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West Virginia University

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Resilient First-Generation College Students: A Multiple Regression Analysis
Examining the Impact of Optimism, Academic Self-Efficacy, Social Support,
Religiousness, and Spirituality on Perceived Resilience

David F. Davino

Dissertation Proposal submitted to the
College of Education and Human Services
at West Virginia University
in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
in
Counseling Psychology

James Bartee, Ph.D., Chair
Katherine Byers, Ph.D.
Reagan Curtis, Ph.D.
Jeff Daniels, Ph.D.
Monica Leppma, Ph.D.

Department of Counseling, Rehabilitation Counseling,
and Counseling Psychology

Morgantown, West Virginia
2013

Keywords: resilience, first-generation college students, optimism, academic self-efficacy,
social support, religiousness, spirituality

ABSTRACT

Resilient First-Generation College Students: A Multiple Regression Analysis Examining the Impact of Optimism, Academic Self-Efficacy, Social Support, Religiosity, and Spirituality on Perceived Resilience

David F. Davino

First-generation college students (FGCS) have been identified as an at-risk population as evidenced by higher attrition rates, lower socio-economic backgrounds, and are less engaged in the college environment when compared to their college peers. Yet despite these stressors, many will graduate college demonstrating their resilience. This study examined optimism, academic self-efficacy, social support, religiosity, and spirituality as potential protective factors for FGCS who perceive themselves to be resilient. Two-way effects were examined in order to determine if any two-way combination of the five protective factors explored in this study explained more of the variance in perceived resilience of FGCS. Demographic variables were also taken into consideration. The study surveyed 249 FGCS from a small rural state university. The regression model revealed a significant positive relationship between the protective factors of academic self-efficacy, social support, and optimism on perceived resilience. FGCS who indicated having more social support, believed themselves to be optimistic and academically self-efficacious, also perceived themselves to be highly resilient. Furthermore, male FGCS reported higher perceived resiliency scores when compared to female FGCS. The implications, limitations, and the future direction of the research were discussed.

ACKNOWLEDGEMENTS

The dissertation is a massive undertaking and would not be possible without the many people in my life providing support and encouragement in every step of the dissertation process. I would like to thank Dr. Jeff Daniels, Dr. Monica Leppma, and Dr. Roy Tunick for their constructive feedback. Their input helped raise thought-provoking questions and useful suggestions allowed me to improve my dissertation. A thank you to Dr. Katherine Byers, who was willing to take the time from her busy schedule and sit on my dissertation committee at the last stages of the dissertation process. Your time and thoughtful feedback is greatly appreciated. I want to thank Dr. Reagan Curtis whose invaluable knowledge on statistics and his ability to convey his expertise in a way for me to understand has been appreciated. I want to give a special thanks to Dr. James Bartee who always seems to find a nice balance of productive feedback and positive encouragement throughout this process. The importance of his guidance cannot be overstated.

I want to thank Vicki Railing for always informing me of the necessary forms and deadlines throughout my doctoral career. Thank you for keeping me on track. I want to thank Longwood University, particularly Dr. Eric Laws from the Longwood University's IRB, and my colleagues at The Counseling Center, particularly, Dr. Wayne O'Brien and Dr. Maureen Walls-McKay. I also like to thank Vice President of Student Affairs, Dr. Tim Pierson, who did an extraordinary job of helping me recruit first-generation college students.

A special thanks to my fellow graduate students who have helped me in various stages of the dissertation. Laura Artman, John Damm, Rowan Flamm, Shawn Golden, Aubree Guiffre, Valerie Ignatenko, Christina Gomez-Sisto, and Teresa Stire, your support has been appreciated not only for my dissertation, but through the whole doctoral training process.

My friends and family provided me with incredible love, understanding, and encouragement. I want to thank my parents, Alice and Fred Davino and my brother and his wife Mark and Lauren Mallon-Davino who have given me so much support in my life. My father, Fred, a first-generation college student, was the underlying inspiration to my dissertation. My friends, David and Tammy Ludwig, Derek and Lisa Hocking, Christine Collins, Gerry Burgess, Charlotte Rutkin, Gary Sheppard, Keith Sprouse, and Kevin Postupack have given me the motivation and support. A special dedication to my great friend, Michelle Lynch, who use to always yell enthusiastically, "Dr. Dave!" every time she use to see me. This dissertation is dedicated to her memory.

I want to thank my love, Anna Shackleton and her son Hayden, for entering and being a part of my life for the past 1 ½ years. Anna has given me unconditional support and motivated me through the most difficult aspects of this process. Her loving patience and sacrifice through this has meant the world to me.

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Introduction

College and university administrators recognize that a diverse set of issues and challenges are common among college students. As seen in many of the college counseling centers, some of the problems and challenges among college students include substance abuse, sexual assault, anxiety/stress, learning disorders, career indecision, homesickness, and a variety of developmental challenges as college students transition from adolescence to young adulthood (Benton, Robertson, Tseng, Newton, & Benton, 2003; Bryant & Astin, 2008; Cook, 2007; Erdur-Baker, Aberson, Barrow, & Draper, 2006). Transition to college is stressful and challenging for most students as they strive for more independence, struggle to form their identities, and search for meaning (Bryant & Astin, 2008). College environments impose both academic and social demands that can negatively impact retention rates among their students (Feldman, 2005). However, despite these challenges many college students will be able to adapt and graduate from college (National Center for Higher Education Management Systems, 2009). This study attempted to show that even at-risk groups, like first-generation college students, perceive themselves to be resilient by utilizing protective factors in order to overcome college stressors, be able to engage the college environment, and ultimately graduate.

Their adaptive responses to college stressors suggests that there are protective factors that help college students cope and thrive in college. The utilization of these protective factors allows college students to be resilient and overcome adversity. This adaptive process embodies the concept of resiliency in which a variety of internal and external protective strategies are used to increase the acquisition and use of coping tools to ameliorate a range of individual and situational risk factors (Connor & Davidson, 2003). However, college students are not a uniform

group, particularly with the diversification of the college population comprising students of different ethnic, racial and cultural backgrounds, people who have physical or learning disabilities, and people who are first generation college students (Rendon, Hope, & Associates, 1996). This complicates identifying both risks and protective factors that appear in such diverse populations. To clarify this process in more diverse settings educational settings, resiliency researchers have started to evaluate protective factors among minority college students (Brown, 2008; Ceja, 2004; Montgomery, Milville, Winterwood, Jeffries, & Bosden, 2000) as well as with students with learning disabilities (Miller, 2002; Orr & Goodman, 2010). However, the psychological functioning of first-generation college students remains largely unexplored (Pascarella, Person, & Wolniak, 2004). These students face some significant challenges that are typically different than college students whose parents attended college. First-generation college students tend to come from families who are lower in socioeconomic status, have less basic knowledge of the college experience, and have lower academic preparation compared to second-generation college students (Pascarella et al., 2004). And yet, a significant number of them will succeed and graduate (Choy, 2001). So how do some first-generation college students psychologically adapt and go on to do well in college while others are unsuccessful? As the research suggests, first-generation college students tend to be from a lower socio-economic status, from a minority background, have lower self-efficacy towards their academic work, and tend to leave college at much larger rates than non-first-generation college students (Choy, 2001; Ishitani, 2003; London, 1992; McMurray & Sorells, 2009; Pascarella et al., 2004; Riehl, 1994; Strayhorn, 2006; Wang & Castaneda-Sound, 2008). Much of the empirical literature examining first-generation college students has utilized a comparison with non-first-generation college

students. As a result, very little is known about within group variation regarding differentiating first-generation college students who are psychologically resilient from ones who are struggling.

Resiliency as a Construct

Some researchers in the field of developmental psychology focused on a select group of children who had extraordinary capabilities to successfully navigate traumatic events (Tusaie & Dyer, 2004). As a result, resiliency was seen as primarily an internal trait characteristic that a small, but sizeable minority of children possessed when faced with significant stressors or trauma. This concept of resiliency remained popular among social scientists through the 1990's. Anderson (1997), in her work with sexually abused children, noted that resiliency applied to anyone who survived traumatic past experiences because of inherent strengths that protected them. Masten and Coatsworth (1998) stated, "There has to be a significant threat to the person, typically high-risk status or exposure to severe adversity or trauma and that the quality of adaptation or development is good" (p. 206). As seen with these definitions, researchers in developmental psychology believed that resiliency was an extraordinary capability possessed by few and only can be observed in responses to traumatic events. Furthermore, this generation of researchers suggested that resiliency was a trait or stable characteristic (Wilkes, 2002). As a result, the assumption was that promoting resiliency in people without this trait was inherently difficult.

However, this narrow definition is incongruent with the large number of people who experience adversity and somehow find a way to "bounce back" and return to normal levels of functioning. Recently, the definition broadened from past assumptions that resiliency is an extraordinary trait possessed by the few, to the belief that resiliency is a normal process of human adaptation (Bonnano, 2004; Masten, 2001). Recent research has suggested that resiliency

is multidimensional and dynamic as opposed to being a static personality trait (Wilkes, 2002). This new understanding of resiliency can potentially have a significant impact on how psychologists conceptualize mental health treatment. With the emerging broader definitions of resiliency, many people can be seen as having the ability to rebound from even significantly adverse situations. As a result, the role of a psychologist should include promoting individual resiliency and wellness. Resiliency is both process-oriented and multidimensional, as there is significant variability in the underlying factors that promote resiliency based on culture, age, gender, and time (Connor & Davidson, 2003). This variability has led to the identification of many potential factors that may or may not be significant depending on the population that is being studied.

Patterson (2002) termed the competing definitions of resiliency as the “significant risk” perspective versus the “life as risk” perspective. In this debate, the significant risk perspective states that only people who are exposed to significant risk can be called resilient, where in the life as risk perspective it is believed that life is sufficiently challenging enough to create risk and a traumatic event is not needed to consider a person resilient. In the “life as risk” perspective, a traumatic event is not a necessary antecedent to resilient behavior. This perspective is particularly relevant to first-generation college students who may not face traumatic events, but who may be exposed to significant stressors as they enter college and continue to be under chronic pressure to succeed.

As seen in the above illustrations, various researchers have defined resiliency differently, which causes fundamental challenges for operationalizing resiliency as a construct that can be measured in research (Miller, 2003). Despite these challenges, resiliency research continues to thrive and has expanded from looking at only children to people of different ages, cultural

backgrounds, gender, socioeconomic status, and applied to a variety groups in differing adverse situations (Hartman, Turner, Exum, & Cullen, 2009; Heisel & Flett, 2008; Langer, 2004; Marsh, Evans, & Weigel, 2009; Thomas, 2012; Wadsworth & Santiago, 2008; Wallace, 2012) .

History of Resiliency Research

Resiliency research, in its modern form, began in the early 1980's within developmental psychology (Miller, 2003; Tussaie & Dyer, 2004). Researchers (Garmezy, Masten, & Tellegen, 1984; Rutter, 1979; Werner, 1982) noticed that there was a group of children who were able to succeed and thrive despite coming from abusive and traumatic backgrounds. This observation led researchers away from focusing only on psychopathology, and toward defining and examining the effects of protective and resiliency factors.

Werner (1982) conducted a longitudinal study of children in a community by examining a multiracial population of children that was determined to be of high risk based on perinatal stress, low socio-economic status, with at least one parent having a serious mental illness, and daily instability in the children's routine. Out of the 200 surveyed, she found that a small, but significant number of the children ($n = 72$) were doing well despite these high risk factors. Werner identified several personal characteristics that served as protective factors such as being female, adaptable, achievement-oriented, possessing good self-esteem, communicative, tolerant, and socially responsible.

Rutter's (1979) epidemiological research on inner-city youth in London found similar conclusions. Rutter found that approximately 25% of the children were resilient even though the children were exposed to multiple risk factors. Rutter identified that being female, planning skills, having good self-esteem, self-efficacy, and self-mastery are potential protective factors.

Rutter also identified other external protective factors including a positive school environment, and at least one warm, close personal relationship with an adult.

Garmezy, et al.(1984) initiated the Minnesota Risk Research Project from 1971-1982, which examined children of parents with schizophrenia. The findings suggested that many of the children did not become maladaptive adults, but instead, became fully functional, competent adults. Protective factors that were identified in this study included a positive outlook, self-esteem, internal locus of control, self-discipline, humor, critical thinking, and good problem solving skills. Garmezy et al. (1984) also identified external protective factors such as someone who was supportive in the family system and a positive school environment.

The study of resiliency has increased in popularity since the early 1980's and has been discussed in a variety of contexts that has included abused children, at risk youth growing up in violent neighborhoods, rape victims, and most recently, survivors from disasters and trauma. For example, the American Psychological Association (APA) responded to the 9/11/2001 terrorist attacks by dispersing psychoeducational materials and treatment guidelines for survivors of terrorist attacks focused on promoting resiliency (Newman, 2005).

The trend of evaluating protective factors and resiliency is relatively new in the field of psychology as psychologists have a much longer history of studying psychopathology (Richardson, 2002). However, the shift from a disease-based to a strength-based or wellness model has increased in popularity; especially as new research has emerged from the Positive Psychology movement (Seligman, 2002). The increased popularity for both prevention and intervention with college student counseling involves strategies that help promote protective factors that assist students to be resilient when facing stressors. The purpose of this research is to evaluate the protective factors that allow resilient first-generation college students to succeed

despite experiencing the stressors of college study. The ability to identify resilient strategies used by first-generation college students can assist psychologists to develop resources or therapeutic intervention strategies to promote resiliency which will, in turn, lead to better emotional well-being and resistance to the stressors of college life.

Resiliency and Social Support

Developmental researchers have historically noted the importance of social support from family, organizational groups, or mentors as a protective factor for resilient children when facing adversity (Garmenzy et al., 1984; Rutter, 1979). Social support as a potential factor is particularly salient in the context of resiliency and the college environment, and is an important variable for success in college (Hays & Oxley, 1986). It has been seen as an important factor utilized by resilient college students (Khan & Husain, 2010).

Tinto (1975) also addressed the importance of social integration (along with academic integration) as an important variable of successful transition and adaptation to college life. Tinto (1975, 1988) surmised that student retention is partially based on the quality of the social system in place. Unsatisfactory peer-group and faculty interactions increase the likelihood of college attrition. The factor of social support is important in the context of resiliency for first generation college students as they have a difficult time with social integration to college life (Pike & Kuh, 2005; York-Anderson & Bowman, 1991). What may differentiate resilient first-generation college students from less resilient first-generation college students could be the quality of the social support received. As a result, examining social support as a significant protective factor when comparing resilient and less resilient first-generation college students becomes important.

Resiliency and Optimism

Scheier and Carver (1985) noted that dispositional optimism is the ability to expect and strive for positive outcomes in stressful life circumstances or environments. Contrary to dispositional pessimists who generally expect negative outcomes, optimists' outlooks tends to buffer them from the negative effects of stress. Scheier and Carver research is congruent with findings in early developmental psychology which found that resilient children tend to be optimistic despite growing up in an aversive environment (Garmenzy et al., 1984; Rutter, 1979; Werner, 1982).

Seligman (1990) examined optimism in the context of *explanatory style*. Explanatory style was introduced as a reformulation of the learned helplessness construct in order to account for variability in the responses to adverse events (Abramson, Seligman, & Teasdale, 1978). Peterson and Seligman (1984) conceptualized explanatory style as a way to explain causes of bad events. People with a positive explanatory style tend to explain bad events as having external, unstable, and specific causes where as pessimistic people tend to view bad events with causes that are internal, stable, and global (Seligman, 1990). As a result, resilient people tend to be optimistic by utilizing a positive explanatory style as a way to buffer against stressors and adverse events. Seligman's explanatory styles and Scheier and Carver's research on dispositional optimism are attempts to provide causal explanations and are influenced by earlier cognitive research on attribution theory (Heider, 1958). Attribution theory explains how people utilize information to arrive at causal explanations and events in a person's life (McLeod, 2010). These explanations are important factors that influence motivation and emotions of subsequent events (Weiner, 1985).

Although optimism, as explained by Seligman (1990), is similar to dispositional optimism, there are fundamental differences. Seligman sees optimism more as a way to buffer against bad events by a cognitive explanatory style where as Scheier and Carver (1985) see optimism as the ability to believe in positive outcomes in the future. Despite some variability in defining the term, optimism has been researched in the college population and found to be associated with better academic outcomes (Peterson, Colvin, & Lin, 1992; Ruthig, Haynes, Perry & Chipperfield, 2007; Sewell & Martinez, 2000) and better emotional well-being (Peterson & Vaidja, 2001). Research examining the utility of optimism among resilient first-generation college students compared against less resilient first-generational college students remains sparse. First-generation college students face an adverse and unfamiliar environment when entering college, and an examination of optimism can lead to an understanding the role this factor plays among first-generation college students as they try to navigate the stressful college environment.

Resiliency and Academic Self-Efficacy

Another potentially important protective factor being examined is self-efficacy, specifically, academic self-efficacy. Self-efficacy is a component of a larger theoretical conceptualization of social learning theory developed by Albert Bandura (1977a). Social learning theory explains that the learning process occurs through a social context where the person engages in acquiring knowledge and understanding via observation, modeling, and imitating others (Bandura, 1977a). As a result, family, friends, and mentors can influence a person's level of competency and perceived competency by providing instruction, guidance, and feedback. If the feedback is consistently constructive and positive, then the person will tend to perceive him- or herself as someone who is capable and proficient in a specific domain of competency. If the

feedback is largely negative and critical, the individual may lose confidence in his or her abilities. Social learning theory implies that there is a strong interaction between the social environment and the person. As a result, self-efficacy or one's perceived competency, particularly academic competency, is often a challenge for first-generation college students as they likely lack appropriate and desirable social models for academic success in higher education. (Wang & Castaneda-Sound, 2008). As the literature review in the next chapter will demonstrate, first-generation college students are a population that is often disengaged from the college social environment (Kim & Sax, 2009; Lundberg, Schreiner, & Miller, 2007; Pascarella et al., 2004; Pike & Kuh, 2005; Prospero & Vohra-Gupta, 2007) which may lead to feeling less academically self-efficacious.

Bandura's (1977b; 1986; 1997) extensive study of self-efficacy has contributed to the notion that highly self-efficacious people are more likely to persevere in adverse and stressful situations (Ozer & Bandura, 1990). Bandura viewed self-efficacy as a person's belief in her or his own abilities to have personal agency or control over any situation or event (Bandura & Cervone, 1983). In other words, people who are highly self-efficacious are more likely to believe that they have a sense of mastery over the stressor or reject negative cognitions relating to their abilities (Ozer & Bandura, 1990). A sense of self-efficacy promotes emotional well-being and has many positive behavioral outcomes by allowing one to adapt to adversity and cope with difficult situations (Bandura & Cervone, 1983).

However, self-efficacy as a means to predict positive outcomes can be problematic, as belief in one's own mastery can be domain specific (Gore 2006; Zimmerman, 2000). For example, someone who may demonstrate self-efficacy by believing that he is a great football player may not translate into believing that he is self-efficacious in social settings. As a result,

predictive validity is stronger when the type of self-efficacy matches the domain in which it is being measured (Zimmerman, 2000). In order to understand first-generation college students' perceived mastery in the context of being enrolled in classes, academic self-efficacy should be studied in a context that will tend to increase its predictive validity within this uniquely defined population of college students. According to Schunk (1991) academic self-efficacy comprises a belief in one's ability to successfully complete academic tasks. As discussed above, first-generation college students face a distinctive set of academic challenges and stressors, which can affect their academic self-efficacy (Hellman, 1996; Wang & Castaneda-Sound, 2008).

Resiliency and Religiousness and Spirituality

Over the last some twenty years, there has been an increased interest in the benefits of spirituality and religiousness, particularly in their relationship to emotional well-being and resilient outcomes (Kim & Esquivel, 2011). In this light developmental researchers have begun to identify religiousness and spirituality as protective factors that promote resiliency (Werner, 1996). Crawford, Wright, and Masten (2006) posited that spirituality and religiousness help promote emotional well-being as they offer opportunity for perceived growth, social support, development of moral values, and a place to build secure relationships. Park (2007) concluded that religiousness and spirituality provide a life purpose in stressful times. As a result, of this increased interest in the benefits of spirituality and religiousness, a number of studies have identified the benefit of these constructs as protective factors with at risk adolescents (Windham, Hooper, & Hudgon), with female survivors of childhood sexual abuse (Valentine & Feinauer, 1993), with trauma victims (Peres, Moriera-Almeia, Nasello, & Koenig, 2007), with the elderly (Langer, 2004), in the lives of unaccompanied minors (Raghallaigh & Gilligan, 2010), with children in Southern Africa (Gunnestad & S'lungile, 2011), and in the lives of resilient urban

African American mothers (Brodsky, 2000). Briggs, Akos, Czyszczon, and Eldridge (2011) found spirituality to be important in promoting wellness and as a protective factor that promotes resilience in students who attend secondary schools.

Currently, there is no agreed upon standard for distinguishing or assessing the differences between religiousness and spirituality (Salsman, Brown, Brechting, & Carlson, 2005).

Spirituality is often seen in more universal terms to allow people who do not identify themselves as religious or who do not follow institutionalized religious practices to identify with the desire to develop an approach toward a transcendent life (Krok, 2008). Even though most Americans perceive themselves as both religious and spiritual, a growing number of people view themselves as being spiritual but not religious (Kneipp, Kelly, Cyphers, 2009). In an attempt to separate the two constructs, Wink and Dillon (2003) operationalized the constructs of religiousness and spirituality by defining religious people as individuals who tend to accept more standardized, ritualized or traditional forms of religious authority and spirituality as people who are less accepting of embracing standard religious authority, but believe in a higher power. However, the problem with this formulation is that most religious people believe that they are spiritual as well. Utilizing Wink and Dillon's concepts of religiousness and spirituality allows people who do not participate in organized religious functions or accept traditional religious authority, to believe that they are spiritual due to a belief in a transcendent or higher power. As a result, non-theistic groups may see themselves as spiritual even though they do not believe in God (Hodge, 2003). The distinction between spirituality and religiousness is important in examining first-generation college students and resiliency, because even though spirituality and religiousness are related concepts, they are not necessarily the same and would benefit from being measured separately.

As discussed, spirituality and religiousness are similar constructs, but treating them as identical can be problematic.

In a University of Pennsylvania study Hulett (2004) found that 86% of adolescents between the ages of 11 and 18 believed religion is an important part of their lives, suggesting that adolescents entering college identify faith as integral to how they view themselves and their interaction with others and the college environment. Much recent research has been published on the efficacy of religiousness and spirituality as protective factors mediating the effects of stress and promoting emotional well-being among college students (Burris, Brechting, Salsman, & Carlson, 2009; Calicchia & Graham, 2006; Kneipp, et al., 2009; Kuh & Gonyea, 2006; Merrill, Read, & LeCheminant, 2009; Simonson, 2008). Due to the stressors that college students face, many turn to religious or spiritual faith to mediate the effects of stress. However, whether religiousness and spirituality are protective factors among first-generation college students remains largely unexplored, particularly in the context of whether or not they serve as significant protective factors that separate resilient first-generation college students from non-resilient first-generation college students.

Purpose of the Study

In this study I examined five protective factors of optimism, social support, academic self-efficacy, religiousness, and spirituality for the purpose of determining which of these potential factors highly resilient first-generation college students utilize compared to first-generation college students who perceive themselves to be less resilient. Although all college students face academic pressure as well as psychosocial developmental challenges as they transition from adolescence to adulthood, first-generation college students face unique challenges that other groups of college students do not. First-generation college students tend to

be from ethnic minority backgrounds, lower socio-economic status, and often speak language other than English at home (Khanh, 2002). Although many first-generation college students have difficulty in college, many go on to graduate. Examining the protective factors that serve to encourage first-generation college students to be resilient in the face of ongoing challenges has particular benefits. If specific factors can be identified, allocation of resources toward protective factors that have been found to be effective will be helpful in increasing first-generation students' retention rate, their emotional well-being, and the quality of their college experience.

In order to examine social support, optimism, academic self-efficacy, religiousness, and spirituality as protective factors for resilient first-generation college students, the following research question was developed: Do first-generation college students who report higher levels of resiliency also report higher levels of optimism, social support, academic self-efficacy, religiousness, and spirituality? In order to address this research question, the following hypotheses were tested in a sample of first-generation college students:

1. First-generation college students who report higher levels of optimism also tend to report higher levels of resilience whereas first-generation college students who report lower levels of social support perceive themselves to have less resilience.
2. First-generation college students who report higher levels of social support also tend to report higher levels of resilience whereas first-generation college students who report lower levels of social support perceive themselves to have less resilience.
3. First-generation college students who report higher levels of academic self-efficacy also tend to report higher levels of resilience whereas first-generation college students

who report lower levels of academic self-efficacy perceive themselves to have less resilience.

4. First-generation college students who report higher levels of religiousness tend also tend to report higher levels of resilience whereas first-generation college students who report lower levels of religiousness perceive themselves to have less resilience.

5. First-generation college students who report higher levels of spirituality also tend to report higher levels of resilience whereas first-generation college students who report lower levels of spirituality perceive themselves to have less resilience.

In this study, the null hypothesis stated that optimism, social support, academic self-efficacy, religiousness, and spirituality were not significantly related to levels of perceived resilience in first-generation college students. Failure to reject the null will imply that a significant relationship between the five protective factors and resilience was not found.

I also examined in this study whether any two-way combination of the five protective factors predicted higher levels of perceived resilience in first-generation college students. The potential two-way interaction effects were the following: Optimism x Academic Self-Efficacy, Optimism x Social Support, Optimism x religiousness, Optimism x Spirituality, Academic Self-Efficacy x Social Support, Academic Self-Efficacy x Religiousness, Academic Self-Efficacy x Spirituality, Social Support x Religiousness, Social Support x Spirituality, and Religiousness x Spirituality. In order to examine the predictive power two-way combinations of protective factors have on perceived resiliency, the following research question was asked: Can any two-way combination of social support, optimism, academic self-efficacy, optimism, academic self-efficacy, religiousness, and spirituality predict higher levels of perceived resiliency? In the

examination of two-way combinations of the five protective factors, the null hypotheses stated that two-way combinations do not predict higher levels of perceived resilience beyond the main effects of each protective factor. The alternate hypotheses concluded that two-way interaction effects can significantly add to the predictive power of perceived resilience beyond main effects for each individual protective factor. Although there are five protective factors such that three-way, four-way, and five-way combinations can be examined, there are problems with the increased complexity when examining beyond two way combinations.

One problem is the increased sample size needed to account for all the factors associated with three-way, four-way, and five-way combinations of the five protective factors. Additional combinations will significantly increase the sample size needed as it would add another sixteen predictors to the model. Another concern is any significant results from three, four, and five-way combinations would be difficult to interpret in any meaningful way. Trying to comprehend or interpret significant four or five-way effects is challenging. Although the result may be significant among a certain four-way combination, finding the connection on how each of the protective factors relate to one another in order to get the significant four-way effect would be difficult (R.P. Curtis, personal communication, April 27, 2011).

Definition of Key Concepts

Resiliency. For the purpose of this paper and the population being studied, resiliency is conceptualized as an adaptive response to either a single traumatic event or ongoing chronic stressors as discussed by Patterson (2002). Furthermore, in agreement with Bonnano (2004) and Masten (2001), resiliency is also seen as a normal adaptive response that most people have and not just for a select few who possess it as a fixed trait.

First-generation college students (FGCS). These are college students whose parents did not attend or enroll in a post-secondary education (Wang & Castaneda-Sound, 2008).

Non-first generation college students (NFGCS). The empirical literature has used multiple terms to describe this population such as second-generation college students, continuous generation college students, and non-first generation college students. For the purpose of this study, non-first-generation college students are defined as students who had one parent that had at least some post-secondary education (Wang & Castaneda-Sound, 2008).

Optimism. For the purpose of this study, optimism is the ability to expect and strive for positive outcomes in stressful life circumstances or environments (Scheier & Carver, 1985).

Spirituality. For the purpose of this study, spirituality is defined as a search for purpose and a connection with the transcendent (Burris et al., 2009).

Religiousness. For the purpose of this study, religiousness is defined as a person's participation in institutionally approved beliefs and practices of an organized faith-based group (Peterman et al., 2002).

Academic Self-efficacy. For the purpose of this study, academic self-efficacy is defined as a student's confidence in his or her ability to successfully perform academic tasks (Schunk, 1991).

Social Support. For the purpose of this study, social support is "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976, p. 300).

CHAPTER 2: Literature Review

First-Generation College Students: Defining the Population

First-generation college students (FGCS) exhibit some distinct differences when compared to non-first-generation college students (NFGCS). Comparative research shows FGCS tend to come from lower socioeconomic backgrounds, are more likely to be an ethnic minority, tend to come from larger families, and are more likely to be older than their college peers (Bui, 2002; Duggan, 2001; Giancola, Munz, & Trares, 2008; Terenzini, Springer, Yaeger, Pascarella, & Amaury, 1996). FGCS also include a greater percentage of female, have a tendency to be part-time students, are more likely to attend two year institutions, include more working adults, and are more likely to be parents of one or more children (Choy, 2001). Recent research indicates a trend in increased college enrollment among FGCS (Giancola et al., 2008) particularly with Hispanic students. As the demographic makeup of the United States continues to shift, enrollment is likely to change to reflect such demographic trends. Evidence of such a trend is seen with FGCS who are Hispanic in California as young Hispanic college students from families who never attended college increases significantly each year (Horwedel, 2008; Terenzini et al., 1996). Since FGCS tend to be from ethnic minority groups, they are more likely to speak a language other than English when they are with their families at home (Bui, 2002). In conclusion, conducting research is inherently difficult because FGCS are both distinct and heterogeneous in their make up.

Not only may FGCS face family expectations of being the first to go to college, but they have other challenges as they also tend to be older, come from lower socioeconomic strata, and represent minorities. These demographic variables can place them at odds with the college environment and make them feel alienated within the college culture. Such demographic factors

could explain the higher attrition rates FGCS experience when compared to NFGCS. Even without leaving college, such challenges can explain the tendency to attend less restrictive colleges, complete fewer credit hours, and to work more hours at a job (Pascarella et al., 2004). FGCS tend to be less invested in the college social environment as they are less likely to live on campus, have lower levels of extracurricular involvement, have less athletic participation, engage in volunteer work less, and are less likely to have interaction with their peers when compared to NFGCS (Billson & Terry, 1982).

Perceptions of Self and Their College Environment

Research on FGCS has also examined their sense of identity and how they feel about the college environment. Qualitative research conducted by London (1996) found mixed results regarding how strongly this subgroup identifies as FGCS. Depending on the environment, they may even change how strongly they identify as FGCS. London (1996) found that FGCS may not identify themselves as such if they attend a less selective state or urban college where FGCS are prevalent. However, FGCS tend to be more aware of their identity when attending highly selective private universities and colleges where most of their peers come from families that had parents who attended college. As stated by London (1996) “Although going to college can provide a sense of gain, discovery, and joy, it has the potential also to produce discontinuity that arouses feelings of loss, conflict, and disloyalty” (p. 53).

FGCS may face the pressure of being the first to go to college, and yet still feel compelled to continue their family loyalties (London, 1992). Without parents who can relay first-hand experiences to the student, FGCS do not have an initial understanding of the college expectations and experiences. London (1989) discussed how FGCS may experience “break-away guilt” (p. 153) when they feel guilty about abandoning the family. FGCS may play certain

roles placed on them by the family system such as the role of “delegate” (London, 1989, p. 154). In this role, the family system, and perhaps the student himself or herself, may expect that in leaving the family the student should represent the entire family to the wider world. They can also play the role of “exemplar” (p. 158), where FGCS have the pressure to set a good example or be a good model to other family members such as younger siblings. Sometimes FGCS receive special attention via special meals and shopping sprees as a way the family system shows its pride for their son or daughter attending college (London, 1989; Orbe, 2004).

Despite that such students may not divulge their first generation status to their college peers; they can be very aware and have concerns about their identities as FGCS, particularly if they are also students of color (Orbe, 2004). As a result, they may face considerable pressure to succeed in college. Although the status and identity of FGCS may be of value at home, they may not decide to divulge this information to their peers because they fear a negative stigma that could potentially be associated with FGCS status. This partially explains that despite strong identities as a FGCS, there may exist a lack of a community on campus (Orbe, 2004). This lack of community could potentially have the effect of lessening college engagement.

FGCS & College Engagement

As mentioned earlier in this chapter, the fact that FGCS do not have parents who have gone to college, as well as being more likely to be from a lower SES, and come from a racial/ethnic minority background often contributes to FGCS interacting with the college environment in distinctly different ways when compared to their continuous generation counterparts. These factors may explain why FGCS, overall, have less engagement with the college environment. A study by Kim & Sax (2009) compared levels of engagement with faculty between the two populations finding that FGCS tend to assist faculty with research less than

NFGCS. Within the non-first-generation population, being female, White, representing a higher SES; and coming from a family where at least one parent attended college, led to more satisfied interactions with faculty than for first-generation students (Kim & Sax, 2009).

Limited engagement with faculty does not just end there, because reduced engagement with the college environment generalizes to other aspects of campus life. FGCS are less likely to live on campus, take fewer credit hours, have lower extracurricular involvement, and less interaction with peers (Pascarella, et al., 2004). Students from families where their parents did not attend college took fewer courses in humanities and fine arts, completed fewer total hours during the first year, and had less interaction with their peers (Duggan, 2001; Pascarella et al., 2004). Unfortunately, FGCS are less likely to persist in college if they live off campus as opposed to living on campus (Somers, Woodhouse, & Cofer, 2004). Students whose parents did not go to college were also less likely to be involved in an honors program (Terenzini, Springer, Yaeger, Pascarella, & Amaury, 1996).

Lundberg et al. (2007) suggested that FGCS are less likely to attend fine art events, have lower levels of in-course learning, and have less involvement in scientific experiences. Even though FGCS, particularly female FGCS, value a positive social climate and a desire to have friends on campus (Cho, Hudley, Lee, Barry, & Kelly, 2008), they have lower levels of academic and social integration when compared to NFGCS, particularly from families where both parents completed college (Pike & Kuh, 2005). It is important to point out that less college engagement and participation in the college experience may not be fully explained by being alienated by the college environment. The realities of life for first-generation college students show that they are different in ways that leads to a markedly different college experience as they are employed more hours, have lower incomes, and have more financial dependents when

compared to NFGCS (Choy, 2001; Duggan, 2001; Pascarella et al., 2004; Terenzinni et al., 1996). As a result, their life experiences are potentially significantly different than their continued generation counterparts. FGCS often have dependents, and have fewer economic resources; so they may not be able to fully participate in a range of campus opportunities due to competing familial and financial obligations.

However, having less college engagement may not be completely negative as FGCS also tend to have more part-time and full-time jobs which lead to fewer expectations to “party,” drink less alcohol, and have fewer friendship problems when compared to NFGCS (Martinez, Sher, & Krull, 2009). Despite these small benefits, a lack of engagement in the college environment has led to the perception that the college environment is less supportive for first-generation college students and, they report less progress in learning and intellectual development. Furthermore, when FGCS were more engaged, more gains were made in these areas (Pike & Kuh, 2005). The greatest indirect gain occurred when FGCS lived on campus because they were able to take advantage of diverse experiences offered by the college environment which lead to increased intellectual growth (Pike & Kuh, 2005). Finally, FGCS who perceive themselves to be more integrated in the academic environment and more engaged with college, tend to have higher GPAs as opposed to FGCS who felt less integrated and less self-motivated (Prospero & Vohra-Gupta, 2007).

FGCS vs. NFGCS: Retention/Attrition Rates

Some researchers have proposed that FGCS may be at risk for poor academic performance which tends to lead to them being placed on academic probation, and ultimately being asked to leave college (Billson & Terry, 1982; Riehl, 1994). However, research findings linking lower GPAs to FGCS are mixed. Some studies found that FGCS tend to have lower

college GPAs than NFGCS (Billson & Terry, 1982; Riehl, 1994). Other research found no difference in GPAs between the two groups during the four years in college (Duggan, 2001). It is valuable to note that despite no strong or unified evidence linking lower GPA and generational status, FGCS still have lower retention rates than their peers (Horn, 1998; Nunez & Cocaro-Almin, 1998; Riehl, 1994). Some of the inconsistent findings between generational status and GPA may be due to the impact of various mediating or moderating variables. Strayhorn (2006), found a very small, but positive effect of FGCS and cumulative grade point average (cGPA) when compared to other studies. However, gender and ethnic statuses were found to be significant. For example, being African American and FGCS was negatively related to cGPA even when controlling for other demographic variables (Strayhorn, 2006). Regardless of generational status, low or missing GPAs contributed to all students' likelihood of dropping out of college, although Somers, et al. (2004) found that NFGCS did so at a much lower rate than FGCS. Overall the research suggests that generational status alone does not necessarily have a direct connection to lower cumulative GPAs, but other factors such as demographic variables and generational status may potentially explain the lower academic achievement of first-generation college students.

In all four years, FGCS were found to be more likely to leave college when compared to NFGCS (Ishitani, 2006). The highest risk of departure was between the second and third year of college where FGCS were 8.5 times more likely to leave college when compared to NFGCS (Ishitani, 2006). Duggan (2001) found that 90% of NFGCS persisted to the second year of college when compared to just 80% of FGCS. Dalton, Moore, & Whittaker (2009) found the first to second year retention rate at Lyndon State College was lower among FGCS (54%) compared to NFGCS (60%). When comparing FGCS with peers who had both parents complete college,

the differences in attrition rates between the two groups are quite dramatic. Even after controlling for demographic variables such as race, gender, family income, and high school GPA, students whose parents never attended college were 71% more likely to leave after the first year of college when compared to students who had two college-educated parents (Ishitani, 2003). Not only do FGCS tend to leave prematurely, they were also more likely to take longer to complete their undergraduate degrees. FGCS were 51% less likely to graduate in four years and 32% less likely to graduate in five years when compared to NFGCS (Ishitani, 2006). The longer time for FGCS to complete the degree could possibly be due to the fact that they are more likely to enroll as part-time students when compared to NFGCS (Duggan, 2001). Despite having a lighter academic workload, FGCS tend to have lower grades through their third year when compared to their peers (Pascarella et al., 2004).

As expected, finances are also important in determining whether or not students leave higher education. Somers et al. (2004) examined aspirations, achievement, and finances between FGCS and NFGCS at four year colleges using the National Postsecondary Student Aid data of 1995-1996 which had a sample size of 24,262. One of their important findings was that cost affected attrition rates more significantly for students whose parents did not attend college. As tuition increased by \$1,000, the likelihood of FGCS to drop-out also increased. However, they were more likely to persist in college per increase of \$1,000 in aid from grants, loans, or work-study awards. The data appear to indicate that FGCS have an aversion to debt load. Also of note, lower income students were less likely to persist than middle income students. However, working full-time as a way to support their way through college also had its risks as FGCS who work full time and go to school part-time were more likely to leave higher education when compared to FGCS who attended school full-time (Somers et al., 2004). Predictably, low-income

students, regardless of generational status, have higher attrition rates than middle income students (Somers et al., 2004).

Pre-college Risk Factors

Even before entering college, FGCS tend to be at a disadvantage when compared to NFGCS. For example, students whose parents did not attend college tend to enter college with lower reading, math, and critical thinking skills when compared to NFGCS (Terenzini et al., 1996). Although these skills eventually even out as FGCS advance in college, the fact that they started from a lower academic skill level caused them to be at a disadvantage at the very beginning of their college experience when compared to their peers. Such a problem may cause feelings of stress and inadequacy and possibly requires FGCS to work harder just to “catch up” to NFGCS. This view is supported by research that found that students whose parents did not attend college felt they had to put more time into studying compared to their NFGCS peers (Bui, 2002). FGCS tend to have lower SAT scores than NFGCS as well as having lower high school GPAs (Riehl, 1994). FGCS also had lower ACT scores compared to their counterparts (Martinez et al., 2009). Even during the decision-making process regarding choosing which college they want to attend, FGCS perceived receiving less support from their family compared to their peers (Billson & Terry, 1982; Choy, 2001; York-Anderson & Bowman, 1991). There is also a link between generational status, relationship with their pre-college teachers and the likelihood of students attending college. Bui’s (2002) research suggested that generational status was connected with pre-college teachers indicating that high teacher absenteeism in the 8th grade decreased the likelihood of FGCS attending college. As seen by Bui (2002), the mentors and social/community supports are important, positive factors that assist FGCS to be resilient and succeed in college.

Martinez et al. (2009) examined mediator and moderator variables that affect attrition rates of FGCS. After a longitudinal study of 3,260 students over four years, low parental education was found to be a risk factor for attrition rates. The study provides evidence the influence level of parental education has on children. Children whose parents do not have high levels of formal education may feel the lack role models, supportive parental influence, or necessary information to guide their educational choices.

Psychological & Psychosocial Risk Factors

When examining generational status among college students, distinct differences can be seen regarding how different the two groups perceive themselves and their college environment. McGregor, Mayleben, Buzzanga, Davis and Becker (1991) found that the highest levels of self-esteem were found with students who had both parents attend college. As a result, the higher levels of self-esteem led to NFGCS having an easier adjustment to college. NFGCS were also found to score higher on social acceptance and humor than FGCS (McGregor, et al., 1991).

York-Anderson and Bowman (1991) found that although there may be no significant differences between FGCS and NFGCS for amount of college knowledge, perceived personal commitment to college, or perceived family pressure to attend college, a difference was found for perceived family support for college attendance. NFGCS perceived having more support from families regarding college attendance than FGCS. The findings suggested that parents who have experienced college are in a better position to pass information about their college experiences to their children where FGCS do not receive such supportive information (York-Anderson & Bowman, 1991). As a result, FGCS may find college more stressful than NFGCS. FGCS success may be hampered in college as they have less overall knowledge about college which may lead to higher attrition rates (York-Anderson & Bowman, 1991) and may also be the

reason they express a greater fear of failing in college compared to their peers (Bui, 2002). The many hurdles that FGCS face could be the reason behind why many judge their own abilities and potential as inferior to others (Hellman, 1996; Ramos-Sanchez & Nichols, 2007).

Since first-generation students are often from minority ethnic or racial backgrounds, they tend to be more likely to report racial, ethnic, or gender discrimination (Terenzini et al., 1996) which could also partially explain why students whose parents never attended college also feel less socially accepted in college. FGCS not only lack emotional support and parental knowledge about the college environment, but they also lack financial support as well. FGCS are more likely to use scholarships, grants, and loans and depend less on parental contributions (Martinez et al., 2009). Coming from a lower SES could be a reason why many FGCS are motivated to seek a college degree as a way not only to improve their economic situation, but their family situation as well.

The research of Wang and Castaneda-Sound's (2008) is probably the most focused on looking at the well-being of FGCS. They found students whose parents did not attend college scored significantly lower in academic self-efficacy and had higher levels of academic difficulties when compared to their peers. Ethnic minority college students reported feeling less satisfied with life, have lower levels of self-esteem and lower levels of academic self-efficacy. They also report less support from both family and friends and experienced more stress than their White counterparts. Problems are compounded if the ethnic minority student is the first from his or her family to attend college. The study concluded that when FGCS received higher levels of family support, stress levels decrease, while receiving lower levels of support from family leads to increased stress. Wang and Castaneda-Sound (2008) also were critical of generational status literature as there is very little published research that directly looks at psychological variables

such as depression and anxiety in first-generation students. In fact, there is little known about the cognitive and personal development of these students during college (Pascarella et al., 2004).

The need to understand the development of FGCS and how they adapt to stress in college is the focus of this study. Optimism, academic self-efficacy, social support, religiousness, and spirituality were selected as potential protective factors that have been utilized in college populations to promote psychologically healthy outcomes including both in a general sense and also when these students are under increased stress. The rest of this chapter provides a justification for examining these five potential protective factors for FGCS.

Optimism/Self-Explanatory Style and College Students

Even though the empirical literature is sparse regarding the influence of optimism on FGCS, there is substantial research on the influence of optimism or having an optimistic self-explanatory style for college students in general. Being optimistic was found to lead to academic success and better emotional well-being (Ruthig, Haynes, Perry, & Chipperfield, 2007). A longitudinal study of 640 first year college students examined optimistically biased achievement with academic control and emotional well-being. The results indicated that optimistic students had better academic control cognitions (belief that they control their academic success), better scholastic outcomes, and functioned better emotionally having fewer problems with psychological distress (Ruthig et al., 2007). This study suggests that better psychologically adjusted students perform better academically. Optimism in other college populations also appears to lead to academic success as evidenced by research demonstrating how both students with and without physical disabilities alike benefit from being optimistic as an explanatory style led to students with higher GPAs (Sewell & Martinez, 2000). Optimism in students appears to be reflected in resilient behavior as optimistic students are more likely to rebound after a bad course

performance with a good grade whereas students with a pessimistic explanatory style were less likely to improve their course performance after a bad grade (Peterson, et al., 1992). This same study also found that pessimistic students were less likely to take active steps to get better (e.g. take medications) when they have symptoms of a physical illness. Peterson et al. (1992) attributed this to the fact that pessimistic students tend to explain bad events such as illness and course grades with global and stable causes. Furthermore, stability and globality factors of a pessimistic explanatory style appear to be associated with depressive symptoms among students (Peterson & Vaidja, 2001). In other words, pessimistic students tend to feel that the causes for bad events are out of their control and that bad events continue to happen to them regardless of what corrective actions they attempt to take. This information is compelling in the context of finding out if resilient FGCS use optimism to help them cope with the potential stressors of the college environment, an environment that is, in many ways, more distressing to them when compared to NFGCS who typically receive guidance from their parents about the college experience.

As discussed in the Peterson, et al. (1992) study, optimism seems to be related to physical health. Two hundred forty-two students involved in a longitudinal study examining first year college students over one year found that students who were highly optimistic had fewer health and psychological problems. Lower self-esteem was associated with a more pessimistic explanatory style (Pritchard, Wilson, & Yamnitz, 2007). At the very least, an optimistic explanatory style appears to indirectly mediate physical health effects (Roth, Wiebe, Fillingim, & Shay, 1989). People with a more pessimistic explanatory style were found to take riskier courses of actions that lead to accidents (Peterson et al., 2001). Also, optimistic explanatory style was associated with reduced suicidal ideation whereas pessimistic college students were

more likely to have increased thoughts of suicide. As a result, optimism appears to be a protective factor that allows students to be resilient when faced with negative life events (Hirsch, Wolford, LaLonde, Brunk, & Parker-Morris, 2009).

Optimism was also examined through cultural and demographic variables. African American college students tend to be more optimistic than White or Hispanic college students, and married people tend to be more optimistic than single people who were then more optimistic than people who divorced (Coll & Draves, 2008). There were no significant differences in levels of optimism in terms of gender and age (Coll & Draves, 2008). Although FGCS are not a homogeneous group, they do tend to represent more minority students, particularly Hispanics and FGCS also are more likely to be married or divorced (Choy, 2001; Horwedel, 2008; Terenzini et al., 1996). As a result, optimism needs to be explored among FGCS to see if it is a significant protective factor that allows them to be resilient in the face of college environmental stressors. The cultural differences regarding optimism do not just stop at age, gender, or race but also includes differences among international groups of college students. For example, cultural differences in optimism were found between U.S. and Kuwaiti college students where U.S. college students were significantly more optimistic than Kuwait students (Khalek & Lester, 2006). However, this study did not address whether or not optimism/pessimism are associated with psychological difficulties or varying academic outcomes. It is possible that Kuwaiti students utilize different protective factors than optimism when faced with either adversity or chronic stressors.

Research results are mixed regarding whether optimism should be considered a fixed personality trait, or if it is significantly influenced by potential environmental factors such as parental upbringing. Some research found no intergenerational link suggesting that being an

optimistic parent will lead to raising an optimistic child (Brewin & Andrews, 1996). However, other researchers examined parents who had an authoritarian parenting style versus parents who have an authoritative parenting style. Parents with an authoritarian parenting style are parents who impose many rules, strict obedience, rely on physical punishment, but are not responsive to their child's emotional needs. Parents who have an authoritative parenting style are parents who have high standards, provide emotional support, provide consistent enforcement of rules, and effectively communicate with their children. This study found authoritative parents raised children who tend to have higher levels of optimism when compared to children who were raised by parents who were authoritarian (Baldwin, McIntyre, & Hardaway, 2007). Hjelle, Busch, & Warren (1996) found that optimism was positively correlated with having warm and accepting parents during the middle school years. Optimism was negatively correlated with having parents who demonstrated indifference, neglect or aggression. Such research suggests that family support can influence the development of optimism in children.

Parenting style has been shown to be a factor in creating optimistic children (who could go on to be optimistic college students), but there is also evidence that suggests that social support in general may be essential in creating optimism. Diener and Seligman (2002) examined students who were highly optimistic in order to find what behaviors they exhibit that average or low optimistic students did not. There was no significant differences between high, moderate, or low optimistic students regarding participation in religious activities, exercising, or objectively experiencing bad or good life events. The one significant difference was highly optimistic college students have very good social relationships. This may link social support to optimism in a way that may be challenging for FGCS as they tend to be less socially engaged in the college social environment (Pike & Kuh, 2005).

Spirituality/Religiousness and College Students

Interest in examining spirituality and religiosity has grown as an increasing number of adolescents entering college have identified spiritual and religious matters to be significantly important to them (Hulett, 2004). As illustrated in this section, an increasing number of published studies have examined the value of spiritual and religiosity as a protective factor among college students. However there is still little research examining the significance of religion and spirituality, specifically for FGCS as a factor that helps protect them from problems with stress or symptoms of depression.

The efficacy of religious and spiritual factors in promoting resilience in college students remains undetermined. Krok (2008) found college students with a high level of spirituality will often try to solve problems through direct efforts as well as seek out social support. Yet, religious attitudes did not predict the use of distinctive coping styles in that sample. Krok found that religious attitudes were not specific to any particular coping style, which appears to reinforce the notion that spirituality and religiousness are similar, but not identical constructs, and they should be measured separately. Krok's research shows how high levels of spirituality can be a protective factor and may be related to social support. In a qualitative study, Haight (1998), examined African American children and adolescents. This study found that spirituality and having a place, such as a church, to discuss spiritual beliefs helped buffer against stressors during difficult times. Again, spirituality and social support can be variables that interact together in such a way that fosters resiliency under duress.

The findings are complex regarding the relationship between spiritual/religious factors and resilient behavior when studying alcohol use and abuse. Brown, Salsman, Brechting, & Carlson (2007) showed that only intrinsic and not extrinsic religiousness was associated with

lower levels of alcohol use. Their data also indicated that high intrinsic religiousness was associated with less frequent alcohol use, fewer alcohol problems, and less alcohol consumption. There was no relationship between extrinsic religiousness and alcohol use. However, low spiritual well-being increased the likelihood of smoking and alcohol use among African American college students (Musa-Turner & Lipscomb, 2007). These studies suggest the need to examine spiritual and religious protective factors as they relate to FGCS and resilient outcomes as there have been little research on spirituality and religiousness as protective factors among first-generation college students.

Nelms, Hutchins, Hutchins, and Pursley (2007) found that college students who are able to integrate a spiritual component while making decisions about risk behaviors that could negatively impact their health, experienced better health outcomes as evidenced by less tobacco use, higher levels of life satisfaction, and more participation in physical activity. People with a sense of spiritual well-being were shown to be closer to an ideal body weight and were less likely to have problems with hypertension. On the other hand lower perceived spiritual well-being was associated with higher rates of hypertension, emotional eating, and obesity (Hawks, Goudy, & Gast, 2003). Significant associations with stress and high cholesterol levels are seen among college students who appear to be less spiritual (Ramey, 2005).

Not only do spiritual and religious factors appear to promote resilient behavior related to alcohol, tobacco use, and other health related behaviors among college students, there is a growing body of research examining how religiousness and spirituality promote psychological functioning and well-being in college students. According to Berry and Adams-Thompson (2008), life stress with lower levels of religiousness was a strong predictor of depressive symptomatology among college students. As college is a transition period in many young

people's lives, FGCS are under more stress as they attempt to navigate the unfamiliar landscape of college. Although Berry and Adams-Thompson (2008) found that life stress with low levels of religiousness was a strong predictor of depressive symptoms, the study failed to support that religiousness is a protective factor moderating the relationship between depressive symptoms, cognitive vulnerability, and stress. Berry and Adams-Thompson (2008) hypothesized that depressed individuals often turn to religion as a compensatory mechanism. However, a methodological flaw in the study could also account for not finding a significant relationship between religiosity and depressive symptoms as the study failed to delineate different types of religiosity (e.g. intrinsic vs. extrinsic) as certain types of religious coping styles may affect mental health outcomes in significantly different ways.

Religiousness appears to have a beneficial influence on both positive and negative outcomes with stress among college students. Merrill et al. (2009) found religiosity had a significant influence on lowering feelings of anger when events happened outside one's control and minimized upset feelings of an unexpected event. The study also found that religiosity had a greater effect on promoting feelings of confidence in one's ability to handle personal problems which appears to promote resilient behavior because higher levels of religiosity were found to have the potential to prevent negative outcomes and promote positive outcomes associated with stress. Merrill et al. indicated a connection between stress, religiosity as a protective factor and positive behavioral outcomes to manage problems with stress. Similar findings were found linking meditation-based practices with a spiritual component. College students who engaged in a spiritually-based meditation program found this to be an effective method in reducing stress and promoting forgiveness (Oman, Shaipro, Thoresen, Plante, & Flinders, 2008).

Religiousness and spirituality were both found to make a significant contribution to adjustment among college students (Kneipp et al., 2009) which reinforced the importance of examining religiosity and spirituality among FGCS. Feenstra and Brouwer (2008) found that higher levels of spiritual commitment also appear to mitigate the stressful process of vocational choice as spiritual vitality (how close one feels to God) and secure attachment (positive early caregiver's experiences) were related to a better understanding of vocation. In other words, having a strong Christian identity was found to lead to a greater understanding of one's vocational career path and reduces one's anxiety regarding career choice. Kuh and Gonyea (2006) examined the National Survey of Student Engagement (NSSE) database and looked at spirituality and college engagement. Results indicated that students who frequently engaged in spirituality enhancing practices also participated more in a wide variety of collegiate activities. These findings are of particular interest when examining FGCS as these students tend to be less engaged in the college environment.

Spirituality and religiousness may also serve a protective function against severe forms of depression that include suicidal ideation. However, research remains unclear regarding the significance of either one of these factors in decreasing suicidal ideation. Taliaferro, Rienzo, Pigg Jr., Miller, and Dodd (2009) explored dimensions of spiritual well-being, which the authors termed religious and existential well-being to see if either dimension reduced suicidal ideation. In this study, 457 college students were assessed for spiritual well-being, religiosity, hopelessness, depression, social support, and suicidal ideation. Taliaferro et al. (2009) concluded that existential well-being (having a purposeful life) was associated with thoughts of suicide, specifically that higher levels of existential well-being decreased the likelihood of suicidal ideation. However, the study also found that religious well-being was initially found to be

significant, but after controlling for other psychosocial variables, religious well-being was not found to be a significant predictor for suicidal ideation. Other research concluded that lower levels of religiousness coincided with greater suicidal ideation which suggested that religious affiliation protects against suicidal ideation (Simonson, 2008). Such conflicting data among the college population suggest that spirituality and religiousness should be treated as separate but related constructs when examining the role of resilience in protecting psychological well-being within first-generation college students.

Burris, Brechting, Salsman, and Carlson (2009) studied religiousness and spirituality's influence on psychological health. Whereas neither religiousness nor spirituality was significantly predictive of psychological well-being, religiousness had an inverse relationship with psychological distress. Religious college students found religion to mitigate psychological distress. However, spirituality was positively associated with psychological distress. Burris et al. suggested that highly spiritual people who experience spiritual difficulties will suffer psychological distress due to a crisis of faith. This conclusion receives support from research by Bryan and Astin (2008) which found college students who spiritually struggle experience psychological distress. The results suggest the relationship between spirituality and psychological constructs such as distress, resilience, and well-being is complex. Having a spiritual value system can be beneficial, but when one's spiritual beliefs fail, this can be a source of psychological distress and spiritual struggle. Spirituality, as a construct, may need to be more carefully defined in order to determine what sort of relationship this factor may have with stress. For example, when looking at existential well-being as part of the construct of spirituality, Calicchia and Graham (2006) found an inverse relationship between stress and existential well-being among graduate students, which helped mediate stressful relationships. Graduate students

who had high existential well-being scores experienced less stress in their relationships. Future research is needed to examine religiousness as potential protective factor in order to determine if it plays a significant role in promoting resilience among college students coping with stressors related to educational environment.

FGCS and Social Support

Of the five potential protective factors, social support has been the most researched with first-generation college students. Early developmental psychological research on resiliency has consistently shown how resiliency in children is often associated with the resilient child connecting to at least one consistent, supportive figure (Garmenzy et al., 1984; Rak, 2002; Rutter, 1979). Since other studies on this population have shown a reduced involvement with the college environment, the role of social support in fostering such engagement has received extensive treatment in the literature.

FGCS who participated in living-learning programs (residential communities with a shared academic focus) perceived to have an easier academic and social transition to college than FGCS who lived in a traditional residential setting (Inkelas, Daver, Vogt, & Leonard, 2007). The study suggests that FGCS appear to benefit from formalized social supports offered by colleges. These results are compelling considering that other studies showed a higher proportion of FGCS live off campus, and FGCS who live off campus have problems engaging socially with the college environment when compared to FGCS who live on campus (Pascarella et al., 2004; Pike & Kuh, 2005; Somers et al., 2004). Inkelas et al. (2007) indicated that with more intensive structured social support in the way of living-learning programs, FGCS show better college integration and transition. Educational Opportunity Fund (EOF) Programs were found to provide structured social support for FGCS transitioning from high school to college (Clauss-Ehlers &

Wibrowski, 2007). Clauss-Ehlers and Wibrowski (2007) found that college students who came from families where parents did not complete college, but who enrolled in EOF programs during the summer of their freshman year, indicated that they experienced more institutional support. Mentoring programs for students with mental illness were found to provide emotional stability (Heyno, 2006). As past research has shown that mentoring provides emotional support to students with mental illness, FGCS may also potentially benefit from mentoring programs that provide emotional and pragmatic support in navigating an unfamiliar college environment.

Social support has been associated with moderate levels of stress (Wang & Castaneda-Sound, 2008). FGCS who received higher levels of family support reported lower levels of stress, whereas lower levels of perceived family support appeared to increase stress in FGCS. Verger et al. (2009) found similar findings regarding the relationship between stress and social support among first year students who are attending a university in southeastern France. Verger et al. (2009) concluded that social support has an effect on decreasing distress among first year students in France. Phinney and Hass's (2003) narrative research found that incoming FGCS freshmen who were able to adapt to college stressors had greater self-efficacy and social support than FGCS who had difficulty adjusting to college stressors. This was found to be significant even when accounting for ethnicity, gender, and country of birth.

A longitudinal study examining freshmen over the first year at college found that the type of social support was also important. Research found *friendship* social support to be important and tangible, but *pragmatic* social support was found not to be significant in buffering against stress and depression. (Cohen, Sherrod, & Clark, 1986). The authors concluded that college students do not need tangible support, but more emotional support when faced with stressful events. If these results are accurate, this is a potential dilemma for FGCS as the lack of college

engagement means less close on-campus friendships to provide the support needed to buffer against stress and depression. These results may explain why non-first-generation college students view on-campus friend support to be significant for overall college adjustment whereas FGCS utilize intellectualism (reasoning ability) to adjust to college life (Hertel, 2002). Hertel (2002) concluded that NFGCS understand that going to college should include significant social processes, whereas FGCS tend to perceive that engaging in the college experience is largely a cognitive task.

The lack of college engagement could require using other protective factors in order to adjust to college life. Moschetti and Hudley (2008) found that FGCS who were working class, White, and male were likely to access institutional supports for either emotional or academic assistance. Conclusions from this study have to be made with caution due to a small sample size for both the FGCS ($n = 17$) and NFGCS ($n = 18$) groups. However, these results do support a much larger study that examined disclosure of FGCS regarding perceived social support. Barry, Hudley, Kelly, and Cho (2009) observed lower levels of disclosure to family, friends from home, and friends at school by FGCS when compared to NFGCS. Barry, et al. concluded that lower levels of disclosure in FGCS may reflect a lack of social networks in which they feel comfortable sharing their experiences as they attempt to navigate a stressful college environment.

Impact of Academic Self-Efficacy on Student Development

A meta-analysis of the empirical literature showed a positive and statistically significant relationship between self-efficacy, academic performance and persistence across a wide variety of subjects, assessment methods, and experimental designs (Multon, Brown, & Lent, 1991). Multon et al. found that self-efficacy accounted for 14% of the variance in students' academic performance and approximately 12% of the variance in academic persistence. The heterogeneity

in effect size estimates reported in the meta-analysis indicate that the relation of self-efficacy to performance and persistence depends on a variety of factors such as students characteristics, the research design, statistical methods, and measures used in the individual studies. In other words, the study's findings regarding the heterogeneity in effect size estimates demonstrate that although self-efficacy has the potential to be a protective factor among resilient students, further studies among specialized populations are needed to see how significant and powerful academic self-efficacy is for groups such as FGCS in relation to academic persistence and performance. Research is also needed to evaluate how academic self-efficacy is related to emotional well-being, and managing stress and depression.

Zimmerman (2000) reviewed the extensive literature examining the validity and reliability for self-efficacy as a useful construct to study student learning, motivation, and achievement. The study concluded that self-efficacy differs conceptually and psychometrically from related constructs such as locus of control, self-concept, and outcome expectations and that one of the strengths of self-efficacy is that the construct can be changed to match the specificity to performance tasks. Zimmerman concluded that students' self-beliefs about their academic capabilities play an important function in their motivation to achieve and in their performance. Zimmerman also concluded that the construct of self-efficacy can be tailored to be more domain specific. This supports earlier research examining the impact of self-efficacy on motivation in academic settings. Zimmerman's concluded that self-efficacy which corresponds to criterion-referenced tasks are better predictors of achievement outcomes than more global measures of self-efficacy. However, global measures of self-efficacy do have some predictive power with regards to achievement (Caraway, Tucker, Reinke, & Hall, 2003; DeWitz, Woosley, & Walsh, 2009; Pajares, 1996). Caraway et al. (2003) found that the more confident high school students

are about their general level of competence, the more likely they are to get better grades, and are more likely engaged in school. The DeWitz et al. (2009) regression analysis on 344 undergraduate college students found a relationship between self-efficacy and purpose in life. Several variables were related to college student retention, and general self-efficacy was the most significant predictor of purpose-in-life scores. DeWitz et al. also demonstrated how even general self-efficacy beliefs can affect academic performance (as measured by retention) as students with higher beliefs in their academic capabilities tend to feel they have a greater sense of purpose than students with lower general self-efficacy. Self-efficacy for learning was moderately correlated with perceptions of responsibility and predicted course grades (Kitsantas & Zimmerman, 2009). Schunk's (1989) examination of the empirical literature on self-efficacy in education found that self-efficacy is an important construct not only for the belief about completing academic work successfully, but that self-efficacy was likewise found to influence cognitive skills, social skills, motor skills, and career choices.

Gore's (2006) research supports Zimmerman's (2000) conclusion that for self-efficacy to predict outcomes, which efficacy beliefs are being measured, the psychometric measures being utilized, and the type of criteria being used are critical components in the analysis. Gore (2006) also found that self-efficacy as a predictor of college outcomes is dependent on when in the semester self-efficacy is being measured. The findings may indicate that the beginning of the semester is less stressful and students are more likely to be hopeful compared to later in the semester when academic demands increase.

Chemers, Ho, and Garcia (2001) longitudinal study of first year college students' adjustment examined the effects of academic self-efficacy and optimism on students' performance, stress, health, and commitment to remain in school. The structural equation model

from this research indicated that academic self-efficacy and optimism were strongly related to performance and adjustment, both directly on academic performance; and indirectly through expectations and coping perceptions on classroom performance, stress, and health, as well as with overall satisfaction and commitment to remain in school. An examination of self-efficacy and family social support found that academic performance was influenced by intrinsic motivation and academic self-efficacy. It was also shown that a parenting style characterized by nurturance, involvement, and reasoned discipline (authoritative parenting style) influenced the academic performance of college students (Turner, Chandler, & Heffer, 2009). Self-efficacy was also positively related to academic standing whereas performance avoidance goals were negatively related to academic standing. In other words, students in good academic standing reported higher self-efficacy and had utilized more mastery goals (methods that assist in learning the academic material) than students on academic probation (Hsieh et al., 2007).

Mathematics self-efficacy has been found to have a positive influence on academic outcomes and performance (Betz & Hackett, 1983; Hackett, 1985; Lent, Brown, & Gore, 1997; Pajares & Miller, 1995). Pajares and Miller (1995) examined 391 college students on three types of mathematics self-efficacy: confidence to solve mathematics problems, confidence to succeed in math related courses, and confidence to perform math-related tasks. The study found that the confidence to solve math problems was a powerful predictor of math performance than either confidence to perform math-related tasks or to succeed in math-related courses. College students' perceived success in math-related courses was a strong predictor of choice of math-related majors. Pajares and Miller contended that self-efficacy should not only be domain specific, but tailored to the criteria task being assessed and the domain of functioning being analyzed in order to increase predictive power.

Lent et al. (1997) had 205 college students complete multiple measures examining academic self-concept, global academic self-efficacy and domain specific mathematics self-efficacy. Lent et al. determined that each of these variables represent separate but related constructs with varying predictive power. In other words, which construct (e.g. academic self-efficacy) utilized should depend on what is being measured. For example, if one wants to know if students feel confident in their abilities to achieve in college, one may utilize a more general construct of self-efficacy. However, if one wants to know students' perception of, and their capability in math, one may need to examine a more domain specific construct such as mathematics self-efficacy.

Mathematics self-efficacy is not the only domain specific self-efficacy construct measured in the student population. Occupational self-efficacy was found to be a statistically significant predictor of final marks obtained among nursing students (McLaughlin, Moutray, & Muldoon, 2008). Nursing students with higher self-efficacy in their occupation (e.g. confidence of being competent nurses) were more likely to achieve higher grades. Among middle schoolers, there was a high correlation between self-efficacy and GPA for science and writing. Middle school students showed how the belief on one's capabilities is related to doing the work across academic domains (Pajares, Britner, & Valiante, 2000). This discussion is important in the context of measuring FGCS' self-efficacy beliefs. In this study, FGCS' sense of academic self-efficacy (belief in ability to complete academic work) is being measured and is not academic subject specific.

As illustrated above, self-efficacy is a useful construct when determining if resilient students believe in their capabilities to succeed in mastering challenging academic material. However, self-efficacy is a variable that maybe influenced by cultural and demographic factors

including the complex relationship between gender and self-efficacy (Betz & Hackett, 1983; Hackett, 1985). Hackett (1985) found that gender-related socialization and its affect on career choice that mathematics self-efficacy expectations were significantly related to which students selected science-based college majors. Math-related self-efficacy expectations of college males were significantly stronger than that of college females possibly influencing more males than females to pick math and science-based majors (Betz & Hackett, 1983). Self-efficacy plays an important role in believing that one can complete challenging courses, and demographic factors (e.g. gender) can explain variability in different levels of self-efficacy across sub-populations. As a result, self-efficacy as a construct, is an important potential protective factor to be explored in order to see if there is a significant relationship between high levels of academic self-efficacy in resilient FGCS.

Pajares and Johnson (1996) found gender and ethnic variability regarding writing self-efficacy among high school students. Pajares and Johnson found female high school students reported lower writing self-efficacy. Also, native English-speaking Hispanic students reported lower aptitude and performance scores, lower self-efficacy, and higher apprehension regarding writing tasks. High self-efficacy as well as perceived family social support were found to be protective factors leading to the academic success of resilient Latina/o college students (Cavazos, et al., 2010). First generation college students comprises a higher percentage of Hispanics compared to other students (Horwedel, 2008; Terenzini et al., 1996), a fact that further validates the need to investigate self-efficacy as a protective factor among FCGS. Self-efficacy and student achievement was found to be significant among Korean college students (Bong, 2001), African American freshman (Bembenutty, 2009), among Asian Americans, Latino college students (Edman & Brazil, 2007), and business graduate students (Lane et. al., 2004). Lane and

Lane (2001) conducted a regression analysis on post-graduate students and found that self-efficacy was utilized as a mechanism to cope with the intellectual demands of their graduate program and that self-efficacy accounted for 11.5% of the performance variance. Resilient graduate students utilize the belief that they can successfully complete their academic work in the face of the stress of pursuing graduate studies. Lane and Lane concluded that utilizing interventions to increase a students' academic self-efficacy would be beneficial in enhancing academic performance.

Academic Self-Efficacy and FGCS

Researchers have looked at the impact of academic self-efficacy on first-generation college students (Gibbons & Border, 2010; Hellman, 1996; Mayer, 2009; Olive, 2008; Ramos-Sanchez & Nichols, 2007; Voung, Brown-Welty, & Traez 2010; Wang & Castaneda-Sound, 2008). A longitudinal analysis of self-efficacy for education conducted among FGCS attending a community college concluded that self-efficacy for education was significant in predicting a cumulative GPA (cGPA) (Mayer, 2009). Olive (2008) took a phenomenological approach in examining Hispanic FGCS regarding motivation and self-efficacy. Olive (2008) discovered that the influence of social support, particular that of role models, impacted Hispanic FGCS' belief in their ability to succeed in college. The interaction between social support and academic self-efficacy may have an influence on resilient FGCS. Family social support appeared to influence self-efficacy for middle school students on college going expectations (Gibbons & Border, 2010). Gibbons and Border (2010) also found that male pre-college FCGS perceived more barriers than did female pre-college FGCS. African-American pre-college FGCS reported perceiving less parental support than did African American non pre-college FGCS.

The empirical literature examining self-efficacy as a mediating variable between generational status and GPA is not conclusive. Ramos-Sanchez and Nichols (2007) examined 192 incoming freshman during the fall and spring semester in order to investigate a statistically significant relationship between self-efficacy and college adjustment. The study did not support the hypothesis that self-efficacy would mediate the association between generational status and GPA. In other words, NFGCS did not appear to perform better academically than FGCS. However, Young et al. (2010) found that self-efficacy beliefs effect GPA and persistence rates of sophomore students, showing that NFGCS outperform their first generation peers as measured by these variables.

Self-efficacy as a protective factor for psychological well-being among first-generation college students has only been examined in a few select studies (Hellman, 1996; Wang & Castaneda-Sound, 2008). Hellman (1996) compared FGCS and NFGCS who attended community college. Findings suggest that FGCS have lower levels of self-efficacy than students whose parents went to college. Hellman (1996) concluded that because of low academic self-efficacy, FGCS may feel that they are not as capable as others leading to self-doubt and disengagement with the college environment. These results support Wang and Castaneda-Sound (2008) who found that FGCS reported lower levels of self-efficacy than did NFGCS. There has been a need in the empirical literature to study FGCS at four year colleges because those who attend more selective colleges (compared to community colleges) may have initially higher levels of self-efficacy. Furthermore, more research is needed to examine whether variability in self-efficacy within resilient FGCS in an unfamiliar environment predicts higher levels of academic self-efficacy than within less resilient FGCS.

Summation of Literature Review

First-generation college students represent a population at risk as evidenced by higher attrition rates than their continuous generation peers (Duggan, 2001; Horn, 1998; Ishitani, 2006; Nunez & Cocaro-Almin, 1998; Riehl, 1994; Somers et al., 2004). Comparative research between FGCS and NFGCS shows that FGCS are less engaged in the college environment. The disengagement that FGCS experience may be due, in part, from pragmatic issues because FGCS tend to come from a lower SES, have dependents, and tend to work while attending college. This means that family and work are legitimate competing interests for the first-generation college student's goal of getting a college education. Current research indicates that without parents who can relay first-hand college experiences to the student, FGCS do not have an initial understanding of college expectations and experiences (London, 1992; York-Anderson & Bowman, 1991). London (1989) indicated that FGCS may struggle with conflicting loyalties between the desire to attend college and the perception that if they do attend college, they will be seen as abandoning their families. Furthermore, parents of FGCS do not have any college experiences which challenge their preparedness to be supportive to their college bound children. Although FGCS face these potentially adverse conditions, many will succeed and flourish in college and go on to graduate. This leads to the question regarding what contributes to the resilience and success of some first-generation college students while many of their peers struggle and potentially leave college prematurely.

Resiliency research has identified many potential protective factors that are beyond the scope of this study. This study examined five protective factors that have the potential to be relevant for the college student population; optimism, spirituality, religiousness, social support, and academic self-efficacy. The literature review indicated, that overall, there is empirical

evidence that these protective factors have promoted academic success, decreased college risk behaviors, increased academic performance, and enhanced emotional well-being within the college population. However, these factors are not necessarily universal as differences regarding their impact on a variety of populations such as gender, race, and ethnicity are currently being studied. As a result, there is a need to move away from approaches that treat these five protective factors in an overly broad manner. Rather it is important to determine if any of them are more likely than the others to enhance resiliency, which then can allow for an effective allocation of the resources necessary for success in college.

Although there is much comparative research covering between group differences between FGCS and NFGCS, there is little research examining within group differences among FGCS. As a result, there is little known about the ways in which resilient FGCS navigate the college environment when compared to FGCS who perceive themselves to be less resilient. Finally, there is some evidence that when comparing FGCS to NFGCS in the context of emotional well-being, FGCS tend to have lower self-efficacy, lower self-esteem, and less confidence in their initial capabilities compared to their peers. However, psychological distress and emotional well-being remains largely unexplored within the FGCS population. This study will attempt to address these issues by examining if protective factors such as optimism, spirituality, religiousness, social support, and academic self-efficacy are utilized by FGCS who perceive themselves to be more resilient when compared to less resilient FGCS. In addition, this study explores any significant interactions between pairs of protective factors that can better explain why first-generation college students may identify themselves as resilient.

CHAPTER 3: Method

This study examined which of the five protective factors (optimism, academic self-efficacy, social support, religiousness, and spirituality) are utilized by resilient first-generation college students (FGCS). I also evaluated any two-way combination of statistically significant protective factors that predict higher levels of perceived resilience in FGCS. Thus, in this study I attempted to answer the two following research questions: (1) Do first-generation college students who tend to report higher levels of resiliency also report higher levels of optimism, social support, academic self-efficacy, religiousness, and spirituality; and (2) can any two-way combinations of optimism, social support, academic self-efficacy, religiousness, and spirituality predict higher levels of perceived resilience in first-generation college students?

Participants

FGCS were selected from a small public university located in Virginia, in part because first-generation students are more likely to attend, non-selective and cost-effective state universities as opposed to more costly, selective, private institutions (Pascarella et al., 2004). Participants consisted of undergraduate college students. One method of solicitation included flyers placed at all public billboard areas in dining halls, campus library, student union, and residential buildings. The Assistant Dean of Student Affairs sent a campus-wide e-mail to all college students informing them of the study and a link that allowed them to take the survey online at the Survey Monkey website. For more information on Survey Monkey, please go to <http://surveymonkey.com>. The first 200 participants got a \$10 gift certificate to Barnes & Noble which was mailed out two weeks after the last day participants were able to take the online survey. The incentive of a lottery of two \$100 gift certificates to Barnes & Noble was awarded as an additional method of increasing student participation. The source of funding for the cash

prizes was through private resources. Studies have shown that giving a money incentive significantly increases study participation. (Furse, Stewart, & Rados, 1981; Marcus, Bosnjak, Lindner, Pilischenko, & Shultz, 2007; Ulrich, et al., 2005). The offer of a cash incentive may increase participation among lower SES college students which may create a sample bias; however this issue may be mitigated as FGCS tend to be disproportionately from families with lower SES backgrounds (Bui, 2002; Duggan, 2001; Terenzini et al., 2006). In order to protect confidentiality, participants identifying information needed to contact them for the allocation of prizes was kept separate from their completed data sets.

Instruments

The measurement instruments for this study included the following:

1. Demographic Questionnaire Form 2. 10-Item Connors-Davidson Resiliency Scale 3. Life Orientation Test-Revised. 4. Social Supports Appraisals Form 5. The Religious Commitment Inventory-10 6. Intrinsic Spirituality Scale. 7. The College Self-Efficacy Inventory.

Demographic Questionnaire Form. The demographic questionnaire asked participants to indicate the following: (i) generational status (ii) age (iii) name of college/university currently attending (iv) cumulative grade point average (v) gender (vi) race/ethnicity (vii) personal or family of origin income (viii) class standing. Race/ethnicity was sampled using six categories as follows: African American/Caribbean/Black, Asian American, Bi-racial, Latino/a/Hispanic, Native American, White/Caucasian/Non-Hispanic White. Family income was sampled by creating five classifications as followed: Below \$20,000, \$20,001-40,000, \$40,001-60,000, 60,001-80,000, and Above 80,000. Work/employment status was divided into three categories as follows: no hours per week, 1-20 hours per week, and over 20 hours per week. The demographic questionnaire provided information to describe and characterize the FGCS sample.

10-item Connors-Davidson Resilience Scale (10-item CD-RISC; Campbell-Sills & Stein, 2007). The 10-item Connors-Davidson Resilience Scale is a survey instrument that measures resilience. The 10-item CD-RISC was adapted from the CD-RISC which is a 25 item survey instrument (Connors & Davidson, 2003). An example of an item on this survey is the following: “Coping with stress can strengthen me.” The 10-item CD-RISC utilizes a five point Likert scale where subjects are asked to mark one of the following responses: 0 = *not true at all*, 1 = *rarely true*, 2 = *sometimes true*, 3 = *often true*, and 4 = *true nearly all of the time*. The scale is rated based on how the subjects felt during the past month with higher scores indicating subjects with a higher degree of resilience. Total scores on the 10-item CD-RISC range from 0-40.

Conceptually, the original CD-RISC’s development drew upon Rutter’s (1985) research on resiliency and Kobasa’s (1979) research on hardiness. The items in this scale reflect Rutter’s (1985) view that people who are resilient rely on past successes, have good self-esteem, are problem-solvers, tend to be adaptable, often utilize humor, and have secure social attachments. Connor and Davidson (2003) also viewed Kobasa’s (1979) concept of hardiness as important in understanding resilient behavior under circumstances of significant stress, and the items reflect the need to assess for control, commitment, and change viewed as a challenge.

The original CD-RISC was administered to a diverse range of groups including primary care outpatients, general psychiatric outpatients, a general community sample, and clinical trial patients of generalized anxiety disorder and PTSD. The CD-RISC showed good internal consistency with a Cronbach’s alpha of .89 for the general population (Connor & Davidson, 2003). The CD-RISC also showed high test-retest reliability in the clinical populations of Generalized Anxiety and Post Traumatic Stress Disorders with an intraclass correlation coefficient of .87. Intraclass correlation coefficient is typically utilized for reliability statistics as

a method to measure consistency between two variables on the same measure (Field, 2009). On the CD-RISC, both GAD and PTSD subjects showed very little change in their scores between Time 1 and Time 2 indicating a high level of agreement (Connor & Davidson, 2003). However, the time between the intervals were not reported in the article.

The 10-item CD-RISC was created to address instability in the factors structure across two demographically equivalent samples of college students (Campbell-Sills & Stein, 2007). The 10-item CD-RISC was found to display good reliability as indicated by a Cronbach's alpha of .85. The validity analysis indicated that the 10-item CD-RISC moderated the relationship between childhood trauma and present psychiatric symptoms. In other words, individuals in the sample that reported childhood maltreatment reported higher levels of psychiatric problems, but not for subjects who characterized themselves as highly resilient on the 10-item CD-RISC. As a result, the 10-item CD-RISC was able to differentiate individuals who demonstrate higher levels of functioning after experiencing adversity from subjects who continue to have problems with functioning after having significant problems (Campbell & Sills, 2007).

Life Orientation Test – Revised (LOT-R; Scheier, Carver, & Bridges, 1994). The LOT-R is a survey instrument that measures dispositional optimism. The items on the revised LOT contain 10 items with 4 items being fillers. An example of a LOT-R item is the following: "In uncertain times, I usually expect the best." LOT-R is a 5-point Likert scale where subjects are asked to circle the extent of their agreement utilizing the following format: 0 = *strongly disagree*, 1 = *disagree*, 2 = *neutral*, 3 = *agree*, and 4 = *strongly agree*. The four filler items are not scored leaving six items on the LOT-R to be scored with three of the items to be reversed scored as they are keyed in the negative direction. The six items are then scored to calculate an overall

optimism score which can range from 0 to 24 with the higher score indicating higher levels of dispositional optimism.

The LOT-R has a test-retest reliability of a .79 after 28 months and a Cronbach's alpha of .78. Scheier et al., (1994) indicated that the Cronbach's alpha of .78 is considered an acceptable level. Although traditionally, Cronbach's alpha levels above a .80 is considered good reliability in a scale (Field, 2009), Kline (1999) indicated that with psychological constructs, such as dispositional optimism, values below even a .70 can still be considered reliable due to the diversity of the constructs being measured. Because the LOT-R measures the psychological construct, dispositional optimism, a Cronbach's alpha of a .78 would be considered at least acceptable. Scheier et al., (1994) concluded that internal consistency and the test-retest reliability remain high. The LOT-R is the most used instrumentation for optimism and predicts a diverse range of psychological outcomes (Hasan & Power, 2002).

Social Support Appraisals Scale (SS-A; Vaux et al., 1986). The SS-A is a 23 item instrument that measures the extent which an individual believes that they are loved and supported by family, friends, and others. Subjects are asked to respond on a 4-point Likert scale to the extent of their agreement utilizing the following format: 1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, and 4 = *strongly agree*. The SS-A computed a family score based on the 8 "family" items, and a friends score based on the 7 "friends" items. The 8 items indicating support from "others" is not typically computed into a subscale score. A total sum is also be calculated by adding all 23 items together where higher scores indicate higher levels of perceived support. Negatively worded items are reversed scored. An example of an item on the SS-A is the following: "My friends respect me."

Good internal consistency was found with the total scale as well as with the family and friend subscales with a Cronbach alpha for the three scales were .90, .80, and .84 for the student samples and .90, .81, and .84 for the community samples (Vaux, et al., 1986). Vaux et al., (1986) concluded that the SS-A had good convergent validity with other support appraisal measures from various other sources.

The Religious Commitment Inventory-10 (RCI-10; Worthington et al., 2003). The RCI-10 is a 10-item self-report instrument set to measure level of commitment to a person's religious beliefs and values. The RCI-10 is scored by adding up the 10 items, with higher scores indicating a higher level of religious commitment. The RCI-10 has two subscales which include Intrapersonal Religious Commitment (6 items) which measures commitment one's cognitive commitment to religion and Interpersonal Religious Commitment (4 items) which examines one's behavioral commitment to religion. Respondents are asked to mark on a 5-point Likert scale where scores range from 1 (*not at all true*) to 5 (*totally true*). An example of an item on the RCI-10 is the following: "I often read books and magazines about my faith."

Worthington et al. (2003) found test-retest reliability for the RCI-10 and its two subscales, Intrapersonal Religious Commitment and Interpersonal Religious Commitment, to be .87, .86., and .83 respectively, with a three week interval between test and retest. Internal consistency was moderately high with a Cronbach's alpha of .88. Full-scale RCI-10 demonstrated good construct validity as RCI-10, Intrapersonal Religious Commitment, and Interpersonal Religious Commitment were significantly correlated with a 1-item measure of religious participation, $r(154) = .70, p < .001$, $r(154) = .60, p < .001$, $r(154) = .74, p < .001$. Discriminant validity was observed by RCI-10 and its two subscales as none were reportedly

found to be significantly correlated with the single-item measure of spirituality. Worthington et al., (2003) indicated that the RCI-10 is particularly useful for college populations.

The Intrinsic Spirituality Scale (ISS: Hodge, 2003). The ISS is a 6-item self-report measurement that measures importance of spirituality in one's life. The ISS is based on the Allport and Ross's (1967) instrument that measures intrinsic religion. This measurement does not use terms such as "God" which allows the extension of the scale's utility to non-theistic populations who may see themselves as spiritual, but not religious. Instead of the traditional Likert scale, the ISS employs phrase completion where participants are asked to complete a phrase by choosing on an eleven point scale. An example of an item on the ISS is the following: "My spiritual beliefs affect..." Then the respondent would mark on a continuum from 0, "*no aspect of my life*" to 10, "*absolutely every aspect of my life.*" Participants' spirituality score is obtained by totaling the scores of all six items and then divided by six. The higher the score, the more important spirituality's role is in that person's life. ISS demonstrates good reliability as a measurement of spirituality as evidenced by a mean reliability coefficient of .80. The Cronbach's Alpha coefficient of .96 indicated that the ISS is highly internally consistent. Concurrent validity was observed as the ISS was positively correlated with the original measure of intrinsic religion ($r = .911, p < .001$) as well as with secure attachment ($r = .233, p = .003$) and negatively correlated with alcohol use ($r = -.489, p < .001$) frequency of binge drinking ($r = -.464, p < .001$) and tobacco use ($r = -.376, p < .001$).

Course Efficacy Subscale of The College Self-Efficacy Inventory (CSEI; Solberg, O'Brien, Villareal, Kennel, & Davis 1993). The CSEI is a 20 item self-report instrument that measures a student's sense of self-efficacy in college in areas such as roommates, social situations, and courses which also represents the three subscales. Respondents are asked to mark

their answer on a 10-point Likert scale ranging from 0 (*totally unconfident*) to 9 (*totally confident*). Total scores can range from 0 to 176 with higher scores indicating a greater perceived sense of college self-efficacy.

The reliability of the CSEI was determined using Cronbach's alpha which was .93 for total College Self-Efficacy and .88 for Course Efficacy, Roommate Efficacy, and Social Efficacy subscales. Solberg et al., (1993) found that the CSEI had good convergent and discriminant validity based on that the college efficacy subscales of the CSEI related well to other indices of adjustment. Although, the CSEI was initially conceptualized to measure Hispanic college students' college self-efficacy, the CSEI has been used in other studies to measure college self-efficacy in different college populations such as class status as well as with samples being predominantly White or Caucasian (Barry & Finney, 2009).

For the purpose of this study, only the Course Efficacy subscale of the CSEI was utilized. The Course Efficacy subscale is composed of eight items on the CSEI because the items in this subscale relate most closely to the construct of academic self-efficacy. Roommate Efficacy and Social Efficacy subscales do not measure academic self-efficacy. A closer examination of the items on these subscales reveals that the subscales are measuring a construct similar to social support that is measured by the SS-A. To address concerns of multicollinearity between the SS-A and the CSEI, Roommate and Social Efficacy subscales were not included in this study.

Procedures

Participants were able to take the survey through Survey Monkey, an online website designed to distribute web surveys. At the small public university in Virginia, solicitation for Survey Monkey was provided by e-mailing the student body, and flyers were approved and distributed to public areas in university buildings. On the second day, April 10, 2012, the

investigator engaged in direct solicitation by reserving a booth in front of the main dining hall and passed out flyers.

College students were able to take the survey online starting the April 9 and ending on the April 30, 2012. This timeline was selected because this represents the time in students' lives where the workloads for academic courses increases. This time of the academic year often represented a more stressful time than during the beginning of the semester, and because the study's purpose is to examine resiliency in FGCS under conditions of potential adversity and stressors, the timing of the administration of the survey packet was considered relevant.

Each participant was able to review a short description of the research before beginning the study. The information included the following: (a) participants are expected to complete all the surveys as well as the demographic information, (b) approximated time (20 minutes) the survey takes to be completed (c) if they are uncomfortable with completing the survey, they can discontinue at any time. If the participants decided to continue, the participant reviewed and completed an informed consent form which had the contact information, and verification of IRB approval. Any questions or concerns were addressed via the e-mail address included in the contact information. Participants were asked to provide non-identifying demographic information. Participants were given the option of including an e-mail address in case they desire a summary of the research findings. The e-mail addresses were kept separate from the completed data set. Participants were encouraged to contact the researcher via e-mail which was provided, if they had any concerns.

Statistical Analyses

In order to analyze the research questions, a forced entry step-wise regression model was performed to ascertain if any of the five protective factors (optimism, academic self-efficacy,

social support, religiousness, and spirituality) were significant on students' self-perception of resilience. In this model, the criterion or dependent variable is resilience as measured by the 10-Item CD-RISC. This model has five predictors or independent variables. The five predictor variables are optimism as measured by LOT-R, social support, as measured by SS-A, religiousness, as measured by RCI-10, spirituality as measured by ISS, and academic self-efficacy as measured by the CE subscale of the CSEI.

Before examining the five protective factors, demographic variables and their influence on the dependent variable were taken into consideration. As mentioned in Chapter 1, resiliency literature in developmental psychology found that being female from aversive environments was a protective factor (Rutter, 1974; Werner, 1982). As a result, gender could potentially be a significant factor that could explain some of the variance. A relationship between grade point average and resilience is less clear. Tross, Harper, Osher, and Kneidinger (2000) did not find a predictive relationship between students who perceived themselves to be resilient and academic performance and college retention. However, Maddi, Harvey, Khoshaba, Fazel, and Recurreccion (2009) found that undergraduates who went through hardiness training to learn to be more resilient had improved grade point averages. In terms of risks, work/employment status can potentially have an impact on resilience. FGCS who work are less engaged in the college environment (Pascarella, 2004) therefore examining employment status as a factor becomes pertinent. A disproportionate number of FGCS are from ethnic minorities (Bui, 2002; Duggan, 2001; Giancola et al., 2008; Teranzini et al., 1996) when compared to NFGCS. Examining race/ethnicity in the context of resilience is important as some FGCS who are from an ethnicity minority face additional risk and adversity through discrimination (Terenzini et al., 1996). Class standing (e.g. freshman, sophomore, etc.) needed to be evaluated as one can hypothesize that the

longer a student attends college, the more resilient he or she may become as less resilient students may have left college. Finally, Family SES as a demographic variable was measured as FGCS tend to come from lower SES backgrounds (Bui, 2002; Duggan, 2001; Giancola et al., 2008; Terenzini et al., 1996). FGCS from lower SES can potentially be seen as a risk factor as this group may have less available resources which may lead to FGCS from lower SES backgrounds perceiving themselves to be less resilient than ones from higher family SES. Furthermore, FGCS who are from lower SES tend to have higher attrition rates (Somers et al., 2004) which could suggest there is a negative correlation between FGCS who come from lower socioeconomic backgrounds and resilient outcomes.

In the first step in this analysis, I performed a multiple regression using the forced entry method to find significant relationships between any of the demographic variables to the dependent variable of resilience using the SPSS 18 program. In this stage of the regression model potential demographic predictor variables were forced into the model; class standing, gender, race/ethnicity, socioeconomic status, employment/work status, and cumulative grade point average are entered to see which demographic variables are found to be significant. The significance level in the first stage of this model was set at $p < .05$. All demographic variables that are categorical are dummy coded which included class standing, gender, race/ethnicity, socioeconomic status, and employment/work status. The second step in the regression also used a forced entry method to enter the five predictive variables (optimism, academic self-efficacy, social support, religiousness, and spirituality) in order to find out which variables are significant as well as how much of the significant independent variables explained the variance in the criterion variable, *resilience*, as measured by the 10-Item CD-RISC. The level of significance for the second stage of this model was set at $p < .05$. In next part of the analysis I examined two-way

interaction effects on the criterion variable of resilience by utilizing a step-wise method. The purpose of the final stage of the model is to determine if the effects of any two-way combination of significant predictor variables could explain additional variance within the criterion variable of perceived resilience beyond that of any single, or combination of single variables. Any significant single predictor variables resulting from in the third step were multiplied by each other pair-wise. For example, if social support and spirituality were found to be significant, a Social Support x Spirituality variable was created in SPSS where the social support and spirituality score were multiplied in order to examine how much predictive utility was added to the model that was beyond either the main effects for social support or for spirituality. The level of significance for the third stage of the model was set at $p < .05$. The potential two-way interaction effects were the following: Optimism x Academic Self-efficacy, Optimism x Social Support, Optimism x Religiousness, Optimism x Spirituality, Academic Self-efficacy x Social Support, Academic Self-efficacy x Religiousness, Academic Self-efficacy x Spirituality, Social Support x Religiousness, Social Support x Spirituality, and Religiousness x Spirituality. This resulted in ten new variables to be tested. The purpose of the last stage of the model was to see if any two-way combinations of the five predictive variables examined could explain a significant portion of the variance within the criterion variable of resilience. For example, do people who exhibit higher levels of academic self-efficacy coupled with religiousness tend to be more resilient? As discussed in Chapter 1, three-way, four-way, and five-way interaction effects will not be measured. The decision not to measure such combinations was made for several reasons. One reason is that the sample size for three-way effect sizes and larger would need a larger sample size than what is most likely cannot be realistically obtained from a small university. Also noted, was the difficulty in interpreting significant interactions among four-way or five-way

interaction effects. For example, even if a four-way effect was found to be significant, to find how each of the four predictor variables related to each other would be extremely difficult to understand through this statistical process (R.P. Curtis, personal communication, April 27, 2011). After all the variables had been entered in their appropriate stages, SPSS ran the data by systematically eliminating the least significant variable until only significant variables were left in the backwards step-wise regression.

After the backwards step-wise regression was completed, a forced entry method regression was used with only the predictor variables that had been found to be significant. The level of significant was set at $p < .05$. The purpose of this step was to put together the best regression model to explain as much of the criterion variable, resiliency, as measured by the 10-Item CD RISC. Diagnostics were performed to examine the fitness of this regression model for the purpose of evaluating if any of the underlying assumptions for a regression analysis has been violated. If the study produces a significant regression model, and the underlying assumptions hold, then the model can potentially be generalized outside of the sample (Field, 2009).

An a priori analysis was conducted to predict a minimum sample size where the level of significance was set at .05 and the power level was set at .80. When accounting for the categorical demographic variables, the five independent variables, and the ten two-way effect variables, the total number of predictors is thirty-one. For a moderate effect size for a multiple linear regression model, Cohen (1988) suggests an f^2 value equal to .15. Cohen's f^2 is the standardized effect size of the proportion of variance over unexplained variance and is used in multiple regressions (Cohen, 1988). After accounting for the level of significance (.05), a power level of .80, and a moderate effect size (f^2) of .15, the a priori analysis determined a minimum sample size of 190 was needed to conduct this study (<http://www.danielsoper.com>).

CHAPTER 4: Results

In this study, I had set out to examine optimism, social support, academic self-efficacy, religiousness, and spirituality as potential protective factors that FGCS who perceive themselves to be highly resilient may use in times of increased stress. My secondary goal was to examine whether any significant two-way combinations of the five protective factors can predict higher levels of perceived resilience in FGCS.

Sample Characteristics

Respondents completed this survey online using Survey Monkey. Fully completed surveys of FGCS, who attend a small public university in rural Virginia were used for this study ($n = 249$). Inclusion criteria included a completed survey, be a first-generation college student have undergraduate status; and the respondents had to attend the target university. Four hundred seventy-two surveys were submitted. Invalid surveys were removed leaving a total sample size of 249. Two hundred twenty-three surveys were regarded as invalid for the following reasons: 92 surveys were completed by non-first-generation college students, 59 surveys had one or two missing items, 40 surveys were incomplete, 30 surveys came from respondents from other universities than the one being studied, one survey completed came from an international student and one survey was completed by a graduate student. A demographic questionnaire (See Appendix A) was completed which included age (Range = 18 to 56 years, $M = 20.53$, $SD = 3.47$), grade point average (Range = 1.20 to 4.00, $M = 3.037$, $SD = .49$) gender (77.9% females, 22.1% males), race/ethnicity (10.4% African Americans, 0.8% Asian Americans, 4.0% Bi-Racial, 1.2% Hispanics, 1.6% Native Americans, 81.9% Caucasians), SES/family income (12.0% Below \$25,000, 30.5% \$25,001-50,000, 31.3% \$50,001-75,000, 18.5% \$75,001-100,000, 7.6% Above \$100,000), class standing (29.7% freshmen, 17.3% sophomores, 25.7%

juniors, 27.3% seniors), and employment (56.6% zero hours per week, 34.5% 1-20 hours per week, 8.8% over 20 hours per week). Demographic characteristics are summarized in Table 1 and Table 2.

Table 1
Demographics of First Generation College Students (n = 249)

Characteristic	Frequency	Percent
<i>Gender</i>		
Male	55	22.1
Female	194	77.9
<i>Ethnicity/Race</i>		
African American	26	10.4
Asian American	2	0.8
Bi-Racial	10	4.0
Latino(a)/Hispanic	3	1.2
Native American	4	1.6
White/Caucasian	204	81.9
<i>Socioeconomic Status/Family Income</i>		
Below \$25,000	30	12.0
\$25,001-50,000	76	30.5
\$50,001-75,000	78	31.3
\$75,001-100,000	46	18.5
Above \$100,000	19	7.6
<i>Class</i>		
Freshman	74	29.7
Sophomore	43	17.3
Junior	64	25.7
Senior	68	27.3
<i>Employment</i>		
Zero hours per week	141	56.6
1-20 hours per week	86	34.5
Over 20 hours per week	22	8.8

Table 2
Demographics of First Generation College Students (n = 249)

Characteristic	Mean	SD
<i>Age</i>	20.53	3.47
<i>GPA</i>	3.04	0.49

As seen in Table 1, several of the categorical variables have categories with small numbers, which may impact the accuracy of the results. Field (2009) suggests a minimum of 20% of the overall sample in each of the levels of the categorical variable. As a result, several of the categories in each categorical variable were combined in an attempt to increase the sample size in each category above the 20% threshold. As a result, several of the levels in some of the categorical variables were changed in SPSS. "Ethnicity/Race" combined "African American," "Asian American," "Bi-Racial," "Latino(a)/Hispanic," and "Native American" into a "Non-White" category. "Employment" was changed to "No Job" and "Job." The "Job" category combined the levels of "1-20 hours per week" and "Over 20 hours per week." "SES/Family Income" combined "Below \$25 K" and "\$25,001 - \$50K" to form a new category called "Below \$50K." The "SES/Family Income" also combined "\$75K – 100,000" and "Above \$100K" to form a new category of "Above \$75K." In the categorical variable of "Class," the only category level below a 20% sample size is *sophomore*. A decision was made to not change the categorical variable as sophomore was close to the 20% threshold and is easier to understand conceptually than if I were to combine categories. As mentioned in Chapter 3, all categorical variables were dummy coded. SES and Class Standing are categorical predictors with more than one level. With these categorical variables, a baseline group where all other groups are

compared against. For SES/Family Income the comparative groups are “Below \$50K vs. \$50,001 – 75K” and “Below \$50K vs. “Above 75K.” For Class Standing, the comparative groups are the following: “Freshman vs. Sophomore,” “Freshman v. Junior,” and “Freshman vs. Senior.” The regression was run with these changes to the categorical variables. The limitations of this approach will be discussed in Chapter 5. See Table 3 for a list of the changed categorical variables with their frequency and percent.

Table 3
Combined Levels of Categorical Variables (n = 249)

Characteristic	Frequency	Percent
<i>Ethnicity/Race</i>		
Non-White	45	18
White	204	81.9
<i>SES/Family Income</i>		
Below \$50,000	106	42.5
\$50,001 – 75,000	78	31.3
Above \$75,000	65	26.1
<i>Employment</i>		
Job	108	43.3
No Job	141	56.6

Resiliency as measured by the Connors-Davidson Resiliency Scale-II had a mean of 28.45 (Range = 13 to 40, $SD = 5.28$). The independent variable, optimism had a mean of 14.62 (Range = 2 to 23, $SD = 3.98$) and is measured by the Life Orientation Test-Revised. Social support was measured by the Social Support Appraisals Scale and had a mean of 75.14 (Range = 45 to 92, $SD = 8.60$). The independent variable, Academic self-efficacy was measured utilizing the Course Efficacy subscale of College Self-Efficacy Scale and had a mean of 52.83 (Range = 17 to 80, $SD = 10.95$). When the independent variable, religiousness, was measured with the 10-Item Religious Commitment Inventory, the results yielded a mean of 21.68 (Range = 10 to 49)

and a *SD* of 11.30. Spirituality was measured utilizing the Intrinsic Spirituality Scale which resulted in a mean of 4.53 (Range = 0 to 10, *SD* = 2.99). Means and standard deviations for the dependent variable, resiliency, and the five independent variables (optimism, social support, academic self-efficacy, religiousness, and spirituality) are shown in Table 4.

Table 4
Descriptive Statistics of Dependent & Independent Variables

	Mean	SD
Resiliency ^a	28.45	5.28
Optimism ^b	14.62	3.98
Social Support ^b	75.14	8.60
Academic Self-Efficacy ^b	52.83	10.95
Religiousness ^b	21.68	11.30
Spirituality ^b	4.53	2.99

^a criterion variable

^b predictor variable

Results of Data Analysis

Preliminary analysis. A forced entry stepwise regression was conducted to answer the following research questions; (1) Do first generation college students (FGCS) who report higher levels of resilience also report higher levels of social support, optimism, academic self-efficacy, religiousness and spirituality? (2) Can any two-way combination of social support, optimism, academic self-efficacy, religiousness, and spirituality predict higher levels of perceived resilience in first-generation college students?

The first step of the regression analysis determined if any demographic variables were significant in explaining any of the variance in the dependent variable, resiliency. Step 1 of the regression and displayed in the SPSS program as Model 1 indicated that ethnicity ($t = -1.015, p = .311$), SES ($t = 1.345, p = .180$), age ($t = .459, p = .647$), and employment ($t = .643, p = .521$) were not significant predictors in predicting perceived resiliency among FGCS. Also Below \$50K vs. \$50,001 – 75K ($t = -.400, p = .689$), Freshman vs. Sophomore ($t = -.104, p = .917$), Freshman vs. Junior ($t = .747, p = .456$), Freshman vs. Senior ($t = 1.666, p = .097$) were not found to be significant predictors in predicting perceived resiliency in the target population. Gender was found to be significant ($t = -2.094, p = .037$); male FGCS tend to perceive themselves to be more resilient than female FGCS. Demographic variables Class and Below \$50K vs. Above \$75K were put in the excluded variables table in SPSS and are not a part of either regression Model 1 or Model 2. See the Excluded Variables in Appendix H for the demographic variables Class and Below \$50K vs. Above \$75K. GPA ($t = 2.846, p = .005$) were also found to be significant in the first step of the regression and displayed in the SPSS program as Model 1 such that FGCS who reported better grades also perceived themselves to be more resilient. See Table 5 for the results.

Table 5
Regression of Demographic Variables on Perceived Resiliency of First Generation College Students (FGCS)

Variables	B	SE B	β	t	p
Ethnicity	-.687	.677	-.064	-1.015	.311
SES	.553	.411	.085	1.345	.180
GPA*	2.025	.712	.189	2.846	.005
Age	.049	.108	.032	.459	.647
Employment	.435	.677	.041	.643	.521
Gender *	-1.672	.799	-.132	-2.094	.037
Freshman vs. Sophomore	-.104	.998	-.007	-.104	.917
Freshman vs. Junior	.679	.909	.057	.747	.456
Freshman vs. Senior	1.670	1.002	.141	1.666	.097
Below \$50K vs. \$50,001 – 75K	-.284	.709	-.025	-.400	.689

* $p < .05$.

Research Question 1

Research question 1 was explored in the second step of the regression model after any variance was accounted for by the demographic variables in the first step in the model. The first research question asks the following: Do FGCS who perceive themselves to be more resilient also report higher levels of optimism, social support, academic self-efficacy, religiousness, and spirituality? The five independent variables represent five specific protective factors and each was hypothesized to be predictive of increased resilience. The second step of the regression model entered these five independent variables along with the demographic variables. They were displayed as Model 2 in the SPSS program.

Hypothesis 1 posited that FGCS who report higher levels of optimism tend to also report higher levels of resilience whereas FGCS who report lower levels of resilience also perceive to

be less optimistic. Step 2 of the regression indicated that optimism was a significant predictor of resilience in FGCS ($t = 4.135, p < .001$). Therefore, Hypothesis 1 was supported. Hypothesis 2 stated that FGCS who report higher levels of social support tend to also report higher levels of resilience whereas FGCS who report lower levels of resilience also report lower levels of social support. Step 2 of the regression indicated that social support was a significant predictor of resilience in FGCS ($t = 3.470, p = .001$). Results indicate that Hypothesis 2 was supported. Hypothesis 3 indicated that FGCS who report higher levels of academic self-efficacy tend to also report higher levels of resilience whereas FGCS who report lower levels of resilience also report lower levels of academic self-efficacy. Step 2 of the regression indicated that academic self-efficacy was a significant predictor of resilience in FGCS ($t = 5.421, p < .001$). Results indicate that Hypothesis 3 was supported. Hypothesis 4 posited that FGCS who report higher levels of religiousness tend to also report higher levels of resilience whereas FGCS who report lower levels of resilience also report lower levels of religiousness. Step 2 of the regression model indicated that religiousness was not a significant predictor of resilience in FGCS ($t = -.223, p = .824$). Therefore, Hypothesis 4 was not supported. Finally, Hypothesis 5 stated that FGCS who report higher levels of spirituality also reported higher levels of resilience. Step 2 of the regression model indicated that spirituality ($t = -.408, p = .684$) was not a significant predictor of resilience in FGCS and therefore, Hypothesis 5 was not supported.

With the entry of the independent variables in Model 2 of the SPSS program, GPA is no longer significant ($t = .477, p = .634$). However, gender ($t = -2.991, p = .003$) remains significant in the second regression model. All other demographic variables did not attain significance as predictors of resilience in first-generation college students. Table 6 shows the results of Step 2 of the forced entry stepwise regression model.

Pearson's correlation coefficient was used to determine the effect size of the significant independent variables on the dependent variable, Resiliency. Pearson's correlation coefficient is often used as a standardized measure to examine the strength of a relationship between two variables (Field, 2009). Gender was found to have a small negative effect size ($r = -.120, p = .029$) on the dependent variable, Resiliency. Optimism ($r = .492, p \leq .001$), Social Support ($r = .422, p \leq .001$), and Academic Self-Efficacy ($r = .494, p \leq .001$) all were found to have a medium positive effect size on Resiliency. The independent variables of Optimism and Academic Self-Efficacy had Pearson correlation coefficients that were close to the Pearson's values ($r \pm .5$) that are used to determine strong effect size between two variables.

Table 6

Regression of Independent Variables and Demographic Variables on Perceived Resilience in First Generation College Students (FGCS)

Independent Variables	B	SE B	β	<i>t</i>	<i>p</i>
Optimism**	.346	.084	.261	4.135	.000
Social Support**	.130	.037	.211	3.470	.001
Academic Self-Efficacy **	.162	.030	.336	5.421	.000
Religiousness	-.010	.045	-.022	-.223	.824
Spirituality	-.069	.170	-.039	-.408	.684
Gender*	-1.938	.648	-.153	-2.991	.003
GPA	.295	.618	.027	.477	.634
Age	.066	.088	.043	.754	.451
Ethnicity	-.318	.560	-.030	-.568	.570
Employment	.409	.549	.039	.746	.457
SES	.344	.339	.053	1.012	.313
Below \$50K v. \$50,001 – 75K	-.320	.578	-.028	-.553	.581
Freshman vs. Sophomore	-1.019	.823	-.073	-1.239	.217
Freshman vs. Junior	-.124	.757	-.010	-.164	.870
Freshman vs. Senior	.042	.854	.004	.050	.960

* $p < .01$.

** $p \leq .001$.

As seen in Table 6, Model 2 indicated that Gender ($t = -2.991, p = .003$), Optimism ($t = 4.135, p < .001$), Social Support ($t = 3.470, p = .001$), Academic Self-Efficacy ($t = 5.421, p < .001$) are significant predictors of perceived resiliency in first-generation college students (FGCS). The independent variable, Academic Self-Efficacy, had the biggest relationship ($\beta = .336$) with the dependent variable resiliency. Resiliency and Academic Self-Efficacy were positively related which suggested that as Academic Self-Efficacy increased, resiliency scores increased as well. The second biggest contributor to the regression model was Optimism ($\beta = .261$). Resiliency and Optimism were positively related which indicated that as Optimism increased, scores in Resiliency increased as well. The third largest contributor to the regression model was the independent variable, Social Support ($\beta = .211$). Resiliency and Social Support were positively related which indicated that as scores in social support increased, scores in the dependent variable, Resiliency, also increased. The smallest contribution to the regression was the independent variable Gender ($\beta = -.153$). The results between Gender and Resiliency suggested that males tend to perceive themselves to be more resilient than females.

Research Question 2

The third step of the forced entry stepwise regression model examined the following question: Do any of the two-way combinations of the protective factors predict higher levels of resilience in FGCS? There are ten possible combinations as listed: Optimism x Academic Self-efficacy, Optimism x Social Support, Optimism x Religiousness, Optimism x Spirituality, Academic Self-Efficacy x Social Support, Academic Self-Efficacy x Religiousness, Academic Self-Efficacy x Spirituality, Social Support x Religiousness, Social Support x Spirituality, and Religiousness x Spirituality. The two way effects were entered in step 3. None of the two-way combinations were found to be significant and therefore a third model that took into account

two-way effects was not generated by SPSS. Please see Appendix H for these non-significant results.

Final Model

A multiple regression was run with forced entry method with demographic variables. The regression was significantly different from zero, $F(10,238) = 2.691, p = .004$ with adjusted $R^2 = .064$ indicating that approximately 6% of the variability in perceived resiliency was explained by a linear combination of Gender and GPA and is represented as Model 1 in Tables 6 and 7. In Model 2, a final multiple regression was run with forced entry method with both the demographic variables and the five potential protective factors of optimism, social support, academic self-efficacy, religiousness, and spirituality. The regression was significantly different from zero, $F(15, 233) = 11.461, p < .001$ with adjusted $R^2 = .388$, indicating that approximately 39% of the variability in perceived resiliency was explained by a linear combination of Gender, Optimism, Social Support, and Academic Self-Efficacy. This final model is represented as Model 2 in Tables 7, 8, and 9.

Table 7
Model Summary^c

Model	Change Statistics						
	R	R ²	Adj. R ²	SEE	R ² Change	F Change	df1
1	.319 ^a	.102	.064	5.10712	.102	2.691	10
2	.652 ^b	.425	.388	4.13088	.323	26.157	5

^a Predictors: (Constant), Freshman vs. Senior, Below \$50K vs. \$50,001 – 75K, Ethnicity, Gender, Employment, SES, Freshman vs. Sophomore, GPA, Age, Freshman vs. Junior

^b Predictors: (Constant), Freshman vs. Senior, Below \$50K vs. \$50,001 – 75K, Ethnicity, Gender, Employment, SES, Freshman vs. Sophomore, GPA, Age, Freshman vs. Junior, Social Support, Spirituality, Academic Self-Efficacy, Optimism, Religiousness

^c Dependent Variable: Resiliency

Table 8
Model Summary^c

Model	Change Statistics		Durbin-Watson
	df2	Sig. F Change	
1	238	.004	
2	233	.000	2.005

^c Dependent Variable: Resiliency

Table 9
ANOVA^c

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
1	Regression	701.842	10	70.184	2.691	.004 ^a
	Residual	6207.677	238	26.083		
	Total	6909.518	248			
2	Regression	2933.560	15	195.571	11.461	.000 ^b
	Residual	3975.958	238	17.064		
	Total	6909.518	248			

^a Predictors: (Constant), Freshman vs. Senior, Below \$50K vs. \$50,001 – 75K, Ethnicity, Gender, Employment, SES, Freshman vs. Sophomore, GPA, Age, Freshman vs. Junior

^b Predictors: (Constant), Freshman vs. Senior, Below \$50K vs. \$50,001 – 75K, Ethnicity, Gender, Employment, SES, Freshman vs. Sophomore, GPA, Age, Freshman vs. Junior, Social Support, Spirituality, Academic Self-Efficacy, Optimism, Religiousness

^c Dependent Variable: Resiliency

Regression Diagnostics

Regression diagnostics were conducted to examine the underlying assumptions of this research design and data analytic techniques. One assumption is to make sure there is no highly linear relationship between two or more independent variables (Field, 2009). No two independent variables should correlate too strongly with each other. In this study, multicollinearity does not appear to be a concern as none of the significant independent variables were highly correlated. Field (2009) indicated that collinearity statistics where *tolerance* is less than .1 or *VIF* (variance inflation factor) greater than 10 is cause for concern regarding multicollinearity. Tolerance and VIF are both measures of multicollinearity examining whether one independent variable has a strong linear relationship with another independent variable (Field, 2009). Table 9 shows the list of *tolerance* and *VIF* scores. These parameters indicate that

none of the significant independent variables violated this assumption. Although *tolerance* and *VIF* will indicate whether or not independent variables are violating the assumption of multicollinearity, neither *tolerance* nor *VIF* can show which two independent variables are highly correlated with each other. However, using The Correlational Matrix provided by SPSS can demonstrate where the assumption is being violated. Field (2009) indicated that any two independent variables that are correlated above a .80 suggests multicollinearity. The Correlational Matrix indicated that none of the independent variables appeared to be significantly correlated with one another. The collinearity diagnostics provided by SPSS further supported that none of the significant predictors were correlated as evidenced by none of the significant predictors had high proportions of the variance on the same eigenvalue.

Table 10
Collinearity Statistics^a

Model	Tolerance	VIF
2 (Constant)		
Gender	.948	1.054
Optimism	.621	1.609
Social Support	.667	1.499
Academic Self-Efficacy	.641	1.559

^a Dependent Variable: Resiliency

Homoscedasticity (also known as homogeneity of variance) is the assumption that the variability in scores for one continuous variable is about the same as another (Tabachnick & Fidell, 2007). In a regression analysis, the residuals of independent variables should remain constant at each level of the independent variable in order for the assumption of homoscedasticity to be upheld (Fields, 2009). Examining the standardized residual with the standardized predicted values seems to show little to no correlation in this data indicating that there does not seem to be any distinct trends between the standardized predicted values and the

standardized residual. The SPSS scatterplot shows no correlation between the standardized predicted value and the standardized residual. The assumption of homoscedasticity does not appear to be violated. The normality of residuals appear to be observed as evidenced by the histogram and the partial plot of the regression standardized residual provided by SPSS. The histogram provided by SPSS show the dependent variable, Resiliency, demonstrates a normal distribution. Also, errors appear to be normally distributed with the proposed final regression model (Model 2). Partial Plot outputs by SPSS show that that the independent variables appear to have linear relationships with the dependent variable. The Durbin-Watson statistic is calculated to check for any violation regarding independent errors; a value of “2” means that the residuals are uncorrelated (Field, 2009). The closer the Durbin-Watson statistic is to the value of “2”, the more likely the regression model observes the assumption of independent errors. The Durbin-Watson statistic (2.005) in this study indicated that the adjusted residuals are not correlated with each other, which provided support for the assumption of independent errors.

Cook’s Distance is a method to evaluate if any individual cases have an undue influence on the regression model where any value over “1” indicates that a case is having significant influence on the overall regression model. After examining each Cook’s Distance for each individual case, no cases appeared to have a value over “1.” The residual statistics from SPSS reported a Cook’s Distance having a maximum value of .204 which indicated that individual cases do not appear to have overly exerted influence on the regression model. Centered leverage examines the influence of the observed value on the dependent variable over what would be the predicted values (Field, 2009). How centered leverage is determined is the number of predictors in the model plus one divided by the number of participants and is mathematically expressed in the equation $(k+1)/n$ (Field, 2009). After calculating the number of predictors and adding one

which is then divided by the number of participants, a centered leverage value of .064 is obtained. According to Stevens (2002), any case that has three times the centered leverage value, has an undue influence on the regression coefficients. In this study, any case that has a centered leverage value above a .193, can indicate an undue influence on the regression. Typically, any values that are three times the predicted values are seen as problematic (Stevens, 2002). After reviewing every case, no single case had a value larger than a .193. In the Casewise Diagnostics table, SPSS identified 10 cases or outliers that may have more influence on the outcome variable than it typically should. However, on closer inspection of the independent variables in each of the identified cases, only two of the cases had a variable that was more than three standard deviations from the mean.

CHAPTER 5: Discussion

The empirical literature has identified optimism, academic self-efficacy, social support, religiousness, and spirituality as potential protective factors that help promote academic achievement and/or psychological health among college students despite the stressful demands college places on them. However, there is little research conducted to determine if these protective factors are useful with first-generation college students (FGCS). FGCS are identified as an at-risk student population with lower retention rates when compared to non-first-generation college students (NFGCS) (Dalton, 2009; Duggan, 2001; Horn, 1998; Ishitani, 2006; Nunez & Cocaro-Almin, 1998; Riehl, 1994; Somers et al., 2004). In this study, I attempted to answer the question of which of these factors: optimism, academic self-efficacy, social support, religiousness, and spirituality, are utilized by FGCS who perceive themselves to be resilient when under stress. Having an understanding of which of the five protective factors are significant to FGCS who perceive themselves to be resilient can have significant policy and programming implications for colleges and universities who are concerned about the well-being of first-generation students and who are interested in increasing the retention rates for this at-risk population.

The secondary objective of this study was to investigate if any two-way combinations of the five potential protective factors that account for more of the criterion variable of perceived resilience. Again, if two-way combinations were found to be significant in explaining more of the variance in the variable, perceived resilience, comprehensive programming can be created to take into account these effects in order to have more effective programs to assist FGCS. The implications for future research based on the study's findings as well as the limitations of this study are addressed in this chapter.

The study examined first-generation college students (FGCS) to determine if FGCS who tend to perceive themselves to be more resilient also perceived themselves to be more optimistic, have more social support, tend to be more academically self-efficacious, and perceive themselves to be more religious and spiritual. Furthermore, the study also examined if any two-way combination of optimism, social support, academic self-efficacy, religiousness, and spirituality can explain higher levels of perceived resilience in FGCS. Demographic variables were also taken into consideration as possible explanations for FGCS and resiliency. The study found both significant and non-significant results which may have potential implications for future directions of research. These findings are discussed below.

Demographic Variables and Resiliency.

In this study, I took into account the demographic variables of age, grade point average, employment hours, socioeconomic status, race/ethnicity, and gender as potential factors that could explain variability in perceived resilience in first generation college students (FGCS). Age, grade point average, employment hours, socioeconomic status, and race/ethnicity did not show significant predictive power. In other words, none of these demographic variables seem to help determine whether or not FGCS perceive themselves to be resilient. Among the demographic variables, only gender was found to be significant. The results show a small, but significant effect size that suggests male FGCS tend to perceive themselves to be more resilient than female FGCS. These findings suggest that female FGCS are at higher risk when compared to their male counterparts. Female FGCS may benefit from additional attention from academic, social, and financial programs for at-risk students.

The finding that male FGCS perceive themselves to be more resilient than female FGCS appears to be in contrast with the research in developmental and child psychology (Rutter, 1979;

Werner, 1982) which suggest being female as a protective factor in resilient children. This research in developmental psychology indicated that female children had better life outcomes when compared to their male counterparts who were growing up in similar aversive environments. However, the findings in this study only suggest that males have more of a tendency to identify themselves to be more resilient when compared to females and does not suggest that males are more resilient based on behavioral outcome measures such as examining retention rates, legal difficulties, substance abuse issues, or disciplinary problems. How resiliency is defined and measured could indicate different findings. For example, if resiliency was defined and measured based on behavioral outcomes (e.g. academic probation, disciplinary problems, and utilization of counseling services) females may be found to be more resilient than males. A study conducted by Rodriguez, Torres, and Perez (2012) found that girls utilized better coping styles (e.g. social support systems) than boys who primarily utilized what the researchers deemed as unproductive behaviors such as acts of aggression. Although Rodriguez et al. (2012) focused on preadolescence and not college age students, their study examined the gender differences between males and females based on behavioral coping strategies.

Another possible explanation for gender differences among FGCS regarding perceived resilience is the potential that stress could be a moderating variable between gender and perceived resilience. Studies have shown that females tend to experience higher levels of stress when compared to males overall (Hankin, Merlmeistein, & Roesch, 2007; Shih, Eberhart, Hammen, & Brennan, 2006). Shih and Eberhart (2010) found that undergraduate females experienced more stress than undergraduate males, particularly in social settings. If this is true regarding the gender differences between FGCS, then female FGCS with higher levels of reported stress could have a difficult time perceiving themselves as being highly resilient. As a

result, resources regarding stress management for female FGCS can be potentially beneficial in helping to manage female FGCS' stress and promote resiliency.

Regarding self-esteem as a construct that supports self-perceptions of resilience in favor of males, especially college males remains mixed. Bachman, O'Malley, and Freeman (2011) found self-esteem to be only slightly higher among adolescents males when compared to female high school students of the same age. However, self-esteem was not found to be significantly different between male and female Canadian college students (Clifton, Perry, Roberts, & Peter, 2008). Watkins, Akande, Cheng, and Regmi (1996) found no significant gender difference between global measures of self-esteem between male and female college students, but found some significant differences among more specific measures of self-esteem. For example, Watkins, et al. found that males reported higher levels of self-esteem when compared to females in areas such as leadership, math, and physical abilities whereas females reported higher levels of self-esteem when compared to male college students in areas such as verbal skills, social skills, and in school. There does not appear to be much empirical literature examining gender differences in self-esteem among FGCS. Future research can examine if there are gender differences in the self-esteem between first-generation college students and how this may impact the construct of resilience.

Optimism and Resiliency.

Optimism studied in college populations was found to be associated with good academic outcomes and better emotional well-being (Ruthig, 2007). Optimism was also seen as a successful strategy in increasing one's overall physical health (Peterson, 1992). However, optimism as a protective factor for FGCS has only been minimally explored. As a result, the question arises whether FGCS who perceive themselves to be resilient, also tend to be more

optimistic. This study found a significant relationship between optimism and resiliency among FGCS. In other words, FGCS who perceived themselves to more resilient also perceived themselves to be more optimistic than FGCS who perceived themselves as less resilient. This lends support to established research that has found a relationship between optimism and resilience (Peterson, et al., 1992; Seligman, 2002). Conceptually, the relationship between resiliency and optimism had been established through research in developmental psychology and through Seligman's work with children and positive psychology (Seligman, 1995). This study contributes to the empirical literature that has established support for the relationship between optimism and resiliency as it is one of the very few studies that examined these relationships in the context of first-generation college students.

For this study, I used Scheier and Carver's (1985) instrument and their definition of dispositional optimism. It is possible that defining and measuring optimism differently could potentially yield different results. For example, using and operationalizing Seligman's (1990) definition of optimism might also yield significant, results. Such an approach could help illuminate the relationship between perceived resiliency and optimism as specifically defined by Seligman.

Social Support and Resiliency.

Tinto's (1975) work concluded that social integration is one of the two conditions needed for successful adaptation to the challenges and the stressors of college. Unsuccessful social transition leads to poor outcomes such as lower grades, poor retention rates, and an unsatisfactory college experience. If one accepts Tinto's premise, then social support will emerge as a potential protective factor as FGCS try to successfully navigate the college environment. Studies have shown that FGCS who do not receive social support from family, friends, peers,

and the institution have significant problems in college (Duggan 2001; Kim & Sax, 2009; Lundberg et al., 2007; Pascarella, et al., 2004; Pike & Kuh, 2005). In conclusion, the need for a strong social support network would be seen as a necessary condition for successful and resilient first-generation college students as they attempt to finish college.

The results from this study indicate a significant positive relationship between social support and resiliency. FGCS who perceive themselves to be more resilient tend to also report higher levels of social support when compared to FGCS who perceive themselves to be less resilient. This conclusion supports the findings of other studies regarding FGCS and social support (Heny, 2006; Phinney & Hass, 2003; Wang & Casteneda-Sound, 2009). Clauss-Ehlers and Wibrowski (2007) and Inkelas et al. (2007) demonstrated that structured social support programs for FGCS led to easier college integration and transition which is congruent with the findings of this study where good social support was significantly correlated with higher perceived resilience in FGCS.

Academic Self-Efficacy and Resiliency.

The relationship between self-efficacy and resiliency has been apparent in Albert Bandura's research as people who are highly self-efficacious are more likely to persevere in stressful situations or environments (Ozer & Bandura, 1990). Tinto (1975) also recognized the importance of academic integration (along with social integration) as a necessary condition to buffer against attrition rates and assist in successfully adapting to the college environment. I attempted to answer here the question of whether or not FGCS who perceive themselves to be highly resilient, also report being more academically self-efficacious. Academic self-efficacy was specifically examined due to the idea that a first-generation college student's belief in his or her ability to complete the academic coursework in college is integral to being successful.

Empirical literature has also demonstrated that perceiving one's ability to be successful academically in college leads to significant behavioral outcomes such as positive influence on cognitive, social, and motor skills (Schunk, 1989). Therefore, academic self-efficacy is an important factor to explore in the context of resilient FGCS. According to the results of this study, there was a positive relationship between academic self-efficacy and resiliency. The results of the study suggest that FGCS who perceive themselves to be highly resilient also tend to believe that they are more academically self-efficacious when compared to FGCS who perceive themselves to be less resilient. My results are supportive of Bandura's earlier research suggesting a relationship between high self-efficacy and successfully navigating stressful situations or environments (Bandura, 1986; 1997). These findings suggest that there is a need for FGCS to believe in their academic abilities in order to have resilient outcomes during their college careers.

Religiousness/Spirituality and Resiliency.

Religiousness and spirituality have both received attention as possible factors that help decrease stress in college students (Merrill, et al., 2009). Religiousness and spirituality's potential for decreasing stress has led some researchers to explore possible connections to the constructs of resiliency and hardiness (Ramey et al., 2005). Spirituality and religiousness have become important topics explored on college campuses as an increasing number of college students believe spiritual and religious matters are significant (Hulett, 2004). The challenge of distinguishing between the two constructs of religiousness and spirituality contributes to the difficulty of conducting research (Salsman, et al., 2005).

Due to the emerging research on its connection with stress, this study examined both religiousness and spirituality as potential protective factors. This study concluded that FGCS

who perceived themselves to be more resilient did not report being any more or less religious than FGCS who perceived themselves to be less resilient. I also did not find a significant relationship between spirituality and resiliency. FCGS who perceived themselves to be more resilient did not report being any more or less spiritual than FGCS who perceived themselves to be less resilient.

Failure to support religiousness as a protective factor for resilient FGCS in this study is not entirely surprising as the research on the protective function of religiousness remains mixed. As discussed in Chapter 2, some studies did not support the protective function of religiousness (Berry & Adams-Thompson, 2008; Taliaferro et al., 2009). My findings may suggest that just belonging and participating in a religious group is not enough to promote resiliency in FGCS, it may be more important to address whether or not one's internal belief system serves as motivation to manage stress and promote psychological well-being. Here I examined religiousness, which was the level of commitment to one's religious group, and spirituality, which is the intrinsic belief in connecting with the transcendent. One of the significant differences between these two constructs in this study is the source of motivation. Allport and Ross (1967) discussed the difference between intrinsic and extrinsic motivation in the context of religion. Extrinsic religiousness is seen as utilitarian in function and intrinsic religiousness allows for the internalization of one's beliefs without the consideration of consequences. Many of the items on the RCI-10 were designed more to measure the level of commitment to one's religious group (extrinsic factors) and not the intrinsic level of spiritual belief. Piedmont (2001) considered spiritual transcendence (spirituality), to be a source for intrinsic motivation that helps drive and direct behavior, typically towards better psychological outcomes. As a result, this study may suggest that participating in religious practices is not enough to perceive oneself as resilient

or have resilient outcomes if the religious practice is not accompanied with a deeper, emotional connection with God, Nature, or whatever term one uses to describe the personalized, meaningful, connected relationship with the transcendent.

However, my research also failed to support spirituality as a significant factor for FGCS who perceive themselves to be resilient as measured by ISS. A possible reason why spirituality may not have emerged as a significant protective factor can be found in the study by Burris et al. (2009) discussed on page 36 of this document. Following on Burris et al. who had hypothesized that spirituality positively affected psychological well-being, I expected to find that FGCS who report higher levels of spirituality would also perceive themselves to be highly resilient. However, somewhat counterintuitively and surprisingly, Burris et al. did not find spirituality (or religiousness) to be a significant factor in promoting psychological well-being. Instead they found a significant relationship between spirituality and psychological distress in college students. Perhaps people who turn to spiritual or faith traditions while experiencing significant stress may not perceive themselves to be resilient as at that moment they are experiencing acute distress. Perhaps the relationship between spirituality/religiousness and perceived resilience under those circumstances is being mediated by the degree of stress being experienced. The success or failure of faith and belief to ameliorate or reduce one's stress levels could then either contribute or detract from perceived resilience during such times. Therefore, when attempting to tease out the relationship of spirituality/religiousness to resilience, future research should consider these constructs in a more sophisticated and nuanced light, and the mediating effect of stress should be incorporated into the relevant research designs.

Another potential contributing factor why spirituality was not found to be a significant factor in this study is what Connor & Davidson (2003) observed that identifying factors that

promote resiliency are variable based on situational, demographic, and time factors. In other words, depending on the situational stressors that may impact a student, resilient students may choose different coping strategies or mechanisms to overcome obstacles. For example, relying on one's spirituality may not be perceived as a coping strategy to promote resiliency in a FGCS whose primary issue is academic stress. The student may choose academic social supports as a way to promote resilient behavior to overcome their academic distress.

Two-Way Effects and Resiliency.

The purpose of examining two-way effects in this study is to determine if combinations of two independent variables would explain more of the variance in the dependent variable of perceived resilience. The ten possible combinations are the following: Optimism x Academic Self-Efficacy, Optimism x Social Support, Optimism x Religiousness, Optimism x Spirituality, Academic Self-Efficacy x Social Support, Academic Self-Efficacy x Religiousness, Academic Self-Efficacy x Spirituality, Social Support x Religiousness, Social Support x Spirituality, and Religiousness x Spirituality. In this study, none of the ten possible two-way effect combinations were found to be significant predictors of resiliency.

Although this study did not find any relationship between predictor variables two-way effects on resiliency, does not necessarily mean that these predictor variables do not interact in a way that can explain more of the variance in the criterion variable, resiliency. For example, Phinney and Hass (2003) found both self-efficacy and social support to be important for freshman FGCS as they successfully navigate college. Diener and Seligman (2002) found that a significant difference between highly optimistic college students and college students who identify with having moderate or low levels of optimisms as having good social relationships. Developmental research (Baldwin, et al., 2007; Hjelle et al., 1996) found that good family

support led to the development of optimistic children who then were more likely to become optimistic college students. Other types of statistical techniques may be able to demonstrate the complex interactive relationships between each variable. Path analysis and structural equation modeling are statistical techniques that could potentially determine the direction and magnitude of the relationship between each predictor variable and to the criterion variable (Tabachnick & Fidell, 2007). One of the goals to this study is to examine any two independent variables can explain more of the variance in the dependent variable of resilience in FGCS. My study indicated that simply combining two variables will not get a significant direct relationship that will explain more of the variance of resiliency in FGCS. A more advanced approach such as SEM can provide a more complex understanding of how the five independent variables are related to the dependent variable as well as examining moderating and mediating variables and any significant indirect effects of the independent variables to the dependent variable, resiliency in FGCS (Tabachnick & Fidell, 2007).

Strengths and Limitations

In this study I hoped to identify potential protective factors that will help direct future research and to assist in developing policies intended to provide support for FGCS who face specific challenges in the college environment. My data were able to reveal significant protective factors that may help college administrators to allocate resources and develop programs for FGCS. As with most research, there are strengths and limitations to this study.

This study was able to identify optimism, social support, and academic self-efficacy as variables that are predictive of FGCS who perceive themselves to be highly resilient. The study indicated that the higher the scores for optimism, social support, and academic self-efficacy, the higher the scores for resilience in FGCS. In other words, highly resilient FGCS also tend to

perceive themselves to have more social support, be more optimistic, and tend to have more academic self-efficacy when compared to FGCS, who perceived themselves to be less resilient. This study also identified that female FGCS perceive themselves to be less resilient compared to their male counterparts which can be a potential concern. Based on this finding, colleges may need additional resources to target female FGCS in order to promote resiliency. Furthermore, optimism, social support, and academic self-efficacy had moderate to moderately high effect sizes. The findings in this study contribute to the body of research literature examining protective factors and resiliency. This study also uniquely contributes to the currently quite limited research on the psychological and emotional well-being of first-generation college students.

As with any study using self-report measures, social desirability is a potential concern. In this study, FGCS were asked scaled questions examining optimism, social support, academic self-efficacy, religiousness, spirituality, and resiliency. As a result, respondents may have felt the need to provide answers based on what they deemed were socially desirable. The desire to give socially desirable responses has the potential to influence the validity of the statistical results in any research (Drummond, 2000). A mitigating factor in the design of the study that may help decrease the need for respondents to give socially desirable responses is that the study was taken anonymously online, and procedures were in place to keep identifying information separate from individual responses.

Another limitation is that the study examined perceptions of self and not behavioral outcomes that could demonstrate resilient behavior. Self-perceptions have the potential to be inaccurate in light of more observable data. In other words, respondents could report that they perceive themselves to be resilient, but it may be contrary to demonstrated behaviorally-based observations. Collecting information like academic suspension/probation, disciplinary actions,

substance abuse problems, or validated measures examining mood disorders could potentially give more accurate information on a FGCS's resiliency. For example, this study found males perceived themselves to be more resilient when compared to females, which is contrary to other studies in developmental psychology that examined behavioral outcomes to show that being female is a protective factor leading to more resilient outcomes (Rutter, 1979; Werner, 1982).

The sample was derived from a small public university in a rural area of Virginia close to the Appalachian Mountains. As a result, the results may not be generalizable to a variety of college or university populations. The sample was a matter of convenience and therefore generalizing that the results obtained from FGCS in this study are representative of the FGCS population at large is problematic. Furthermore, the sample was disproportionately white and female. Follow-up studies may want to consider sampling from several universities across the country as well as getting a more ethnically and gender diverse representative sample.

Implications for Future Research & Practice

As an at-risk college population, first-generation college students (FGCS) face challenges that non-first-generation college students (NFGCS) do not have to face. This study is among the first to systematically explore specific protective factors and the construct of resiliency with FGCS. The benefits of optimism, social support, academic self-efficacy, religiousness, and spirituality in college populations is evident in studies, but the empirical literature is sparse on how beneficial these factors are for FGCS.

Based on the results of this study, I was able to show that FGCS who perceive themselves to be highly resilient also reported higher levels of academic self-efficacy, optimism, and social support. These results indicate that FGCS who believe they are resilient in the face of adversity also believe that they are capable of mastering college academic workloads, and have good,

reliable people in their lives who give them support during difficult times. The need for social support in college for FGCS cannot be overstated as studies have shown that FGCS tend to be more disengaged in the campus community when compared to their NFGCS peers (Duggan, 2001; Pascarella, et al., 2004; Pike & Kuh, 2003). This research examined FGCS who are still in college. Performing comparative research examining these protective factors with FGCS who left school may show even more dramatic results between resilient FGCS who have persisted in college and less resilient FGCS who left.

Future resiliency research with FGCS should include a stress assessment/measurement tool in order to examine stress as a moderating variable. Evidence that there is a potential latent variable such as stress may explain why female FGCS perceive themselves to be less resilient than their male counterparts even though past studies such that being female is a protective factor when facing adversity.

Future researchers may also want to consider looking at hardiness as a protective factor for resilient FGCS. Hardiness as a personality trait was extensively studied and defined by Kobasa (1979) as a protective factor that helped mitigate the effects of stress. Kobasa (1979) indicated that someone who possessed a high degree of hardiness typically demonstrated a belief that he or she can control or have personal agency with events, demonstrate deep commitment to meaningful activities, and perceive change as a challenge for personal development, and not as a stressful obstacle. Research has compared hardiness as a protective factor with other protective factors such as religiousness (Maddi, Brow, Khoshaba, & Vaitkus, 2006), optimism (Maddi, 2006; Maddi & Hightower, 1999), and social support (Kobasa, Maddi, Puccetti, & Zola, 1985). In all these studies, hardiness was typically found to have more of a positive relationship with coping than religiousness, optimism or social support. Future research that assesses for hardiness

along with other protective factors, may lead to a more comprehensive understanding of how FGCS cope with significant stressors.

Future researchers may want to consider other statistical techniques that can examine the complex relationships among five predictor variables and their relationship to resiliency. In this study, I looked at how two-way effects may predict higher perceived resiliency. Path analysis or structural equation modeling may be able to tease out the complex relationship among these variables. It might be shown that the five independent variables of optimism, social support, academic self-efficacy, religiousness, and spirituality do not have simple, two-way interactions that have a direct predictive relationship to resiliency, but that these five variables interact amongst each other in a way that could potentially be more predictive of resiliency in FGCS. For example, the combination of optimism and social support together does not significantly predict resiliency, but perhaps social support, optimism, and a relationship with a third moderating variable such as level of stress could predict resiliency.

Conclusion

My objective in this study was to identify potential protective factors in FGCS who perceive themselves to be resilient. FGCS face many fundamental challenges when compared to their peers. Investigation of potential protective factors that help insulate FGCS from stressful times in college can potentially lead to higher retention rates, better grades, increased college engagement, enhanced psychological well-being, and a more satisfactory college experience.

Optimism, social support, academic self-efficacy, religiousness, and spirituality were selected in the study as the empirical literature had suggested that college students have benefited from these factors. The study did not yield significant results for religiousness and spirituality. In other words, higher levels of religiousness, and spirituality did not predict higher scores in

perceived resilience in FGCS. However, this study found optimism, social support and academic self-efficacy to be statistically significant. FGCS who report having good social support, being more optimistic or higher levels of academic self-efficacy tend to report higher scores in perceived resilience. When examining two-way effects, no two-way combination of the five independent variables were found to be significant in explain more of the predicted scores in resiliency. Also found in this study was that males tend to perceive themselves to be more resilient than females, which may suggest females may tend to be less confident in their abilities to cope with stress when compared to male FGCS.

Future researchers should focus on obtaining a more representative sample of FGCS. Males and FGCS who are from various ethnicities were underrepresented. A more national sample from several diverse universities and colleges can also help determine if the results in this study are robust. Based on the findings in this study, there are several suggestions for programs assisting FGCS. In order to increase perceived resiliency, allocation of resources are suggested in providing quality social support in order to increase social engagement in college for FGCS. Mentor programs, educational sessions providing pertinent information, specialized residential programs, and even organizations for FGCS are some of the potential ways to increase social support for FGCS as they try to navigate the challenges of college. Advocating for learning resources and tutoring specifically for FGCS can help increase academic competence. Programs targeting female FGCS to assist in learning hardiness and stress reduction techniques may have an effect in increasing perceived resilience, lead to good academic outcomes, and a more satisfactory college experience.

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Appendix A

Demographic Form

1. Are you a first-generation college student?

1. Yes
2. No

2. Please list your age below:

3. Please list below the name of the college or university that you are currently attending

4. Please list your estimated cumulative grade point average (cGPA). If you do not have an established cGPA, please provide an estimated grade point average based on the grades you have received so far.

5. Gender

1. Female
2. Male

6. Race/Ethnicity (circle one)

1. African American/Caribbean/Black
2. Asian American
3. Bi-racial
4. Latino/Latina/Hispanic
5. Native American
6. White/Caucasian/Non-Hispanic White

7. Please list personal family or family of origin income (circle one)

1. Below \$20,000
2. \$20,001 – 40,000
3. \$40,001 – 60,000
4. \$60,001 – 80,000
5. Above \$80,000

8. I am a (circle one)

1. a freshman
2. a sophomore
3. a junior
4. a senior

9. I am currently employed (circle one)

1. zero hours per week
2. 1 -20 hours a week
3. Over 20 hours a week

Appendix B

10-Item Connor-Davidson Resilience Scale (10-Item CD-RISC)

Over the past month, please mark the response that most accurately describes you:

1. Able to adapt to change
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
2. Can deal with whatever comes
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
3. Tries to see humorous side of problems
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
4. Coping with stress can strengthen me
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
5. Tend to bounce back after illness or hardship
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
6. Can achieve goals despite obstacles
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
7. Can stay focused under pressure
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
8. Not easily discouraged by failure
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
9. Thinks of self as strong person
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time
10. Can handle unpleasant feelings
 (0) Rarely true (1) sometimes true (3) often true (4) true nearly all the time

Appendix C

Life-Orientation Test- Revised (LOT-R)

Indicate (circle) to the extent that you agree with each of these items. Be as accurate and honest with your answers and try not to let answers to one question influence answers to another. There is no right or wrong answers.

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

Appendix D

Social Support Appraisals Scale (SS-A)

Below are a list of statements about your relationship with family and friends. Please indicate how much you agree or disagree with each statement as being true.

(circle one number in each row)

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
My friends respect me.....	1	2	3	4
My family cares for me very much.....	1	2	3	4
I am not important to others.....	1	2	3	4
My family holds me in high esteem....	1	2	3	4
I am well liked.....	1	2	3	4
I can rely on my friends.....	1	2	3	4
I am really admired by my family.....	1	2	3	4
I am respected by other people.....	1	2	3	4
I am loved dearly by my family.....	1	2	3	4
My friends don't care about my welfare.....	1	2	3	4
Members of my family rely on me.....	1	2	3	4
I am held in high-esteem.....	1	2	3	4
I can't rely on my family for support..	1	2	3	4
People admire me.....	1	2	3	4
I feel a strong bond with my friends...	1	2	3	4
My friends look out for me.....	1	2	3	4
I feel valued by other people.....	1	2	3	4
My family really respects me.....	1	2	3	4
My friends and I are really important to each other.....	1	2	3	4
I feel like I belong.....	1	2	3	4
If I died tomorrow, very few people will miss me.....	1	2	3	4
I don't feel close to members of my family.....	1	2	3	4
My friends and I have done a lot for each other.....	1	2	3	4

Appendix E

Course Efficacy Subscale of the College Self-Efficacy Instrument

Using the scale below, please indicate how confident you are as a student that you could successfully complete the following tasks. If you are extremely confident, mark a 9. If you are not at all confident mark a 0. If you more or less confident, find the number between 9 and 0 that best describes you. Levels of confidence vary from person to person, and there are no right or wrong answers, just answer honestly.

Research a term paper.

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Write course papers.

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Do well on your exams.

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Take good class notes.

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Keep up to date with your schoolwork.

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Manage your time effectively

0	1	2	3	4	5	6	7	8	9
totally unconfident				moderately confident				totally confident	

Appendix F

Religious Commitment Inventory-10 (RCI-10)

Below is a list of statements about religious commitment. Please rate how true or not true each statement is to you.

1. I often read books and magazines about my faith.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

2. I make financial contributions to my religious organization.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

3. I spend time trying to grow in understanding of my faith.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

4. Religion is especially important to me because it answers many questions about the meaning of life.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

5. My religious beliefs lie behind my whole approach to life.

- 1 not at all true of me
- 2 somewhat true of me

- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

6. I enjoy spending time with others of my religious affiliation.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

7. Religious beliefs influence all my dealing in life.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

8. It is important to me to spend periods of time in private religious thought and reflection.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

9. I enjoy working in the activities of my religious organization.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

10. I keep well informed about my local religious group and have some influence in its decisions.

- 1 not at all true of me
- 2 somewhat true of me
- 3 moderately true of me
- 4 mostly true of me
- 5 totally true of me

Appendix G

Intrinsic Spirituality Scale (ISS)

For the following six questions, *spirituality* is defined as one's relationship to God, or whatever you perceive to be Ultimate Transcendence.

The questions use a sentence completion format to measure various attributes associated with spirituality. An incomplete sentence fragment is provided, followed directly below by two phrases that are linked to a scale ranging from 0 to 10. The phrases, which complete the sentence fragment, anchor each end of the scale. The 0 to 10 range provides you with a continuum on which to reply, with 0 corresponding to absence or zero amount of the attribute, while 10 corresponds to the maximum amount of the attribute. In other words, the end points represent extreme values, while five corresponds to a medium, or moderate, amount of the attribute. Please circle the *number* along the continuum that best reflects your initial feeling.

1. In terms of the questions I have about life, my spirituality answers

No questions											absolutely all my questions
<u>0</u>	1	2	3	4	5	6	7	8	9	<u>10</u>	

2. Growing spirituality is

more important than anything else in my life											of no importance to me
<u>10</u>	9	8	7	6	5	4	3	2	<u>0</u>		

3. When I am faced with an important decision, my spirituality is

plays absolutely no role											is always the overriding consideration
<u>0</u>	9	8	7	6	5	4	3	2	<u>10</u>		

4. Spirituality is

the master motive of my life, directing every other aspect of my life											not part of my life
<u>10</u>	9	8	7	6	5	4	3	2	<u>0</u>		

5. When I think of the things that help me to grow and mature as a person, my spirituality

has no effect
on my personal
growth

is absolutely the most
important factor in
my personal growth

0 1 2 3 4 5 6 7 8 9 10

6. My spiritual beliefs affect

absolutely every
aspect of my life

no aspect
of my life

10 9 8 7 6 5 4 3 2 0

Appendix H

Excluded Variables^c

Two-Way Effects	Beta In	<i>t</i>	<i>p</i>	Partial Correlation
Class	-. ^b	-	-	-
Below \$50K vs. Above \$75K	-. ^b	-	-	-
Optimism x Academic Self-Efficacy	-.204 ^b	-.551	.582	-.036
Optimism x Social Support	-.566 ^b	-1.156	.249	-.076
Optimism x Religiousness	-.183 ^b	-.714	.476	-.047
Optimism x Spirituality	-.223 ^b	-.955	.341	-.063
Academic Self-Efficacy x Social Support	-.906 ^b	-1.694	.092	-.111
Academic Self-Efficacy x Religiousness	.132 ^b	.450	.653	.030
Academic Self-Efficacy x Spirituality	-.122 ^b	-.405	.685	-.027
Social Support x Religiousness	-.585 ^b	-1.113	.267	-.073
Social Support x Spirituality	-.513 ^b	-.963	.337	-.063
Religiousness x Spirituality	.312 ^b	1.200	.231	.079

p < .05

^b Predictors in the Model: (Constant), Freshman vs. Senior, Below 50K vs. \$50,001 – 75K, Ethnicity, Gender employment, SES, Freshman vs. Sophomore, GPA, Age, Freshman vs. Junior, Social Support, Spirituality, Academic Self-Efficacy, Optimism, Religiousness

^c Dependent Variable: Resiliency

Appendix I:

IRB Approval

The following IRB Protocol has been marked as Exempt.

Tracking #: H-23772

PI: Bartee, James

Title: Resilient First-Generation College Students: A Multiple Regression Analysis Examining the Impact of Optimism, Academic Self-Efficacy, Social Support, Religiousness, and Spirituality on Perceived Resilience

The BRAAN2 website can be accessed by clicking the following link: [BRAAN2 Login](#)

Appendix J:

Newspaper Advertisement

1st generation college students needed to participate in dissertation research. I am looking for college students who come from families whose parents did not attend college to take a 20 minute on-line survey. The first 200 participants to complete the survey will get a \$10 gift card to Barnes & Noble. The two grand prizes of \$100 gift card to Barnes & Noble will also be given to anyone who completes that survey. WVU IRB is on file. If interested please connect to the following web address:
<http://www.surveymonkey.com/s/VJH9JS6>.



Dear Research Participants,

My name is David Davino and I am a doctoral candidate for the counseling psychology doctoral program at West Virginia University and a counselor at Longwood University's counseling center. I am looking for first-generation college students willing to participate in my dissertation research. First-generation college students are defined as students whose parents never attended a college, university, or any post-secondary education. The dissertation research is examining potential protective factors and first-generation college students. I am looking for first-generation college students willing to volunteer to take an on-line survey through Survey Monkey that should take approximately 20 minutes of your time. First 200 participants to complete the survey will receive a \$10 gift certificate to the local Barnes & Noble bookstore. All participants will have a chance to win one of two \$100 gift certificates to the Barnes & Noble bookstore. Participation in this survey is completely voluntary and you may quit at any time. Your grades or class standing will not be affected whether or not if you decide not to participate in this study or if you decide to withdraw. Your involvement in this research will be kept as confidential as possible. All data for this project will be reported in aggregate.

If you are interested, the link to the survey is listed below. West Virginia University's Institutional Review Board's approval is on file. If there are any questions that I did not adequately address, or that you feel require more attention, please contact the Principle Investigator of the research project, Dr. James, W. Bartee at James.Bartee@mail.wvu.edu or David Davino at ddavino@mix.wvu.edu. I hope that you will participate in this survey as it could be beneficial in understanding how first-generation college students cope with the college experience. Thank you.

Sincerely,

David Davino, LPC
 Doctoral Candidate
 West Virginia University
 Counseling Psychology
 College of Human Resources & Education
 355 Oakland Drive
 Morgantown, WV 26506

James W. Bartee, Ph.D.
 Principle Investigator
 West Virginia University
 502-F Allen Hall
 P.O. Box 6122
 Morgantown, WV 26506

If you are at least 18 years old, an undergraduate, a first-generation college student, and interested in participating in my study, please click **or** Ctrl + click on the link inserted below:

<http://www.surveymonkey.com/s/VJH9JS6>

Phone: 304-293-3807
 Fax: 304-293-4082
<http://counseling.wvu.edu>

**Department of Counseling, Rehabilitation Counseling
 and Counseling Psychology**

PO Box 6122
 Morgantown, WV 26506-6122

Equal Opportunity/Affirmative Action Institution



Dear Perspective Participants,

I am looking for college students whose parents did not attend or enroll in a college, university or any post-secondary education to participate in my research examining potential protective factors and first-generation college students. I am a doctoral candidate in the counseling psychology doctorate program at West Virginia University as well as a licensed professional counselor at Longwood University's counseling center. The research is under the supervision of my doctoral chair, Dr. James Bartee.

Your involvement in this project will be kept as confidential as possible. All data will be reported in the aggregate. You must be 18 years old or older, an undergraduate, and a first-generation college student to participate. Your participation is completely voluntary and you may discontinue at any time. Participation will not affect your class standing or grades if you decide to withdraw. West Virginia University's Institutional Review Board approval of this project is on file.

When the data is completed, the first 200 people to complete this survey, in its entirety, will get \$10 gift certificates to Barnes & Noble. Anyone who decides to complete the survey will automatically qualify for a random drawing for one of two \$100 gift certificates to Barnes & Noble.

If you decide to participate, you will be asked to complete a survey along with basic demographic information. The survey should take about 20 minutes to complete. Please be as honest as possible. In order for accurate results, please read each item carefully.

I hope that you will participate in this research project, as it could be beneficial in understanding how first-generation college students cope with the college experience. If there are any questions that I did not adequately address, or that you feel require more attention, please contact the Principle Investigator of the research project, Dr. James Bartee at James.Bartee@mail.wvu.edu or David Davino at ddavino@mix.wvu.edu. Thank you for your help on this project.

By deciding to participate in this research, you acknowledge that this research is voluntary and that you are free to withdraw your consent and discontinue participation from this survey without penalty. By deciding to participate, you acknowledge that the general purpose for the study, the expected duration of your participation, and the procedures to be followed has been explained above. With your participation, you acknowledge your understanding that your answers to this survey will not be connected to any identifying information and all information collected will be reported in the aggregate. By clicking the "Next" button below to initiate the survey, you are providing your consent to participate in the research as described above and in the advertisements and letters of invitation for this study. Once again, I truly appreciate your participation in this dissertation research as I look at what potential protective factors first-generation college students may utilize as they cope with the college experience.

Department of Counseling Rehabilitation Counseling and Counseling Psychology
P.O. Box 6122
Morgantown, WV 26560-6122
Phone: (304) 293-3807
Fax: (304) 293-4002
<http://counseling.wvu.edu>

Phone: 304-293-3807
Fax: 304-293-4082
<http://counseling.wvu.edu>

**Department of Counseling, Rehabilitation Counseling
and Counseling Psychology**

PO Box 6122
Morgantown, WV 26506-6122

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Dear Research Participant,

I want to thank you again for participating in my research. As I mentioned at the beginning of the on-line survey, my dissertation research is examining and identifying potential protective factors of first-generation college students. I appreciate that you took the time in your busy schedule to participate in the survey. As a token of my appreciation, enclosed is a \$10 gift certificate to Barnes & Noble Bookstore. Your name will also be in a drawing for a \$100 gift certificate to Barnes & Noble Bookstore which will be announced to the two winners of these drawings at the end of the collection period. If there are any questions that I did not adequately address, or that you feel require more attention, please contact the Principle Investigator of the research project, Dr. James. W. Bartee, at James.Bartee@mail.wvu.edu or David Davino at ddavino@mix.wvu.edu. If you feel that you have been adversely affected by participating in this survey, you can contact Longwood University's Counseling Center at (434) 395-2409 or contact Crossroads Community Services Board at (434) 392-3187.

Sincerely,

David Davino, LPC
Doctoral Candidate
West Virginia University
College of Human Resources & Education
502 Allen Hall
Morgantown, WV 26506

James W. Bartee, Ph.D.
Principle Investigator
West Virginia University
502-F Allen Hall
P.O. Box 6122
Morgantown, WV 26506

Phone: 304-293-3807
Fax: 304-293-4082
<http://counseling.wvu.edu>

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and Counseling Psychology**

PO Box 6122
Morgantown, WV 26506-6122

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Dear Research Participant,

I want to congratulate you as you are one of two random drawing winners for a \$100 Barnes & Noble gift certificate. I want to thank you again for participating in my research. As I mentioned at the beginning of the on-line survey, my dissertation research is examining and identifying potential protective factors of first-generation college students. I appreciate that you took the time in your busy schedule to participate in the survey. If there are any questions that I did not adequately address, or that you feel require more attention, please contact the Principle Investigator of the research project, Dr. James. W. Bartee, at James.Bartee@mail.wvu.edu or David Davino at ddavino@mix.wvu.edu. If you feel that you have been adversely affected by participating in this survey, you can contact Longwood University's Counseling Center at (434) 395-2409 or contact Crossroads Community Services Board at (434) 392-3187.

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