.

Therefore, I am asking for your assistance. I would like to know if either of you have a conceptual model. If so, I am requesting your permission to use your model. You may email it at this address. In addition, I have found some of your questionnaires to be helpful as well, and also request your permission to use 2-3 of them (IMI, SRQ-R, and possibly SDS scales).

Thank you in advance for any assistance or recommendations,
[redacted]
PhD Student, Barry University

Appendix D

Permission to use the Spiritual Involvement and Beliefs Scale

Hatch,Robert L [hatch@ufl.edu]

Inbox

Wednesday, February 17, 2010 10:04 AM

Hi, [redacted].
Thank you for your interest in our scale. You are of course very welcome to use our scale in your research. We made substantial revisions after the scale was first published in JFP (copy of article including original version of scale attached). However, job duties pulled us in other directions and we never submitted data on the revised version for publication. I have attached a Word document that includes both a long and a shortened version of the updated scale and unpublished data on them. Both the original and the revised versions have been used by others, with about a 50-50 split between them. The original version was used in references 1 - 11 in the attachment and the revised version in references 12 - 19. Some people prefer a scale with published reliability and validity data and/or the format of the original version and choose the original published version. Others prefer the wording of the new version and accept the combination of our unpublished data and the data reported by other researchers who have used the scale. Some graduate students have been able to persuade their committees to accept the revised version since its items are backed by a combination of published and unpublished data. You are welcome to use which ever version best suits your situation and needs. There is no charge for using the scale, and you are free to alter the layout, use just certain items, etc. to fit your needs. If you decide to use the scale, I would greatly appreciate a summary of your findings at the end of the project or a copy of the article if it is published.
Good luck with your research!
Rob

[redacted]

Sent Items

Monday, February 15, 2010 6:01 PM

Hello Dr. Hatch,

My name is [redacted] and I am currently a doctoral student at Barry University. I am currently beginning my work on a research topic that involves spirituality and nursing students' success. Dr. Spalding at Barry has informed me of your Spiritual Involvement and Belief Scale. I would like to know if this scale focuses specifically on patients or if it can be used across the general population. If at all possible, I would like to obtain a copy of the scale to see if it may be one that I can use in my study. Please feel free to respond to this email address or, if you would like to call, then you may reach me at 850-591-8555.

I appreciate your time and assistance in this matter,
[redacted]

Appendix E

Hypothesis Table

Hypotheses Table

Research Hypothesis	Instrument	Statistical Test	Results
1. There will be a significant positive relationship between the variables of autonomy support environment (select demographics and learning climate) and autonomous motivation (spirituality) among students in a baccalaureate nursing program.	Demographic Questionnaire Learning Climate Questionnaire	Descriptive statistics (frequency distributions, percentages and histograms), measures of central tendencies (means, medians, modes), measures of variability (standard deviations) and box plots (interval data and outliers) Pearson's product moment correlation analysis, ANOVA and regression analysis	The research hypothesis was rejected. Pearson's correlation (r = .034, p = .676) found no significant relationship variables. One-way ANOVA did reveal significant correlation of LCQ and SIBS among each university group. Regression analysis confirmed that there was no significant relationship uniquely or as a linear composite. The model was not significant, F (8, 126) = 1.46, p = .178. One predictor variable, religious denomination (p = .033), contributed to the model.

2. There will be a significant positive relationship between autonomous motivation (spirituality) and academic engagement among students in a baccalaureate nursing program.	Spiritual Involvement and Beliefs Scale	Pearson's product moment correlation analysis, ANOVA and regression analysis	Research hypothesis was accepted. Pearson's correlation found significant relationships between scores on SIBS and scores on WES (r = .193, p = .018), regression analysis further confirmed that a significant relationship was found. The relationship was significant, F (2, 147) = 28.28, p = .000. University code contributed to the model. One-way ANOVA also revealed significant correlation between SIBS and WES scores among each university group.
3. There will be a significant positive relationship between academic engagement and academic performance among students in a baccalaureate nursing program.	Work Engagement Scale and self-report of GPA from Demographic Questionnaire	Pearson's product moment correlation analysis, ANOVA and regression analysis	The research hypothesis was accepted. However, Pearson's correlation did not find a significant relationship between scores on WES and current overall GPA (r = -.116, p =

			.116). One-way ANOVA did show a relationship among the universities. Regression analysis confirmed there was a significant relationship between WES and GPA. The relationships were significant, F (2, 141) = 14.66, p = .000. University code contributed to the model.

Sevilla L. Bronson

4460 Westover Drive, Tallahassee, Florida 32303
850-591-8555, slbronson89@gmail.com

EDUCATION

DOCTOR OF PHILOSOPHY, 2009-PRESENT *(ANTICIPATED MAY, 2013) BARRY UNIVERSITY, MIAMI SHORES, FL*
Nursing

MASTER'S OF SCIENCE, 2003 - *Florida A&M University, Tallahassee, FL*
Adult/Gerontological Nursing with Thesis Defense

BACHELOR OF SCIENCE, 1986 - *Florida A&M University, Tallahassee, FL*
Psychology

BACHELOR OF SCIENCE, 1985 - *Florida A&M University, Tallahassee, FL*
Nursing

EXPERIENCE

Instructor **2003-present**
Florida Agricultural and Mechanical University, Tallahassee, FL

Advanced Registered Nurse Practitioner (Contract) **2003-2004**
Andrew Scanameo, M.D., Tallahassee, FL

Registered Nurse Consultant **1999-2004**
George, Hartz, Lundeen (Law), Tallahassee, FL

Administrator **1998**
Mederi of Leon County, Inc., Tallahassee, FL

Staffing Coordinator/Case Manager **1996-1998**
Tallahassee Memorial Hospital, Tallahassee, FL
.
Case Manager **1995, 1993**
Staff Builders Home Health, Miami Lakes, FL & West Palm Beach, FL

Assistant Clinical Nurse Manager/Clinical Lab Instructor **1994-1995**
NC Baptist Hospital/Mitchell College Winston-Salem, NC

Staff Nurse **1991-1994**
St. Mary's Hospital W. Palm Beach, FL

Assistant Head Nurse/Staff Nurse **1988-1991**
Tallahassee Memorial Hospital, Tallahassee, FL

ORGANIZATIONS

- INACSL, 2012-present
- Delta Epsilon Iota Academic Honor Society, 2012-present
- International and Local Chapter of Sigma Theta Tau International Nursing Honor Society, 2003-present

HONORS

- Delta Epsilon Iota Academic Honor Society 2011
- Nurse Excellence Award 2008
- Sigma Theta Tau International Nursing Honor Society 2003
- Outstanding Young Women of America Award 2002

RESEARCH

- Poster Presentation, 1st Place Winner: Lambda Chi Chapter, Sigma Theta Tau International Scholarly Program, Barry University, February 2013

PROFESSIONAL DEVELOPMENT

- Title III Grant Submission - Simulations in Nursing Education: Realistic Experiences to Enhance Critical Thinking, Florida A&M University, 2012
- Reviewer: Laboratory Tests and diagnostic Procedures with Nursing Diagnosis, 8th Edition, by Corbett, J. & Banks, A., 2013
- Reviewer: More Evidence-Based Nursing Practice Online Journals 2007–09
- University of Florida Area Health Educations Centers (AHEC) Program: Tobacco Use Prevention and Smoking Cessation Training, 2008

SERVICE

- Co-created, developed and implemented The A.R.T.S. Health Ministry at Restoration Place Tallahassee 2012–present
- Member: Board Member – Counselor for Rho Kappa Chapter of Sigma Theta Tau International Honor Society 2008–09. Secretary and Editor of Newsletter 2006-08
- Chair – Faculty, Staff and Student Relations Committee Florida A&M University School of Nursing 2008–09
- Board Member – Community Development Center in Monticello, FL 2008-2010
- Coordinator and Editor of Health Ministry at local church ("PROSPER" Health Ministry Newsletter, 2006–2008)