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SURVIVING OR THRIVING? A STUDY OF
ENGAGED LEARNING, ACADEMIC
DETERMINATION, SOCIAL
CONNECTEDNESS, POSITIVE
PERSPECTIVE, AND SPIRITUALITY OF
DOCTORAL STUDENTS IN A PRIVATE
CHRISTIAN UNIVERSITY

Sarah J. Yates

Southeastern University - Lakeland

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STUDENTS IN A PRIVATE CHRISTIAN UNIVERSITY

By

SARAH YATES

A doctoral dissertation submitted to the
College of Education
in partial fulfillment of the requirements
for the degree Doctor of Education
in Curriculum and Instruction

Southeastern University
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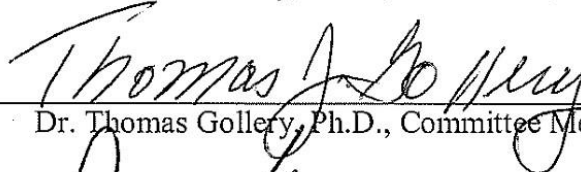
by

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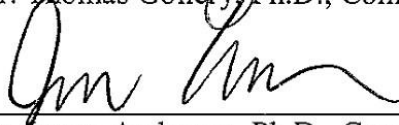
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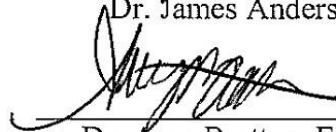
Dr. Susan Stanley, Ed.D., Dissertation Chair



Dr. Thomas Gollery, Ph.D., Committee Member



Dr. James Anderson, Ph.D., Committee Member



Dr. Amy Bratten, Ed.D., Dean, College of Education

DEDICATION

“Not to us, LORD, not to us but to your name be the glory, because of your love and faithfulness” (Psalm 115:1, *New International Version*). All glory and honor and praise be to my Lord and Savior, Jesus. The Lord is the strength of my life, and He has sustained me. I will stand and sing, “How Great Thou Art!”

I would like to thank my classmates in the doctoral program. Your love, support, and friendship through this journey have been a blessing! To my family at Plant City Church of God, thank you for pouring into my life and my family’s life during these years of study. You provided words of wisdom, encouragement, and support at just the right times.

I am so grateful for my mom (Kathy Hodum) and my siblings (Mary Baird, Tommy Hodum, Arnold Hodum, Jr.) who taught me from an early age that if I allowed God to work through me, He would accomplish things for His glory. Thank you for telling me that I could grow up and overcome any challenge. Thank you to my sweet mother-in-law (Arethea Yates) who took the kids to piano lessons and jujitsu faithfully through the years I worked on my doctorate.

I would also like to thank my hard working children. Thank you for your *mostly* diligent studies on all those days you had to homeschool yourself. Bethany, thank you for doing the laundry even when you were working your own three jobs and had your own college work to do. I am proud of you for your accomplishments in education, and I am sorry for the times I was too tired to help you. Wyatt, thank you for cooking so many meals (spaghetti, tacos, venison chili,

squirrels, rabbit. . . ☺). Even if I was behind on grocery shopping, you found something to feed the family. Thank you, Allison, for faithfully doing the dishes, cleaning the counters, and sweeping the floor. Ryan, thank you, for washing loads of laundry, folding the towels, and vacuuming. Thank you to all of you for loving me even when I was too tired to be lovable!

To my husband and best friend, Derek Yates, thank you for your never ceasing support, encouragement, and love. You are the love of my life, and you make every day an adventure. You always helped with the children, and made sure I had time to study and write. Thank you for bringing me ice packs and cold Mountain Dew's. I appreciate all of your careful proofreading, and I loved all the date nights after a day of studying! You never seemed inconvenienced by all of the class projects in which I was involved, the research articles spread all over the floor, and the laptop and books that have been a part of every family vacation, camping trip, and weekend getaway for the past few years. Even amid the trials of a doctoral degree, you made every day a blessing, and I love spending my life with you.

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As the evening hours grew long, thank you for calling over the office wall and saying, “Sarah, go home.” Thank you for teaching me that God wants His children to do so much more than survive a doctoral program. He wants us to thrive.

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student! I cannot even begin to express my deep gratitude. I loved you as a curriculum professor and grew to love you even more as you guided me through the dissertation process. Your wisdom and experience made the dissertation journey truly delightful. Thank you for keeping me on track, crying with me, and rejoicing with me. I needed your practical guidance and Godly influence throughout this project. Your simple directions and your little green book made my research doable, and your continuous words of encouragement and precious smiley faces on all those drafts gave me confidence as I explored questions, researched factors, and wrote chapter after chapter. Thank you for reminding me to carefully guard my heart, my family, and my time. As you and your sweet husband walk across campus holding hands, you serve as a blessed reminder that there is more to life than a dissertation. You will never know how many times I have thought about you coaching me to say, “No” to extra projects and responsibilities so I could focus on my dissertation. Thank you for all of the time you dedicated to my dissertation, your heartfelt prayers, and your overwhelming support. Thank you for standing on Godly principles as you serve as a leader in the field of education. You are amazing!

ABSTRACT

There are factors that contribute to thriving in a doctoral program. The purpose of this study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to the national norms on the *Thriving Quotient* while evaluating how the spiritual climate related to student thriving at the subject university. By examining the factors that comprise thriving, doctoral advisors, professors, and workers in student services may better understand the support needed to help students not only survive a doctoral program, but to thrive on a holistic level. The quantitative study utilized a survey research method. Students pursuing a Doctor of Education (Ed.D.) degree at the subject university were emailed a survey known as the *Thriving Quotient*. Participants had a higher *Thriving Quotient* than the national norm. The means scores of each of the five domains within the *Thriving Quotient* (engaged learning, academic determination, social connectedness, positive perspective, and diverse citizenship) were higher in the sample than in the national norms. The participants' rating of the spiritual climate of the subject doctoral program represented a statistically significant predictor of the overall *Thriving Quotient*. Implications of the study include strategies for universities working to create environments conducive to thriving.

Key Words: [thriving; engaged learning; academic determination; social connectedness; positive perspective; optimism; spirituality in doctoral program; student well-being]

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I. INTRODUCTION

According to United States Census 2014 data, an estimated 11% of the United States population has graduate or professional degrees (United States Census Bureau, 2010-2014). The 2013 data suggests that only 1.68 percent of American adults have a doctoral degree (United States Census Bureau, 2013). The limited number of students who complete doctoral degrees has been the focus of multiple studies in higher education (Ivankova & Stick, 2007; Lovitts, 2001; Nettles & Millet, 2006; Petridis, 2015). Many students who begin a doctoral program never complete the degree, even though research suggests that the majority of students who begin doctoral programs have the academic skills necessary to finish the program. In fact, less than three-quarters of doctoral students will complete their degrees (Council of Graduate Schools, 2016).

Doctoral attrition rates remind educational leaders that more research into best practices is needed. Only considering doctoral completion rates as an indicator of success leaves out important elements of earning a doctoral degree. There is more to successful doctoral studies than academic performance. In response to the need for research on student success beyond graduation rates and academic performance, Dr. Laurie Schreiner (2009) sought to broaden the definition of success in college, developing a new measure of student success, known as *thriving*. Thriving students were “engaged intellectually, socially, and emotionally” (Schreiner, 2010a, p. 4). They were academically successful and experienced “a sense of community and a level of

psychological well-being that contributed to their persistence to graduation” (Schreiner, 2010a, p. 4). These students gained maximum benefit from the doctoral experience. Thriving suggests a difference between students who make the most of their educational experiences and those who simply survive the doctoral journey, completing requirements but minimally investing in learning (Schreiner, 2010a).

Best practices can increase student success at all levels of education. Much of the research about how to help students thrive has been completed with undergraduate students (Schreiner, McIntosh, Nelson, & Pothoven, 2009). More research about factors that lead to thriving in a doctoral program is needed. This dissertation is primarily concerned with doctoral student thriving and uses descriptive and inferential statistical techniques to analyze data collected in a survey given to doctoral students. The first chapter of the dissertation presents the background of the study, describes its significance, and presents an overview of the methodology.

Background of the Study

The construct of thriving views student success holistically. Both academic and psychosocial factors are taken into consideration, as individual attitudes and the ability to self-regulate, along with students’ experiences and relationships, are considered (Kinzie, 2012). Thriving focuses on functioning in three areas: academic engagement, interpersonal relationships, and intrapersonal well-being. Each of these components of thriving “consists of multiple psychological constructs that combine to characterize a well-rounded, high-functioning individual” (Schreiner, Pothoven, Nelson, & McIntosh, 2009, p. 4).

The concept of thriving is based on positive psychology, which emphasizes well-being and flourishing (Keyes & Haidt, 2003). Flourishing manifests through student characteristics,

such as persistence, determination, and engagement (Kinzie, 2012). Thriving can assist in explaining the differences in how students “approach, experience, and persist” (Kinzie, 2012, p. xiii) in college, and studies on the construct of thriving can aid in the design of programs that enable more students to thrive in higher education.

Factors, such as engaged learning, a sense of belonging, motivation, and self-concept, have been considered as a part of student success and well-being (Keyes & Haidt, 2003). There is no single factor which adequately accounts for the influence on student success (Kuh, 2007). However, thriving is a measure of student success beyond grade point average and graduation rates. When thriving is emphasized, institutions have greater expectations of graduates, including a “commitment to community” and “lifelong learning” (Kinzie, 2012, p. xxv). What factors lead to thriving in a doctoral program? Understanding the influences on students’ doctoral journeys may help institutions of higher education understand how to best support their doctoral students.

The *Thriving Quotient* instrument provides a way to measure the construct of thriving. Building on the idea of flourishing (Keyes & Haidt, 2003), the *Thriving Quotient* was piloted in a study involving 2,474 students from 13 institutions in 2008 (Schreiner, Pothoven et al., 2009). Then in 2009, the *Thriving Quotient* was used with a sample of 6,617 undergraduate students from 27 public and private colleges and universities from across the United States. Over 6,000 complete datasets were utilized for data analysis. Engaged learning, academic determination, social connectedness, positive perspective, and diverse citizenship were the five factors of thriving that emerged during the piloting of the *Thriving Quotient*. The *Thriving Quotient* was found to be internally consistent ($\alpha = .91$) and was also predictive of persistence, grade point average, and institutional fit (Schreiner, Pothoven et al., 2009). Scores on the five factor thriving

scale suggested that the items measuring each factor of thriving (engaged learning, academic determination, positive perspective, social connectedness, and diverse citizenship) were significantly predictive of students' success in higher education (Schreiner, Pothoven et al., 2009).

“Thriving students demonstrate high levels of interpersonal, intrapersonal, and academic well-being” (McIntosh, 2012, p. vii). McIntosh (2012) wanted to know what factors led to thriving for Caucasian, African American, Asian, and Latino students. He used the *Thriving Quotient* in a study of 7,956 students at 42 institutions (McIntosh, 2012). McIntosh's study demonstrated that thriving can be measured consistently across ethnic groups. According to McIntosh, “thriving transcends racial boundaries,” and the *Thriving Quotient* “demonstrated good statistical fit for all ethnic groups measured in the sample” (McIntosh, 2012, p. 124). McIntosh (2012) suggested that a psychological sense of community was the primary predictor of thriving for undergraduate students in all ethnic groups examined. Spirituality was a predictor of thriving for all students in the study but was a more robust predictor for minority students in McIntosh's study than it was for nonminority students (McIntosh, 2012).

Petridis (2015) measured thriving of master's and doctoral students using a graduate student version of the *Thriving Quotient*. Petridis (2015) validated a graduate version of the *Thriving Quotient*, and finding it to be internally consistent ($\alpha = .86$), used the graduate version of the *Thriving Quotient* to examine the extent that family-friend support, student-faculty interaction, department climate, and a psychological sense of community influenced graduate student thriving. In the sample of 2,918 master's and doctoral students from 11 public and private institutions, the students' *Thriving Quotient* score was found to correlate with whether or not they would complete graduate school. Petridis's (2015) study suggested that students'

psychological sense of community was the greatest predictor of graduate thriving. According to her study, the support of family and friends and a warm departmental climate were also crucial in fostering graduate student thriving. A student's age, gender, and number of hours worked contributed to variations in graduate student thriving. However, none of Petridis's findings suggested a difference in graduate school thriving across race and gender (Petridis, 2015). Her study revealed that students thrive in graduate school "via the support of their family, friends, and faculty in the context of a departmental environment that creates a strong psychological sense of community" (Petridis, 2015, p. 104).

Problem Statement

Completion rates in doctoral programs are traditionally low (Council of Graduate Schools, 2016). Not completing the doctoral degree can have personal implications for students, as they feel like failures academically and personally (Lovitts, 2001). Researchers have examined the psychological and psychosocial dimensions of student success and have indicated that there are factors that contribute to not just surviving but thriving in education (Schreiner, Pothoven et al., 2009; McIntosh, 2012; Petridis & Schreiner, 2013; Schreiner, McIntosh, Kalinkewicz, & Cuevas, 2013; Petridis, 2015). The construct of thriving has not been fully explored at the doctoral level. The purpose of this study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to the national norms for graduate and doctoral students on the *Thriving Quotient* while evaluating how the spiritual climate related to student thriving at the subject university. A focus on thriving, instead of just surviving, has the potential to influence decisions in higher education.

Significance

Many institutions of higher education are seeking ways to understand and reduce student

departure. By examining the factors that comprise thriving, doctoral advisors, professors, and workers in student services may better understand the support needed to help students not only survive a doctoral program, but to thrive on a holistic level. Evaluating how a doctoral program's spiritual climate relates to thriving may help practitioners establish practices that promote student success in a doctoral program.

Overview of Methodology

This study was descriptive in nature, nonexperimental by design, and specifically survey research by method. The sample was broadly defined as non-probability in nature, and more specifically convenient and purposive by definition. Participants included students pursuing a Doctor of Education (Ed.D.) degree at the subject university who had earned at least 12 credit hours in the Ed.D. program at the subject university. An a priori power analysis using G-Power was used to estimate a needed sample size in order to achieve adequate power (.80). The needed sample size was calculated to be between 21 and 64 participants for confidence in rejecting null hypotheses for the proposed investigation. The focus of the study was engaged learning, academic determination, social connectedness, positive perspective, and spirituality, as well as the students' overall *Thriving Quotient*.

Doctoral students enrolled at the university from which the participant sample was selected were invited to complete an online survey on thriving. The graduate student version of the *Thriving Quotient* was used. The *Thriving Quotient* has demonstrated high reliability and validity with undergraduate and graduate student populations (Petridis, 2015), and Cronbach's alpha of .89 for the *Thriving Quotient* reflects the internal consistency of the instrument (Schreiner, Louis, & Nelson, 2012).

Study participants reported their levels of agreement on a six point Likert scale to

statements in the following categories: engaged learning, academic determination, social connectedness, positive perspective, and spirituality. An overall thriving score was obtained for each doctoral student taking the survey, as well as subscale scores on engaged learning, academic determination, social connectedness, positive perspective, and spirituality. The researcher in this study is a member of the doctoral program and knows the participants in the study. Research suggests that participants may be more likely to answer questions candidly with an inside researcher (Blythe, Wükes, Jackson, & Halcomb, 2013; Dwyer & Buckle, 2009). Based on the researcher's familiarity with the university and the doctoral students, the research may be more informed and offer greater understanding than if done by an outside researcher (Blythe et al., 2013; Protivnak & Foss, 2009; Rooney, 2005).

Research Questions

In order to address the stated research problem, the following research questions and hypotheses were posed:

1. Does the overall *Thriving Quotient* of doctoral students enrolled in a private Christian university differ from the national norm for graduate and doctoral students?
2. Do the subscale scores of the *Thriving Quotient* of doctoral students enrolled in a private Christian university differ from the national norms for graduate and doctoral students?
3. To what degree does the perceived level of the doctoral program's spiritual climate relate to student thriving?

Null Hypothesis #1 (H₀ 1)

There will be no statistically significant difference in the overall *Thriving Quotient* score for

doctoral students enrolled in a private Christian university compared to the national normative score for the *Thriving Quotient*.

Alternative Hypothesis #1 (H_a 1)

Students enrolled in the subject private Christian university will manifest a statistically significant higher *Thriving Quotient* than the national norm.

Null Hypothesis #2 (H_o 2)

There will be no statistically significant difference in the subscale scores of the *Thriving Quotient* for doctoral students enrolled in a private Christian university compared to the national normative subscale scores for the *Thriving Quotient*.

Alternative Hypothesis #2 (H_a 2)

Students enrolled in the subject private Christian university will manifest statistically significant higher subscale scores on the *Thriving Quotient* than the national normative subscale scores.

Null Hypothesis #3 (H_o 3)

There will be no statistically significant correlation between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotients*.

Alternative Hypothesis #3 (H_a 3)

There will be a strong degree of relationship between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotients*.

To address the first and second research questions, descriptive and inferential statistical techniques were employed for comparative purposes. Specifically, measures of central tendency

and variability were used to assess the practical significance of difference in the *Thriving Quotient* of doctoral students enrolled in a private Christian university compared to the national norm score for the *Thriving Quotient* and to assess the significance of difference in the sub components of the *Thriving Quotient* to the sub component national norms for graduate and doctoral students. Additionally, the magnitude of difference in mean scores (effect size) was assessed using Cohen's d. Cohen's conventions of interpretation was utilized in the qualitative evaluation of the interpretation of the d value.

To assess the statistical significance of difference in the *Thriving Quotient* of doctoral students enrolled in a private Christian university to the national normative score for the *Thriving Quotient*, a single sample t-test was utilized. The t-test was also used to assess the significance of difference in the subscale scores of the *Thriving Quotient* to the subscale national norms for graduate and doctoral students. The alpha level of .05 was utilized as the threshold value for the evaluation of statistical significance.

The focus of the third research question was on the determination of the mathematical relationship between the students' perceived level of the spiritual climate in the doctoral program and the overall *Thriving Quotient*. As such, the Pearson Product Moment Correlation Coefficient (r) was utilized. The coefficient of determination (r^2) was calculated to assess the amount of explained variability of data in the respective correlation comparisons, and simultaneously act as the basis for the calculation of the effect size measure ($r^2 // 1-r^2$). The statistical significance of the mathematical relationship between variables related to the third research question utilized the .05 alpha level as the threshold for statistical significance.

Limitations

Although this study was intended to provide much needed information about factors

associated with thriving in a doctoral program, there were limitations to the study. The sample was a non-probability convenient sample drawn from one private institution and may not be representative of all institutions. Generalizations, therefore, are limited to the sample itself. The data was only collected at one point in time. Therefore, this study does not consider the changes that might occur over time. At the time of this study, the Ed.D. program at the subject university was only two years old, and there was no possibility of tracking completion rates because the first cohort was still in the dissertation phase.

Definitions of Key Terms

Thriving

Thriving, the dependent variable in this study, describes the experiences of students who are engaged academically and experience a high level of social and emotional well-being (Schreiner, 2010). Students who thrive experience a level of well-being that contributes to their persistence in their studies, and these students gain maximum benefit from their education. Thriving can be separated into three areas: academic, interpersonal, and intrapersonal well-being. Each domain is measured by a combination of factors. A five-factor model of thriving emerged from a confirmatory factor analysis (Schreiner, Pothoven et al., 2009) revealing engaged learning, academic determination, positive perspective, social connectedness, and diverse citizenship as the five factors of thriving.

Engaged Learning

Engaged learning is the “meaningful processing, focused attention, and active participation in the learning process” that leads to “academic success” and “persistence to graduation” (Schreiner, Pothoven et al., 2009, p. 15). Engaged students are focused and attentive to learning opportunities. They discuss, think, and are “energized by the learning process”

(Schreiner, 2010a, p. 4).

Academic Determination

Academic determination is the self-regulated investment of effort in completing assignments. Yet, academic determination is more than just self-discipline. This construct includes “goal-setting and motivation to reach academic goals, as well as key strategies to persevere” (Schreiner, Pothoven et al., 2009, p. 16). Schreiner asserts that students who thrive academically “know that it is the investment of effort on a regular basis that will help them succeed” (Schreiner, 2010a, p. 5). When classes are difficult or boring, students who thrive exhibit academic determination and do not give up. They try new approaches to learning and keep working until they finish (Schreiner, 2010a).

Positive Perspective

Positive perspective is optimism and subjective well-being. Students with a positive perspective are characterized by a hope for positive results despite challenging or even grueling conditions (Carver, Scheier, & Segerstrom, 2010, Diener, 2000). A positive perspective is not a naïve worldview or an unrealistic outlook on life. Schreiner (2010a) describes a positive perspective as a way of viewing reality and “proactively coping with it” (p. 5) instead of avoiding situations or reacting to circumstances. Students with a positive perspective maintain a big picture view and handle stressful situations better than students who focus on the immediate circumstances. Confident students believe that they can achieve, and therefore, they will persist. Such individuals seek to discover benefits and learning opportunities in every situation. They report higher levels of satisfaction with college and experience greater levels of success (Schreiner, 2010a).

Social Connectedness

Social connectedness refers to students' sense of belonging (Rayle & Chung, 2007). The construct of social connectedness measures the extent to which students enjoy close and supportive friendships and family support. Social connectedness includes valuing others and trying to relate to others from different backgrounds (Schreiner, 2010a).

Diverse Citizenship

Diverse citizenship is a combination of openness to differences and an interest in relating to individuals who are from diverse backgrounds (Schreiner, 2010c). For the purpose of this study, diverse citizenship also refers to the degree to which students are inclined to speak for people who cannot speak for themselves and a willingness to make a difference in other people's lives (Petridis, 2015).

Spirituality

Spirituality is a "reliance upon a power greater than the self" and serves as an "internal coping strategy for navigating the complexities of life, specific to belief in a power greater than self" (McIntosh, 2012, p. 16). Spirituality has also been defined as a "way of knowing" and a "source of connection that brings faith, hope, peace, and empowerment" (Astin, Astin, & Lindholm, 2011b, p. 4). Because it deals with students' inner lives, spirituality is not always observable and measureable, but instead it is a multidimensional construct including affective experiences that helps students formulate an understanding of their purpose in life (Lindholm & Astin, 2008).

According to previous research (Schreiner, Pothoven et al., 2009), each component of thriving is "predictive of student success," (p. 18) and doctoral programs that plan how to meet students' needs in the areas of engaged learning, academic determination, positive perspective,

social connectedness, and spirituality can impact students' chances of thriving in the doctoral program. According to research, the factors of engaged learning, academic determination, social connectedness, positive perspective, and spirituality affect a student's ability to thrive and may, in fact, be "predictive of student success" (Schreiner, Pothoven et al., 2009, p. 18). Thriving students are engaged intellectually and emotionally, and they experience a sense of psychological well-being while gaining the greatest benefit from their doctoral experiences (Schreiner, 2010a; Schreiner, Louis, & Nelson, 2012).

II. REVIEW OF LITERATURE

Conservatively speaking, less than three-quarters of doctoral students will complete their degrees (Council of Graduate Schools, 2016). In fact, since the 1960s, the doctoral completion rate has been consistently estimated to be 50 percent or less (Lovitts, 2008). The high rate of attrition in doctoral programs is problematic and should concern educators. The individual tailoring of doctoral programs is very expensive for universities, and losing students creates an exorbitant cost (Nettles & Millett, 2006). Considering the cost of materials and personnel, recruiting new students is even more costly than retaining students (Gardner, 2009). Not only is attrition expensive for the university, but Lovitts (2001) asserted that student attrition “can ruin individuals’ lives” (p. 6). Doctoral students are usually intelligent, hard-working students who envision themselves as being able to conquer obstacles. Not completing a program leaves students feeling like failures in both their academic and personal lives (Lovitts, 2001). Lovitts related her story of leaving two Ph.D. programs and commented that the student who leaves is “largely invisible” (Lovitts, 2001, p. 1). Ambler (2006) recommended that institutions of higher education use research on factors that promote success to try to increase retention and satisfaction rates.

Keyes & Haidt (2003) studied the idea that students have a psychological process that leads to institutional fit, degree completion, and success. Exploring students’ experiences in a doctoral program may provide information about why students finish degree programs, and the information may lead institutions of higher education to incorporate strategies that increase

retention and promote thriving in doctoral programs (McIntosh, 2012). In recent years there has been an increasing number of institutions reflecting on how to optimize student achievement, which has been defined as “satisfaction, persistence, and high levels of learning and personal development” (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005, p. xiv).

This chapter examines literature regarding the factors that lead to students’ ability to thrive in a doctoral program. There is no single theoretical perspective that can explain all the factors that influence students’ success in academic endeavors (Kuh, Kinzie, & Buckley, 2007). However, “the ability to not just survive . . . but to thrive during pivotal experiences is an expanded vision for student success” (Schreiner, Louis, & Nelson, 2012, p. 21). Traditional measures of success, such as grade point average or even successful completion of a doctoral program, do not account for the motivational and psychological factors that contribute to student outcomes (Schreiner et al., 2013). Thriving is a measure of student success beyond grade point average and graduation rates and “represents an intersection of two disciplines: higher education and psychology” (Schreiner et al., 2013, p. 3). Thriving has been conceptualized as optimal functioning in the areas of academic engagement, psychological well-being, and interpersonal relationships (Schreiner, McIntosh et al., 2009). Students enter doctoral studies with different experiences and abilities; understanding the students’ experiences and seeking to identify influences on students’ doctoral journeys may help institutions of higher education offer support to the students. The *Graduate Thriving Quotient* measures psychosocial factors that are predictors of student success (Schreiner et al., 2013).

Factors that Influence Thriving

What factors distinguish doctoral students who thrive from those who function in a more limited way? This study aims to focus on factors that allow students to thrive. Thriving takes cognitive and psychosocial components into consideration. Students who are thriving learn and

apply more concepts from their coursework and research, but the quality of students' experiences in the doctoral program impacts their lives beyond the classroom doors and into the future.

Because raising students' Thriving Quotient increases student persistence, success, and satisfaction, thriving can also have an effect on institutional outcomes (Kinzie, 2012).

Thriving is conceptualized as optimal functioning in three areas: academic engagement, interpersonal relationships, and psychological well-being (Schreiner, 2012). Using this holistic vision of the student, one does not just look to see if students are succeeding academically.

Students who are thriving in a doctoral program are engaging in their coursework and are investing effort into assignments. Thriving learners are also optimistic about their futures and are committed to helping others (Schreiner, 2012).

Engaged Learning

Engagement has been described as the "loss of consciousness during an absorbing activity" (Seligman, 2013, p. 11). Students who are engaged are completely engrossed in learning. Their attention is willingly invested. According to Schreiner (2010b), engagement in learning is both behavioral and cognitive. Engagement provides people the opportunity to form goals, invest their attention, and construct meaning from their experiences. Both class participation and completion of assignments are considered evidence of learning, but measuring the application of doctoral level learning is difficult. While the extent of application may be hard to measure, researchers suggest that engaged students experienced a level of cognition that is referred to as deep learning, and such learning leads to critical thinking, academic determination, and academic success (Schreiner et al., 2013). In Ambler's (2006) study, the most engaged students experienced the greatest cognitive and personal growth. Active engagement has been associated with heightened intellectual curiosity, greater creativity, and exceptional leadership skills in students (Lindholm & Astin, 2008).

Nakamura and Csikszentmihalyi (2003) referred to one category of individuals who ambled through life and another group of individuals who were engaged and “relish almost every moment of their lives and find it permeated with meaning” (p. 83). After their research Nakamura and Csikszentmihalyi (2003) suggested that activities became meaningful if students were engaged and activities were completed with attention and concentration. Some students did not devote enough effort to learning even though they were capable. Kuh (2007) used student engagement surveys to attempt to learn more about the experiences and traits of students who were less likely to engage, and after his study he recommended structuring courses to increase student engagement. Doctoral students learned best when their activities built upon their “life experiences and interests” (Ennis, 2002, p. 23) and encouraged them to be reflective practitioners.

When curricula and assignments are meaningful and interesting, students become vitally engaged. Meaning can stem from assignments that stretch students’ abilities, and such enjoyable and purposeful engagement is a vital element in accelerating the academic growth of doctoral students (Nakamura & Csikszentmihalyi, 2003). Efforts to intensify student engagement had a greater effect for students with lower Graduate Record Exam (GRE) scores, suggesting that boosting student engagement would be most beneficial for low ability students (Carini, Kuh, & Klein, 2006). Using interesting course assignments to engage students, particularly those with lower GRE scores, can help students determine what is important, process course material, and make connections between what they already know and what needs to be learned (Schreiner, 2012).

Recent research on engagement includes the achievement goal theory. This theory focused on students’ purpose for engaging in learning. Did students have mastery goals and wish to develop their ability, or did they only have performance goals and engage to demonstrate

their ability so they appeared intelligent? Students who engaged in learning as a result of mastery goals were engaging in their reading and projects and sought deep learning and understanding. Mastery goals for engagement were correlated to self-monitoring of cognition and persistence in the face of difficulty. However, Lichtinger and Kaplan (2011) suggested a student with performance goals as his purpose for engagement would use different strategies than a student who had mastery and deep learning goals. If a student thought the purpose of a course was to prove that he was a capable student, his engagement in the coursework might be limited to performance goals. For example, a student engaging only to prove himself as an adept student, might use writing strategies, such as being aware of the reader, planning, organizing, and self-evaluating; however, high-achieving students who engaged for the purpose of deep learning might use self-regulation strategies, check and correct their writing, and remind themselves of the value of the assignment. Lichtinger and Kaplan (2011) suggested that faculty members have conversations with students about the purpose and rationale for engagement in coursework.

Engaged participation in activities that contribute to learning is a key factor as to whether students will persist and thrive (Kinzie, 2012). Engaged students have intellectual curiosity and are open to learning new ideas. According to Lovitts' interviews with doctoral professors, engaged students have an "active, engaged mind" and exhibit "a fire" or "a spark" (Lovitts, 2008, p. 310). Students who are engaged in the curriculum are more likely to be academically successful (Carini et al., 2006; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). In a study of 1,058 university students, student engagement was linked positively with meeting learning objectives and an increase in critical thinking (Carini et al., 2006). The "time and energy students devoted to educationally purposeful activities was the best predictor of learning and personal growth" (Ambler, 2006, p. 3) in Ambler's study.

Academic Determination

Academic determination includes students' abilities to set goals, maintain motivation, and self-regulate effort in their degree program in a way that not only leads to making gains academically but leads to a feeling that their learning experience has been fulfilling (Schreiner, Pothoven et al., 2009). Robbins, Oh, Le, & Button (2009) suggested that academic determination is a more robust predictor of students' success than traditional measures, such as a student's grade point average (GPA). Institutions that have relied on traditional predictors, such as GPA, gender, socioeconomic status, ethnicity, and test scores, can add to their understanding of the variations in students' success by considering the effects of academic determination (Schreiner, 2010a).

Self-regulation, an important element of academic determination, involves setting goals, measuring progress, and working toward goals. Thriving students are better at developing long term goals and taking the necessary steps to achieve their goals (Schreiner, 2010a). Lovitts (2008) researched doctoral students and suggested that characteristics, such as "self-discipline, perseverance in the face of frustration, a willingness to take risks, and a high level of self-initiated task-oriented striving for excellence," (p. 309) were traits that lead to degree completion. Intellectual curiosity and intrinsic interest were among the themes that emerged when discussing characteristics of students who were motivated to complete doctoral research (Lovitts, 2008). Researchers defined interest in a task as a long-term relationship "between a person and an object of interest" (Nakamura & Csikszentmihalyi, 2003, p. 87). Psychologist Martin Seligman (2013) conducted studies on resiliency and used the findings to create resilience training for the United States Army. The training (Master Resilience Training) rolled out in December, 2009, focusing on building mental toughness, strengths, and strong relationships. Seligman (2013) declared that a bell curve or "normal" distribution can describe the distribution

of grades but stated that the bell curve fails to describe the distribution of achievement. Instead, Seligman declared that there was an extreme trait known as “grit” (p. 118) that accounts for extraordinary achievement. Extreme effort is a product of “a personality characteristic of extreme persistence. The more grit you have, the more time you spend on the task, and all those hours do [not] just add to whatever innate skill you have; they multiply your progress to the goal” (Seligman, 2013, p. 121).

Setting goals produces hope within students (Schreiner, Pothoven et al., 2009). Students trying to avoid stress or anxiety were at higher risk for psychological and physical distress than those who were seeking positive incentives, so students who were striving for a doctorate had more positive psychological outcomes compared to students whose goals were avoidance goals (Emmons, 2003). Emmons (2003) suggested that a wise person knows which goals are worthwhile and are worth persevering to reach. He stressed the “importance of savoring, appreciating, and celebrating the pursuit of one’s goals” (p. 123).

Lovitts (2008) described “distinguished completers” as being characterized by “high levels of practical and creative intelligence . . . independent and practical in their approach to research . . . problem solvers, and bubbling with ideas” (p. 319). She summarized her research on undistinguished completers by saying they possessed analytic intelligence, but they had difficulty thinking, working, and solving problems on their own. Undistinguished completers were not intrinsically interested in their research and were more focused on gaining the degree than learning and researching (Lovitts, 2008).

Some researchers have suggested that a portion of the responsibility for student success needs to be placed on the institution rather than attributing success or failure to the individual student (Kinzie, 2012; Lovitts, 2001). If universities strategically designed programs to promote students’ ability to thrive, more doctoral students would persist and thrive (Kinzie, 2012).

Doctoral students are acquiring broad and deep knowledge in their subject area, but they are not experts. “It takes at least 10 years to move from novice to expert in any field” (Lovitts, 2008, p. 306). Professionals in higher education should “intentionally create conditions . . . that enhance student learning and personal development” because these aspects of the educational experience are “inextricably intertwined and inseparable” (Ambler, 2006, p. 4).

In Lovitts’ (2001) study with 816 doctoral students (511 completers, 305 noncompleters), the student-advisor relationship was the most vital factor in academic determination. Lovitts suggested that faculty advisors could increase student persistence by caring for the students’ intellectual and emotional needs. Ambler (2006) asserted that the cognitive and affective growth were both foundational elements of one process. Advising, for example, is much more than just choosing classes. During advising, students gain information and resources they need to succeed, make an emotional connection, and make contact with a role model (Schreiner, 2012). Advising relationships provide doctoral students with an opportunity to talk with someone who knows the institution and the student, and advising discussions can be geared toward helping students identify and nurture their strengths (Schreiner, 2012). Advisors can uproot the philosophy that there is just one strategy for success and can encourage students to capitalize on their strengths and use those strengths to overcome adversities (Schreiner, Louis, & Nelson, 2012). Schreiner, Louis, & Nelson (2012) described strengths as “characteristics that are malleable” (p. 35). They suggested that identifying personal strengths may send a message that success is solely dependent on the attributes that one possesses, so the researchers encouraged an emphasis on “personal effort in developing and mobilizing strengths” (Schreiner, Louis, & Nelson, 2012, p. 36).

To promote thriving in a doctoral program, a positive perspective is needed. Such a perspective requires faculty to focus on strength development. Focusing on developing strengths

energizes students to invest the necessary effort in their coursework and promotes engagement in learning opportunities (Schreiner, Louis, & Nelson, 2012). Strength development programs that enabled students to use their strengths have been correlated with increased levels of well-being (Wood, Linley, Maltby, Kashdan, & Hurling, 2011). Advisors can encourage doctoral students to foster strengths instead of focusing on whether students have innate characteristics.

Advisors who promote academic determination by adopting a strengths perspective are not simply preventing attrition. According to Schreiner (2012), a strengths development perspective moves advising from “a survival mentality to . . . a thriving perspective” (p. 29). Nettles and Millett (2006) noted that some faculty were more earnest in helping graduate students than others. Advising can be a time consuming obligation, and there are some institutions where the advisor has an inordinate number of dissertation students. The time involved in advising doctoral students is not given enough consideration or recognition by institutions. “A whole piece of the support puzzle has yet to be solved, and only the institutions can take action to remedy the lack” (Nettles & Millett, 2006, p. 194).

A qualitative study by Barnes and Austin (2009) emphasized the vital role faculty play in students’ academic determination. In their qualitative study, they conducted in-depth interviews with 25 exemplary advisors in order to learn about the advisors’ perspectives. The advisors were defined as “exemplar” because they were among the top producers of Ph.D. students in his or her field. Almost all of the advisors that were interviewed recognized the need for doctoral advising to be tailored for each student. Ninety percent of the advisors felt responsible to help their advisees be successful. Being successful involved making progress in the program, developing doable dissertation projects, and coping with failure. Barnes and Austin (2009) reported that these exemplar advisors exhibited “both an intellectual dimension and an affective dimension focused on caring, support, and friendliness” (p. 311).

Participants in a study done by Protivnak and Foss (2009) identified mentoring as the most helpful part of the doctoral experience. One way to help doctoral students thrive is by providing models. Noting the strengths of others and what works effectively for them was an important part of developing one's strengths (Buckingham, 2010). Students can pattern their research and time management skills after high achievers (Schreiner, Louis, & Nelson, 2012). In a doctoral study of over 9,000 students (Nettles & Millet, 2006), 25% of the students reported that they did not have a mentor. The lack of mentoring is cause for alarm, because individuals can learn about success by studying success (Buckingham, 2010).

Researchers have been examining the success of doctoral programs, and the need for quality outcomes has been emphasized. In a 2011 study by Astin, Astin, and Lindholm, interacting with faculty outside of class resulted in better quality work. Students in Strong's 2007 study reported feeling more accountable when they thought their professors and advisors knew them rather than when they felt like an anonymous student. Mariani (2007) was concerned about the effectiveness of a doctoral program in educational leadership. Seeking to understand what students viewed as most helpful in the program, Mariani (2007) conducted a study, and 95% of respondents strongly agreed or somewhat strongly agreed that mentoring was a key aspect of success in their doctoral studies.

In some cases a student's advisor may serve as a mentor, but another faculty member is often viewed as a mentor or someone to whom doctoral students can turn for advice and encouragement (Nettles & Millet, 2006). In a study (Protivnak & Foss, 2009) that explored themes of the doctoral student experience, one student commented, "My chair has been an unending source of support. There have been several intervals where I was fed up and just wanted to quit. She gently offered encouragement, support, and prodding that helped me continue" (Protivnak & Foss, 2009, p. 246).

Students entering the dissertation phase are faced with the challenge of completing research, which is a much more independent phase than the coursework portion of the degree. Students' feelings of inadequacy may increase. Lack of contact with classmates or faculty may make the dissertation phase more difficult than the coursework phase, and academic determination becomes even more important (Gardner, 2009). The dissertation phase has been described as a "black hole where obstacles and deadlines seem to multiply" (Nettles & Millet, 2006, p. 202). Doctoral faculty recognize the difference between coursework and independent research, but predicting which students will make the transition, complete the dissertation, and implement what they have learned can be difficult (Lovitts, 2008).

Lovitts (2008) sought to understand what factors promoted academic determination and high quality results. She discussed students' intelligence, knowledge, thinking styles, personality traits, and motivation with doctoral faculty focus groups. Lovitts' focus groups were department-based and included a total of 55 faculty members from two universities that were ranked as highly effective educational research universities. One university was public, and one was private. The researcher described the striking difference between faculty's depictions of students who easily made the transition to independent research and those students who did not. Patterns emerged and were organized into six major constructs. Intelligence, knowledge, thinking, personality, motivation, and environment all influenced doctoral students' academic determination (Lovitts, 2008). Doctoral faculty recognized that students have multiple types of intelligence. Students who were not able to do well in independent research were described as having analytical intelligence but "lacking in practical intelligence" (Lovitts, 2008, p. 303). While discussing doctoral level research, a doctoral biology professor said, "You don't need to be the brightest person on the planet, but you need to be smart enough to put things together" (Lovitts, 2008, p. 302). Students who made the transition into independent research were

described as having a high level of practical intelligence and being able to recognize their own mistakes.

Lovitts' (2008) focus groups also discussed how student thinking relates to academic determination. Students have different ways of thinking, and thinking styles may help explain why equally intelligent students have different results in a doctoral program. When a student's thinking style matches what is needed to accomplish a specific task, that student thrives, but when there is disparity between a thinking style and an assignment, the student suffers (Lovitts, 2008).

The faculty in Lovitts' (2008) focus groups commented on intrinsic motivation. They felt that completing a doctoral program was a "matter of drive," "a hunger," "a fire" (p. 314). Students who were not intrinsically motivated had a harder time working independently and produced dissertations of lesser quality than students who possessed intrinsic motivation (Lovitts, 2008). Faculty-student interaction has been correlated to increased motivation and self-confidence (Strong, 2007). In order to encourage academic determination, Schreiner (2012) emphasized making students aware of how their "effort and strategies are contributing to their experience of success or failure," because such information is vital to success (p. 11). Students who have a growth mindset believe they can contribute to their own success by working hard and putting forth effort (Dweck, 2006). Students' strengths can energize them whereas focusing on weaknesses exhausts students (Kobau, Seligman, Peterson, Diener, Zack, Chapman, & Thompson, 2011).

In contrast, Dr. Steven Sokolow (2008), who served as the executive director of the Center for Empowered Leadership, and Dr. Paul Houston, who served as the executive director of the American Association of School Administrators, encouraged young leaders to "never polish the same side twice" (Sokolow & Houston, 2008, p. 20). Sokolow and Houston (2008)

insisted that individuals who “go polish something else” (p. 20) become shiny all over. In their book on spiritual leadership, they discussed the struggle to move on from what one is comfortable with and work toward developing new capacities and discovering new talents (Sokolow & Houston, 2008).

Student effort impacts performance in coursework and also the dissertation phase (Lichtinger & Kaplan, 2011). In Nettles and Millet’s (2006) study, time to degree completion was a factor that affected academic determination, and their research painted a discouraging picture for those students who drag out the dissertation process stating that “somewhere in the loneliness of the dissertation process, students are going astray” (p. 203). Reducing attrition at the dissertation phase is a critical undertaking for universities. Advising and mentoring doctoral students during pivotal points during the dissertation phase are crucial (Schreiner, Miller, Pullins, & Seppelt, 2012).

Nakamura and Csikszentmihalyi (2003) suggested that individuals who do not find enjoyment in an activity may find it difficult to sustain prolonged involvement in an important endeavor. If the individual persists in such an activity, the subjective well-being of the individual may suffer. Their research also suggested that even if a task is enjoyable, it may be difficult to maintain commitment to the task if it is not viewed as important (Nakamura & Csikszentmihalyi, 2003). According to Lovitts (2008), “intellectual curiosity is the essence of being a successful graduate student” (p. 310). Thriving students possess academic determination and are able to self-regulate when meeting course demands (Schriener, 2012). They set clear goals and create strategies for accomplishing their goals (Schreiner, McIntosh, et al., 2009).

Positive Perspective

Seligman (2003) discussed the narrowing of psychology. In the first part of the twentieth century, psychologists wanted to cure mental illness, make lives more productive and fulfilling,

and identify and nurture extraordinary talents (Seligman, 2003). Then the term *mental health* came to be used to describe the treatment and support for people with mental illnesses (Kobau, Seligman, Peterson, Diener, Zack, Chapman, & Thompson, 2011). The passing of the Veterans Administration Act and the founding of the National Institute of Mental Health brought great work in the areas of mental health, interventions, and treatments. Psychology had been focusing on infirmities and frailties, but Seligman (2003) stressed the need for psychology to focus on strengths and build upon “hope, optimism, courage, interpersonal skill, perseverance, honesty, and work ethic” (p. xvi).

Seligman (2003) suggested that psychology had focused on problems and had not explored human flourishing. He suggested more attention be given to the fulfilled life, and Seligman was responsible for naming this new field of study *positive psychology* (Seligman, 2003). Seeking to identify the good things in life and how humans attain them, Seligman (2003) asserted that positive psychology has three pillars: positive emotions, positive character traits, and positive institutions.

Elements of Positive Psychology

The first pillar of positive psychology is the pillar of positive emotions, such as satisfaction and optimism. Positive feelings and functioning have long been associated with mental health (Keyes, 2003; Ambler, 2006). Mental health and mental illness are not on opposite ends of a continuum. Instead, there is “complete and incomplete mental health” (Ambler, 2006, p. 6). Researchers in the field of psychology use the term *subjective well-being* to operationalize components of mental health. Positive mental health and well-being can be measured (Kobau, Seligman, Peterson, Diener, Zack, Chapman, & Thompson, 2011; Friedli, 2012). Seligman asserted that well-being is not just a self-reported collection of thoughts and feelings. Rather, well-being is made up of the elements of emotions, meaning in life,

accomplishments, and relationships. Seligman (2013) asserted that the goal of well-being is to increase flourishing and dubbed this theory as the “well-being theory” (p. 13), stating that positive emotions and engagement contribute to well-being. Keyes and Haidt (2003) said, “Not only are flourishing individuals free of mental illness, they are filled with emotional vitality and are functioning positively in the private and social realms of their lives” (p. 6).

Researchers in a study of emotional states focused on the analysis of “satisfaction, well-being, happiness . . . hope, and optimism” (Ambler, 2006, p. 12). Optimistic students view their futures with confidence. Researchers in biomedical research on optimism have suggested that “positive emotions are not merely the opposite of negative emotions,” (Kobau, Seligman, Peterson, Diener, Zack, Chapman, & Thompson, 2011, p. e1), but they are constructive ideas that bolster psychological resilience and stimulate mental health. Optimism has been “linked to higher levels of engagement coping and lower levels of avoidance coping” (Carver, Scheier, & Segerstrom, 2010, p. 879), meaning that optimists engage in problem-focused managing of stressful situations and that they use strategies to cope with difficult situations (Scheier, Carver, & Bridges, 1994). Positive emotions prompt students to engage with their environments, and these positive thoughts can increase people’s attention and assist in cognitive functioning (Kobau et al., 2011). An optimistic outlook “actually broadens students’ cognitive attention” (Schreiner, 2010c, p. 6) resulting in more flexible and creative students who are better at problem solving. When some students are ready to disengage from a doctoral program, an optimist focuses on how the problem could be solved. Optimists also use humor and positive reframing of the situation (Scheier, Carver, & Bridges, 1994). An optimistic student trusts that the good will be greater than the bad. For doctoral students this could mean that the benefits of education will eventually outweigh the costs (Peterson & Chang, 2003).

An optimistic worldview supports positive traits or emotions, buffers against difficult

circumstances, and builds resilience. Carver et al. (2010) suggested that positive outlooks were associated with persistence in educational endeavors. If students doubt they can complete their doctoral programs, they may withdraw effort. Confident students persevere in the face of great adversity (Carver et al., 2010). Students with an optimistic outlook viewed negative events as learning experiences, while students with less optimistic outlooks tried to escape from any type of stress (Carver et al., 2010; Schreiner et al., 2013). Optimists were less reactive to stress and could more quickly regulate their negative emotions and reduce their bodies' stressful reactions (such as blood pressure) in demanding situations (Carver et al., 2010; Kobau, Seligman et al., 2011). According to Seligman (2003), positive emotions, such as confidence and hope, "serve us best not when life is easy but when life is difficult" (p. xii).

Optimism is not just a part of one's personality, even though some people are more optimistic than others. According to a study by Carver et al. (2010), which controlled for prior distress, the distinction between optimistic and pessimistic perspectives was more than just being cheerful. Optimists possessed different coping strategies than pessimists, and optimists focused less on the trouble brought by negative situations than the pessimists did (Carver et al., 2010). Psychologists have suggested that optimism can be learned, but a decrease in negative thinking does not necessarily lead to more positive thoughts. Researchers studying college students (Seligman, Schulman, & Tryon, 2007), as well as researchers studying women diagnosed with breast cancer (Antoni et al., 2001), have suggested that individuals can actively engage in rehearsing positive strategies in order to train themselves to think and act like optimists (Carver et al., 2010). Martin Seligman (2013) agreed that well-being can be successfully taught and stated that it would be an "antidote to the runaway incidence of depression, a way to increase life satisfaction, and an aid to better learning and more creative thinking" (p. 80). Student affairs departments need to consider providing instruction in developing a positive perspective on life in

order to promote thriving among their students (Schreiner, 2010a).

Students who expect good things to happen, take actions to ensure that good things do materialize. Students with a positive perspective are confident that their efforts will make a difference in the circumstances (Carver et al., 2010). Individuals with a positive perspective “fail to recognize what they cannot accomplish” (Carver et al., 2010, p. 885). In other words, optimists do not know when to quit and disengage from unattainable goals (Carver et al., 2010). Instead of thriving, such students may overcommit themselves and become exhausted during a doctoral program.

In one study, gratitude helped people cope with stress and trauma. Participants in a study (Kobau et al., 2011) were asked to write down five things they were thankful for each week for ten weeks. After the study, participants reported greater satisfaction in life, higher levels of optimism, and fewer health problems. Being thankful helped people to maximize satisfaction in life and find purpose in situations (Kobau et al., 2011). In *Spirituality in Educational Leadership*, Dr. Paul Houston (2008) said that the principle of gratitude is something leaders can adopt for their way of life. Individuals can accept and embrace whatever life brings them – “good, bad, or ugly” (Houston, 2008, p. 23). Houston (2008) said gratitude is more than just a feeling; “it is a form of energy” (p. 23) that has the power to attract and empower. Individuals with an attitude of gratitude can say, “I am grateful for this difficult period that I am experiencing because it will help me learn or grow or be stronger” (Houston, 2008, p. 23).

Ambler (2006) studied students’ mental health and their engagement in learning. She distinguished between students who were flourishing and students who were languishing. Although Keyes (2003) defined languishing as emptiness and stagnation, Ambler (2006) softened the definition and defined languishing as being “moderately mentally healthy” (p. xi).

Her independent variables for measuring engagement in learning were the level of academic challenge, student/faculty interactions, collaborative learning, enriching educational experiences, and a supportive campus environment. Scores for all of these variables differed significantly ($p < .001$) with students who scored the highest in each category being classified as flourishing. A supportive campus environment was the most significant predictor of mental health for males and females in the study (Ambler, 2006).

The study of positive character traits makes up the second pillar of positive psychology. Positive traits include virtues, such as integrity and loyalty, and abilities, such as intelligence. Individuals' emotions range from excitement and eagerness to anger, fear, and depression when facing difficult tasks (Carver et al., 2010). Peterson and Seligman (2004) identified 24 strengths that transcend cultural and historical lines, and Ambler (2006) recognized that positive characteristics included creativity, wisdom, integrity, love, and humility, which all challenge students to personal growth even in the face of adversity. Positive psychology does not focus on how individuals can reduce the number of problems they face. Rather it focuses on how individuals can thrive in difficult times (Kobau et al., 2011).

The third pillar of positive psychology is the study of positive institutions, such as democracy, neighborhoods, and strong families. In times of trouble, institutions, such as the family, are valued and appreciated, and those institutions support and encourage positive virtues (Seligman, 2003). Students who lack appropriate support cannot adapt to difficult circumstances as well as those who have the benefit of a strong and supportive family or social network (Peterson & Chang, 2003).

The three pillars or domains of positive psychology (positive emotions, positive personal traits, and positive institutions) affect a student's well-being and his or her ability to enjoy a positive life (Emmons, 2003). Maddux (2002) described positive psychology as rejecting the

notion that what is “worst and weakest about us is more important than understanding what is best and bravest” (p. 22). As positive psychology promotes mental health, it may offer ideas to help institutions bolster resilience (Kobau et al., 2011).

A positive perspective can promote thriving in a doctoral program. Building positive perspectives requires faculty to focus on strength development. Developing strengths energizes students to invest the necessary effort in their coursework and promotes engagement in learning opportunities (Schreiner, Louis, & Nelson, 2012). Positive mental health and well-being can be measured (Kobau et al., 2011; Friedli, 2012), and strength development programs that enable students to use their strengths have been correlated with increased levels of well-being (Wood, Linley, Maltby, Kashdan, & Hurling, 2011).

Lopez and Louis (2009) discussed developing conditions for learning that leverage students’ strengths. This philosophy is referred to as the strengths perspective. The strengths perspective is grounded in positive psychology and seeks to leverage student strengths so that the student can reach a level of optimal success and well-being (Lopez & Louis, 2009). Such an approach promotes thriving among doctoral students. “Strengths development approaches explore empowering individuals to flourish rather than to simply survive” (Schreiner, Louis, & Nelson, 2012, p. 20). A strengths perspective seeks to conceptualize, assess, and foster strengths that will help students thrive.

Institutions can encourage a positive perspective, or learned optimism, and help students expect positive outcomes even when faced with hardships (Schreiner, Pothoven et al., 2009). Learned optimism is not a naïve view of the world. It is about teaching skills that advance mental health and avoid negative thinking (Kobau et al., 2011). Instead of the term *learned optimism*, Seligman (2003) referred to a positive outlook as an *optimistic explanatory style*. Students with an optimistic explanatory style attributed failures to controllable causes and

realized that failures are unique events instead of largescale disasters (Seligman, 2003).

Seligman asserted that students can view an event in light of the big picture and can then handle challenges more easily.

Flourishing was defined by Keyes (2003) as “a state in which an individual feels positive emotion toward life and is functioning well psychologically and socially” (p. 294). A student who is flourishing possesses emotional well-being and is functioning successfully in life. Helping students flourish is more than fixing what is wrong with them. Flourishing is identifying and supporting human talents. According to Seligman (2003), “Psychology is not just the study of disease, weakness, and damage. It is also the study of happiness, strength, and virtue” (p. xiv). “A flourishing individual rises to meet the challenges of life and actively interacts with the world” (McIntosh, 2012, p. 7). There is much to be learned by studying human resilience and the circumstances which inspire normal people to flourish (Ambler, 2006).

Carol Dweck (2006) described students who possess a growth mindset as those who believe they can create positive change. Students who perceive that they have academic control believe their effort will influence their success. Students can be encouraged to approach learning with a growth mindset. A growth mindset is a belief that effort is a natural part of learning, whereas students with a fixed mindset do not see the benefits of effort. They believe their qualities and their ability to learn are “carved in stone” (Dweck, 2006, p. 6). A fixed mindset can lead to feelings of failure and paralysis when individuals are faced with great challenges. Doctoral students with a growth mindset have a positive outlook and believe they can influence their futures. A positive perspective is more than just happiness with life. It is “positive functioning – both psychological and social” (Ambler, 2006, p. 19). Nurturing individual’s positive perspectives and social resources can initiate thriving in a learning community (Kobau et al., 2011).

The positive perspective is a combination of optimism (Carver et al., 2010) and subjective well-being (Diener, 2000) and suggests a personal outlook characterized by a prevalent positive outlook even when faced with difficult circumstances (Kobau et al., 2011; Schreiner, Pothoven et al., 2009). Doctoral students who take a long term view of events or who can see situations from multiple perspectives are less likely to overreact. They can find benefits in each learning opportunity and can keep life events in perspective (Schreiner, 2012). Leaders often seek solutions to difficult situations instead of stepping back and looking at the big picture and reflecting to see if there is something within them that needs an adjustment or modification (Houston, 2008). Doctoral students can learn to examine recurring problems in their lives to see if there is a pattern that would lead them to change. Schlossberg (2011) said that perceiving a stressful time as an opportunity for growth instead of a threat is a step in the direction of a positive perspective.

Well-being

Persisting in pursuing goals and maintaining a sense of well-being is an important part of thriving. Well-being includes one's affective states of happiness and satisfaction, one's psychological sense of purpose, and one's social functioning or sense of belonging (Ambler, 2006; Keyes, 2003; Schreiner, 2012). According to psychologists, mental health is not just the absence of mental illness. "There is a world of difference between people who are not suicidal . . . and those who bound out of bed in the morning" (Peterson & Seligman, 2003, p. 26). Emmons (2003) sought to document how the pursuit of ambitions contributed to a positive life and referred to reaching goals as a measuring rod for "the experience of well-being" (p. 106). The way in which doctoral students grew and developed as professionals depended on their educational goals, and their ability to self-regulate their actions affected their ability to pursue goals (Gardner, 2009; Peterson & Chang, 2003). Students' psychological well-being influenced

their ability and willingness to engage in tasks necessary to thrive, and developing strengths and well-being was an effective method of cultivating determination in the face of difficult tasks (Ambler, 2006; Kinzie, 2012).

Emmons (2003) suggested three types of goals that affected well-being. Intimacy goals expressed a desire for close relationships. Generativity goals involved a concern for future generations. Spiritual goals were goals that were oriented to deepening a relationship with God or a higher power and involved a purpose to live. Intimacy, generativity, and spirituality were all intrinsically rewarding goals that made life purposeful and full of meaning in contrast to goals that focused on position or power (Emmons, 2003).

A study involving over 100,000 undergraduates indicated that students' level of psychological well-being declined during the college years, and students reported feeling "filled with stress and anxiety" (Astin et al., 2011b, p. 121). Feelings of being overwhelmed increased 32 to 46 percent during college, and the number of students who rated themselves below average on emotional health increased from 10 to 14 percent while attending undergraduate classes (Astin et al., 2011b). Balancing school work, family life, and social obligations was difficult for students at all levels of higher education. According to Nettles and Millet (2006), doctoral students were trading

parts of their present lives against an uncertain future. . . As the years pile up, we might expect to see students experiencing difficulties in other academic or even personal pursuits. As the very least, we might expect to see growing disdain for the process and perhaps failure to complete the degree. (p. 37)

Anticipating Challenges

Not all people respond to the stress of earning a doctorate in the same manner. Schreiner (2012) suggested the key was in the individual's perception of a situation. Some events are

anticipated while others are unexpected. The impact of stressful events depended on the ratio of the student's assets and liabilities at the time (Merriam & Bierema, 2013; Schreiner, 2012). Ryff and Singer (2003) examined human resilience in the face of difficulty and questioned how people became strong. They observed that sometimes strength came from being "forged in trial and tribulation" (p. 16). They suggested that "particular heights of the human experience, what some call thriving, are known only by those who have run the gauntlet" (Ryff & Singer, 2003, p. 16). Such a statement suggests that though circumstances may be hard, some individuals are able to thrive. "Resilient people experience positive emotions more frequently and recover more quickly from specific life stressors" (Kobau et al., 2011, p. e2). It is critical that students understand life's challenges and have strategies to deal with them. Understanding flourishing in adults requires researchers to acknowledge that difficulties bring suffering, but these sufferings can sharpen strengths. Through the difficulties of a doctoral program, individuals can experience increased self-knowledge, awareness of vulnerabilities, increased compassion, and deeper spirituality (Ryff & Singer, 2003).

Doctoral students face anticipated transitions, such as finishing coursework and passing comprehensive exams, but there are also a myriad of unanticipated transitions that are often disruptive events in a doctoral journey, such as illness, surgery, or loss of a job. Schlossberg (2011) also discussed events that fail to occur, such as not receiving an expected promotion or not being able to afford to retire. Transitions alter roles, relationships, and routines. In successful transitions, students perceived opportunities as a way to grow, and the students used coping skills to help them through the situations. Students with a strong repertoire of coping skills viewed an experience as less traumatic than a student who did not possess as many coping skills. Some students avoided situations as a method of coping (Schreiner, 2012). Other students sought out information or assistance in dealing with a situation. While students

benefited from support as they worked through transitions, students' inner strength and attitude made a difference in coping with situations and made "a difference in the quality of survival" (Schlossberg, 2011, p. 180).

Optimism is critical during transition or during challenging circumstances. Positive emotions and creative problem skills help students thrive (Schreiner, Louis, & Nelson, 2012). Individuals' coping strategies, personalities, optimism, and spirituality affect their resiliency (Ryff & Singer, 2003). Kobau et al. (2011) defined resiliency as the positive adaptation in the midst of adversity or risk. In an experiment that controlled for previous well-being, individuals with higher levels of optimism had better subjective well-being in times of adversity (Carver et al., 2010). Students in a 2012 study by Jenney reported that spiritual beliefs provided "strength, support, and guidance" and students found "religion to be personally helpful" (p. 108) in managing difficulties. Studies on stress resistance have been mostly descriptive and post-hoc. More longitudinal studies focusing on resiliency are needed to strengthen the understanding of well-being. For students who do need to seek help, Schreiner (2012) called for the help-seeking process to be "normalized" (p. 13) so students feel comfortable using resources to support them through difficult periods. Often seeking help is perceived as a sign of weakness, but faculty can share that effort is a necessary ingredient in success and can convey the importance of seeking help when needed.

Social Connectedness

Earning a doctoral degree is an individual endeavor, but research suggested that "social connections - student to faculty, student to peers - has an impact on the experience" (Nettles & Millet, 2006, p. 35). Social connectedness is a student's sense of belonging to a community of learners (Ambler, 2006; Schreiner, 2006). A student's social connectedness reveals the presence of healthy relationships in his or her life and the ability to form trusting relationships with others.

Martin Seligman (2013) said, “Very little that is positive is solitary” (p. 20). Laughing, feeling joyful, and being proud of an accomplishment all involve other people. Connections in a cohort reflect friendships that serve as a support during doctoral studies, and cohort connections are a vital part of positive psychological functioning (Kobau et al., 2011). Strayhorn (2012) studied 360 master’s and doctoral students and concluded that students who felt like they belonged to the community of learners were more likely to be actively engaged in learning and experience academic success.

Social Connectedness between Students

A psychological sense of community includes emotional connections, a perception of ownership, the benefits of collaborative learning, and reciprocal relationships (Schreiner, 2013). Petridis (2015) asserted that a psychological sense of community included interdependence with others and being a part of a larger, dependent structure. Intrinsic motivation can be influenced by social connectedness, and the quality of student performance can be enhanced by changing variables in the student’s environment (Lovitts, 2008). Students who felt secure because of strong relationships with classmates and faculty were more likely to be able to hear criticism nondefensively and to make changes based on the suggestions of others (Seligman, 2013).

Social Connectedness between Students

Students, regardless of their characteristics upon entering a degree program, experienced increased learning when institutions designed programs that encouraged students to do more than just survive. Schreiner et al. (2013) suggested that universities can “intentionally bolster thriving” by “fostering a sense of community” (p. 27). Humans are emotional beings who seek out positive relationships which contribute to the well-being of individuals (Seligman, 2013). In a study by Schreiner (2010c), students who were connected to others reported greater learning gains than peers with similar backgrounds. Companies often appoint a “socializing agent”

(Schlossberg, 2011, p. 161) to help new employees learn the formal job responsibilities as well as the informal work climate. Just as workers need support, doctoral students benefit from support (Schreiner, 2010a; Petridis, 2015). Building a sense of community in a doctoral program can move students toward thriving instead of just surviving.

Relationships with others is an important element of the doctoral student experience. McIntosh (2012) asserted that when students felt socially connected with other learners, they were “more likely to thrive” (p. 154). “There is no denying the profound influences that positive relationships or their absence have on well-being” (Seligman, 2013, p. 21). In Ambler’s (2006) study of 534 undergraduate students, students who flourished reported more interaction with fellow students. In Lovitts’ (2008) study of doctoral students, students who were involved in the university and interacted with other doctoral students produced better quality work. One professor in Lovitts’ (2008) study noted the following:

Having a cohort and having a good cohort – I mean really strong relations . . . makes a world of difference. I have seen good students do great work, [and] I have seen mediocre students do good work as a result of having that kind of support and interchange. (p. 316)

Interaction with other doctoral students is a key factor in social connectedness (Gardner, 2006). Carver et al. (2010) suggested that creating social connections was related to increases in optimism (Carver et al., 2010). In a nationwide, qualitative study of doctoral students by Protivnak and Foss (2009), supportive classmates emerged as a theme. Study participants commented on the importance of classmates who offered encouragement and guidance. One doctoral student from a program for counselors articulated that the process would have been more enjoyable and productive “within the context of a team environment” (Protivnak & Foss, 2009, p. 246). Peer interaction can take many shapes including participating in informal study sessions to socializing informally with other graduate students, and the networking can have a

positive impact on a student's performance in graduate school (Nettles & Millet, 2006).

Tinto's (1993) theory of doctoral student persistence emphasized social connectedness, and interaction with other doctoral students was a key factor in social connectedness in a qualitative study by Gardner (2006). Gardner (2006) interviewed 20 doctoral students to learn more about the socialization processes in their doctoral programs. Ambiguity emerged as a theme as students described their program guidelines. Students shared feelings of frustration and confusion with the overall doctoral experience. One doctoral student declared, "You're just supposed to figure it out on your own. They expect you to figure out through the grapevine" (Gardner, 2006, p. 723). Through the socialization process, students learned the knowledge and skills needed to navigate the doctoral experience. Doctoral students became aware of attitudinal and cognitive expectations early in their program through observing incumbent students. Socialization tied the students together, defined their roles, and clarified program expectations (Gardner, 2006). Socialization is of the "utmost importance to the doctoral student as he or she learns what is expected and what is needed to succeed" (Gardner, 2006, p. 728) in the doctoral program and in future professions.

The doctoral degree is highly desirable, and universities often have selective admission requirements. The selectivity of a doctoral program allows the program to establish demands on students' time and energy. Students earning doctorates in science often conduct research in teams, and students are given more opportunities for social integration with members of the science community. Research in the social sciences and humanities is most often conducted individually, and attrition rates are higher than those in science programs. Students who are having problems in the social sciences often exit silently blaming themselves (Lovitts, 2001).

Gardner (2009) asserted that developing deep relationships with peers and faculty is imperative in the coursework phase of the doctoral journey. Peer interactions and interaction

between faculty and students offer different types of socialization, but both types of interactions can improve social connectedness (Nettles & Millett, 2006; Strayhorn, 2012). A caring faculty improves the learning experience of the student and may increase the likelihood of persistence (Schreiner, Pothoven et al., 2009). In their study of over 9,000 doctoral students, Nettles and Millet (2006) summarized that doctoral students experienced the socialization process in the much the same way regardless of ethnicity or gender. However, in a study by McIntosh (2012), positive interactions between faculty members and students contributed to a higher feeling of social connectedness for Latino, African American, and Asian students than it did for other ethnicities.

Social Connectedness between Faculty and Students

Ivankova and Stick (2007) identified support as a factor in doctoral student persistence and student success. Early faculty interventions assisted students who were not high risk but were not thriving. Knowing the students allowed instructors and advisors to ascertain when students needed help. The faculty/student relationship also helped faculty members recognize particular learning styles and emphasize students' strengths. Having talents and strengths recognized helped the students feel valued and encouraged them to contribute to the community of learning (Kuh et al., 2005; Schreiner, Louis, & Nelson, 2012). When faculty members shared their own strengths and explained how their strengths had helped them in the professional world, the connection between faculty and students was strengthened, and student engagement and intrinsic motivation increased (Schreiner, Louis, & Nelson, 2012). Some students who have had the advantage of out-of-class interactions with faculty members perceived that faculty members had greater expectations from them because of the personal interaction. Students also reported superior learning due to the informal communication with faculty (Strong, 2007).

In Lovitts' qualitative study of 55 doctoral professors from two universities, the advisor

emerged as the most important environmental factor in the success of the doctoral student (Lovitts, 2008). One professor commented on the “big picture” in doctoral programs by saying he told students they are not going to understand anything, but “hang around. Work on stuff” (Lovitts, 2008, p. 306). He told students that they would be frustrated, but the learning would “crystalize” (Lovitts, 2008, p. 306) at some future point. The faculty in Lovitts’ focus groups noted that empirical research was frustrating. One doctoral professor said, “Most of the time you fail” (Lovitts, p. 310). Students must possess the ability to figure out what to do when they fail. One professor noted that thriving when facing failure was “a completely different talent than what is taught in schools” (Lovitts, 2008, p. 311). A biology professor said that doctoral students need to have a “graceful and productive exit from one of those situations” to “keep things from getting so bad” (Lovitts, 2008, p. 317).

Lovitts (2001) asserted that a lack of socialization and a negative departmental environment were the primary causes of attrition in doctoral education. Various departments and disciplines have different organizational cultures and have different beliefs about interactions between faculty and students. Department cultures shape the interactions between students and between students and faculty. The culture is frequently revealed to the students during some type of orientation. Some doctoral programs say, “We are a family; please join us” (Lovitts, 2001, p. 260). Other programs are not as welcoming.

There is evidence that faculty behavior affects students’ academic and personal development (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). Advisor characteristics, such as being accessible, encouraging academic and professional growth, being kind, and offering guidance, led to graduate students being satisfied with their advisors (Lovitts, 2001). Good advisors helped students “navigate the complexity” of their doctoral work and transformed their coursework into projects that were useful in the professional field (Lovitts, 2008, p. 317).

Advisors can influence their students' ability to thrive. In Lovitts' (2001) study, advisors who were high producers and who helped multiple students complete their dissertations, provided more information about the doctoral program to students than low producing advisors did. Low producing advisors supplied information when they received a formal request, but high producing advisors tailored their advising to the individual student and provided more information formally and informally. High producing advisors also modeled behaviors and demonstrated intellectual thinking for their advisees (Lovitts, 2001). In Lovitts' (2008) focus group with doctoral professors, one engineering professor commented on the importance of advisors helping doctoral students see the "big picture and overcome frustration" (p. 312). This professor tried to help his advisees through all the frustrating stages and guide them over the threshold of difficulty until they gained confidence and became "fairly good researchers" (p. 312). A physics professor said, "We spend most of the time stuck. This is true in the lab and it's true doing theory" (Lovitts, 2008, p. 312). O'Meara, Knudsen, and Jones (2013) said advisors nurtured positive relationships with students by being socially aware, showing concern for others, demonstrating a service mentality, and collaborating well with students. Doctoral students expressed satisfaction in their doctoral programs when the programs were "characterized by collaboration between students and faculty members" (Protivnak & Foss, 2009, p. 252).

Doctoral students are trying to cope with multiple demands of families, jobs, and studies. During the challenges of doctoral studies, advisors can help students by offering effective strategies for handling the load and helping students brainstorm multiple routes to their goals. Schreiner (2012) suggested that the most essential help an advisor can give students is to help advisees prepare for difficult phases by building hope. Students need to conceptualize their goals, develop strategies for reaching those goals, and break the strategies down into steps. They

also need to be taught to see “obstacles as challenges that can be overcome” (Schreiner, 2012, p. 14). Doctoral students can cope with multiple demands if students, faculty, and advisors work to build a strong foundation for ensuring that students have healthy plans for handling doctoral studies. Advisors play an important role in the development of doctoral students and the quality of the student/advisor relationship is of great consequence (Nettles & Millet, 2006).

Ryff and Singer (2003) researched social connectedness’s effect on resilience as a psychosocial and biological process in order to understand individuals’ capacity to thrive in the face of adversity. They sought to see if social strengths were correlated with negative effects on physiological systems. In their study of adult participants, individuals with positive relational experiences had a significantly lower percentage of deterioration of their physiological systems. The researchers recommended promoting resiliency tools (positive outlooks, coping strategies, emotional control, and social assimilation) to increase students’ capacity to thrive (Ryff & Singer, 2003).

Researchers have explored the relationships among “department climate, student-faculty interaction, family-friend support, and a psychological sense of community” and studied how these relationships “contribute to a variation in graduate student thriving” (Petridis, 2015, p. vii). In the initial pilot of the *Graduate Thriving Quotient* (Petridis, 2015), psychological sense of community was the largest contributor to thriving, and in a later sample of 2,918 master’s and doctoral students from 11 institutions, psychological sense of community was again the largest predictor of thriving (Petridis, 2015). Nettles and Millet (2006) reported that socialization was vital at the doctoral level because it contributed to “students’ performance, satisfaction, and success” (p. 89). Interactions with peers, faculty, advisors, and staff affected students’ self-efficacy, coping skills, and stress levels thus influencing the students’ levels of success (Schreiner et al., 2013). Successful social integration was positively correlated with academic

success and better emotional health (Lovitts, 2001).

The importance of social connectedness's influence has been supported in numerous studies (Nettles & Millet, 2006; Petridis, 2015; Ryff & Singer, 2003). Without the support of family, friends, and colleagues, the challenges of earning a doctorate can be overpowering (Gardner, 2009). A decade before beginning her landmark study on persistence in obtaining a doctoral degree, Catherine Millett appeared at the door of Michael Nettles, a faculty member, and asked, "How do doctoral students find the financial resources to support their academic interests and see themselves through timely completion of their Ph.D. degrees?" (Nettles & Millet, 2006, p. xv). The question grew into a proposal for research, a study of over 9,000 doctoral students, and a book, *Three Magic Letters: Getting to Ph.D* (2006). The original focus of the study was financial support, but the study broadened into studying the experiences of doctoral students.

Nettles and Millet (2006) conducted a quantitative study of doctoral students from a total of 21 public and private institutions that offered doctoral degrees. The sample included students from 11 disciplines and was diverse with regard to ethnicity and full and part-time students. The researchers worked to discover factors involved in students' levels of success. The purpose of Nettles and Millet's (2006) study was to help students and faculty see the prospects and pitfalls of a doctoral program, be mindful of the factors correlated with success, and focus on improving deficient areas. A portion of Nettles and Millet's study (2006) focused on socialization and the importance of mentoring in a doctoral program. Both socialization and having a mentor were positively related to research productivity and degree completion (Nettles & Millet, 2006).

Doctoral students not only change "professionally but also personally and interpersonally" (Gardner, 2009, p. 9). Interpersonal thriving is reflected in a student's social connectedness and interactions with others (Schreiner, 2012). Valuing other's differences and

having a desire to contribute to one's community are markers of social connectedness. Doctoral students who are thriving "give time to help others and to respond to others with openness and curiosity, believing that the other has something important to contribute to the relationship" (Schreiner, 2012, p. 8).

Diverse Citizenship

Diverse citizenship is an interest in relating to individuals who are from diverse backgrounds and a willingness to make a difference in other people's lives (Schreiner, 2010c). According to studies conducted by Schreiner (2010a), an openness to diversity in education created greater critical thinking skills and reasoning. Students who became more aware of various perspectives were more likely to engage in volunteering for the good of their community and more likely to work to correct social injustices in order to improve the communities (Schreiner, 2010a). Thriving students felt a responsibility to "contribute to the community around them" and to make a "positive difference" (Schreiner, 2010a, p. 8). The domain of diverse citizenship also incorporates what the higher Education Research Institute refers to as caring about others (Schreiner, 2010c; Schreiner et al., 2009). Students who are thriving in the diverse citizenship domain were inclined to speak for people who could not speak for themselves. These students also served their communities in various ways to make a difference in other people's lives and to contribute to society (Petridis, 2015). Such individuals possessed a belief that change is possible (Schreiner, 2010c). Higher scores in the area of diverse citizenship were predictive of determination in gaining a degree and improvements in critical thinking skills (Schreiner et al., 2009).

Spirituality

Spirituality has been defined as relying on a higher power when life is difficult, the

importance of “personal beliefs as an anchor in life,” (McIntosh, 2012, p. 129) and strength stemmed from religious faith. Researchers have defined spirituality as a “way of knowing” and a “source of connection that brings faith, hope, peace, and empowerment” (Astin et al. 2011b, p. 4). Spirituality deals with students’ inner lives and is not always observable and measureable. Yet, spirituality does have definable characteristics that can be examined through quantitative analysis (Rockenback & Mayhew, 2013). Christian spirituality is different from the more general and common idea of spirituality. Christian universities see spirituality as “a process of change or renewal” that “permeates all aspects of the individual – heart, mind, will, and spirit” (Banez, 2016, p. 5). At Christian universities, spiritual formation involves one’s relationships with God and others, and students are open to exploring a relationship with a higher power that “transcends human knowing” (Lindholm & Astin, 2008, p. 185).

Fowler (2004) valued spirituality in adult learning. In his *Faith Development Theory*, Fowler (2004) discussed a capacity for responding to authority, the deepening of concern for others, constructing meaningful experiences in this world, and responding to sacraments. Fowler explored ways of teaching students of all ages and emphasized matching teaching methods to students’ probable stage of faith. In Astin’s (2004) study of spiritual development, 58% of the participants placed a high value on integrating spirituality into their lives. Seventy-four percent of the participants indicated that their faith gave them strength, and seventy-three percent indicated that their spiritual beliefs helped them personally, socially, and emotionally (Astin, 2004).

Individuals with difficult and draining jobs or individuals in the face of insurmountable difficulties often look inside themselves and find the spiritual part “that is more than just flesh and bones” (Houston, 2008, p. 8). Dr. Paul Houston, who has served as superintendent of schools in Princeton, New Jersey; Tucson, Arizona; and Riverside, California, is a leading

spokesman for American education and has published over 100 articles in professional journals. Dr. Houston (2008) said leaders must be “in touch with the divine” (p. 8). Having a spiritual connection allows leaders to “refill the well and progress” (Houston, 2008, p. 10) toward the future.

Doctoral studies can consume a student’s strength, and students must replenish their energy. “That is why having a spiritual sense of what we do is so important” (Cole, 2008, p. 2). Spirituality is “our sense of who we are and where we come from, our beliefs about why we are here” (Astin et al., 2011b, p. 4). Spirituality is more than religiosity. It is a way of “thinking, being, and doing” that is “life-sustaining and life-enhancing” (Cole, 2008, p. 3). Some researchers considered spirituality to be a quest to answer students’ questions about the meaning of life, and when asked about spirituality, students spoke of a power that helped them remain calm in a time of stress (Astin, Astin, & Lindholm, 2011a). The construct of spirituality is multidimensional including affective experiences that help students formulate an understanding of their purpose in life and its circumstances (Lindholm & Astin, 2008). Fowler suggested that educators may need to assess faith development “by its intelligence and commitment in practical engagement with the life issues that threaten to overwhelm so many among us” (Fowler, 2004, p. 419).

McIntosh (2012) used the *Thriving Quotient* to study spirituality among 7,956 undergrad students. His research suggested that spirituality was the most important factor in establishing a sense of community among learners. The spirituality construct emphasized reliance on a higher power, personal faith as an anchor in life, and personal strength derived from religious beliefs. Within ethnic groups in McIntosh’s sample, spirituality contributed between 35% and 49% of the variation in students’ psychological sense of community (McIntosh, 2012). Spirituality, or a belief in a power greater than the self, was an important part of social connectedness for students

of color, and spiritual beliefs provided a lens for students to view life's situations. McIntosh (2012) suggested that focusing on spirituality and finding meaning in life could help build a sense of social connectedness that would help students of color thrive in higher education.

Astin et al. (2011b) surveyed 112,232 students from 236 colleges and universities. Three years later, a follow up survey was administered to 14,527 students. Four out of five students had an interest in spirituality, and more than two thirds said that spirituality was a source of strength and joy. Three fourths of the students surveyed reported feeling connected to a higher power. In this landmark study on spirituality, Astin et al. (2011b) found that high spirituality scores were positively correlated with high self confidence in academic matters and higher grades. Considering the results of their survey, Astin et al. (2011b) were concerned that universities were not balancing the attention they gave to students' "inner and outer selves" (p. 2). Colleges and universities need to analyze students' growth in their "internal lives (values, spirituality, identity, purpose, and meaning)," as well as students' exterior lives (Trautvetter, 2007, p. 238). *Thriving* expands the traditional idea of student success from just academic growth to include psychological well-being and spirituality (Schreiner, 2013).

Historical foundations of education were concerned with the student's self-awareness, and students were told "know thyself" (Astin et al., 2011b, p. 2). Historically students have been asked to write papers on their philosophy of life, and the mission of education was to assist in the development of character. Teachers of theology, scriptures, and education "furnished good intellectual and practical grounding in Christian faith and community" (Fowler, 2004, p. 406). Early America's college curricula revolved around spiritual growth (Lindholm & Astin, 2008). Students still seek wholeness and direction in life, and spiritual disciplines play an essential role in developing the cognitive, affective, and spiritual domains in students. Asking students to participate in times of self-reflection and encouraging students to help those in need was

correlated to an increase in students' spiritual development (Lindholm & Astin, 2008), and recent studies (Roberts, 2009; Tran, 2010) suggested a link between spirituality and learning where spirituality had a positive correlation with activities related to student outcomes in higher education. Trautvetter (2007) alluded to colleges' responsibility to develop cognitive learning by expanding students' knowledge and thinking skills and to help students grow in the affective domain by "enhancing their moral, religious, and emotional interests" and "improving their competence in work, family, and community" (p. 238). Such a holistic view of education incorporates cognitive and psychosocial aspects.

Seligman (2013) suggested that flourishing students possess a sense of meaning and purpose in life. Courses can offer structured opportunities for students to explore meaning and purpose, and professors can recommend topics for student reflection (Trautvetter, 2007). Parker Palmer (1983) referred to this concept as providing space for transformative learning. Palmer encouraged professors to provide time for reflecting and insisted that knowing a subject is contingent upon having self-knowledge. According to Palmer (2007), intellect, emotion, and spirit work together for wholeness. "The ultimate goal of Christian spirituality is to bring glory to God as the individual (the student/learner) is being restored (renewed, transformed) back to the wholeness that God had intended from the beginning" (Banez, 2016, p. 5).

Studying spirituality scientifically has long been taboo in the United States, but new viewpoints "for understanding personal meaning, goal-striving, and subjective well-being" (Emmons, 2003, p. 112) are beginning to appear. Banez (2016) studied the influence of spirituality on undergraduate and graduate students in both religious and non-religious universities and observed that how an institution views spirituality impacted program development and the development of student services. Astin et al. (2011b) suggested that student performance was enhanced when professors emphasized students' personal and spiritual

development. “To ignore the role of spirituality in personal development and professional behavior is to overlook a potentially powerful avenue through which people can construct meaning and knowledge” (Lindholm & Astin, 2008, p. 186).

A spiritual component can be incorporated to foster transformative learning during doctoral studies, and institutions can give students room to grow by creating opportunities for students to interact and explore questions of purpose and meaning. Students reported spiritual growth and a greater sense of social connectedness when their professors encouraged conversations about the meaning and purpose of life (Astin et al., 2011b). Gardner (2009) suggested that students experienced spiritual growth during their doctoral studies as readings, discussions, and situations influenced their ways of thinking. When universities incorporated faith into the curriculum, students explored their purpose in life. The pursuit of a doctoral degree is more than academic and professional preparation; doctoral education “entails the development of the whole self” (Gardner, 2009, p. 7).

Universities that take a holistic view of student development help students develop their beliefs and “articulate their views of the world and their place in it” (Trautvetter, 2007, p. 241). Some students felt the need to suppress their spiritual life or separate their spiritual life from higher education (Trautvetter, 2007). A participant in a large, qualitative study of doctoral students by Protivnak and Foss (2009) expressed frustration over feeling as if she had to conform to the culture of the doctoral program, and commented that she did not have the freedom to think critically and reflectively. “I felt pressure to conform by pretending to be thinking critically when actually I’m just parroting the philosophical position of the professors to survive” (Protivnak & Foss, 2009, p. 245). However, there are more than 40 major colleges and universities that encourage transformative learning and seek to develop character in their students by including activities that have character cultivation or spiritual growth as a goal

(Jenney, 2012).

Spirituality is an important part of university life (Astin et al., 2011a; Jenney, 2012). Whereas religiosity is about adhering to doctrine, spirituality is “our beliefs about why we are here – the meaning and purpose that we see in our work and our life – our sense of connectedness to one another and to the world around us” (Astin et al., 2011b, p. 4). Some secular colleges and universities assume that spirituality or religion should not be a part of academic life. A student in Protivnak and Foss’s (2009) study of doctoral students’ experience said that she had not participated in discussions when professors spoke negatively about religion in order “to avoid conflict” (p. 246). Astin et al. (2011b) asserted

To ignore the spiritual side of students’ and faculty’s lives is to encourage a kind of fragmentation and a lack of authenticity, where students and faculty act either as if they are not spiritual beings, or as if their spiritual side is irrelevant to their vocation or work. With such an environment, academic endeavors can become separated from students’ most deeply felt values, and students may hesitate to discuss issues of meaning, purpose, authenticity, and wholeness with each other and especially with faculty. (p. 7)

Trautvetter (2007) suggested that since spirituality is part of the American culture, higher education should address this topic and should “contribute to the faith and the spiritual, moral, and character development of students” (Trautvetter, 2007, p. 236). Universities offer advising, orientation, and seminars on critical issues in society. Departments host discussions on topics, such as getting along with others. Students’ dreams and beliefs are influenced by universities. The mission statement of many colleges includes a statement about students’ citizenship or values. Such missions mandate attention to spiritual development (McIntosh, 2012). Researchers in science and medicine and top level businessmen face complicated ethical and moral decisions in their fields, and professionals must have well-defined values. Jenney (2012)

conducted a study with over 3,000 students from 46 higher education institutions to explore what factors predicted pro-social character and values and what factors influenced college students' goal setting. The researcher suggested that spirituality had a significant predictive relationship with character development and achievement-oriented characteristics in college students, suggesting that spirituality should be included in the list of factors impacting the development of college students (Jenney, 2012).

Students' spiritual lives are sometimes regarded as a personal or private realm that is not open to public concern. According to Trautvetter's (2007) research, however, students were more receptive and willing to discuss spirituality than professors. Trautvetter asserted that campus leaders can build a strong community and focus on holistic development of the students. Trautvetter emphasized that

Campuses that are most effective in fostering holistic development are clear about their mission, advocate for spirituality and religion as part of the mission, and publicize and communicate effectively about the activities that foster faith development so that everyone in the campus community feels free to believe in, participate in, and rally around the mission. (p. 245)

The college curriculum in early America was built on spiritual aspects, but today's colleges are emphasizing "individual achievement" and "competitiveness," which is a "shift away from holistic, integrative approaches to teaching and learning toward a more fragmented and disconnected curriculum" (Astin et al., 2011b, p. 140). Spirituality is a factor that nurtures a student's search for answers. Astin et al., (2011b) asserted that higher education needs to encourage the development of inner qualities so students can "live more meaningful lives and cope with life's inherent uncertainties" (p. 140). Believing in a higher power enabled students to maintain a sense of calm especially during stressful situations (Lindholm, 2013). A student's

spiritual development can affect his academic performance, self-concept, satisfaction, and cross-cultural relationships (Astin et al., 2011a).

Doctoral students, like all humans, are created with a body, mind, and spirit. To really thrive, all three aspects of the individual student must be nurtured (Houston, 2008). Students in a doctoral program are not only seeking knowledge in their field, but they also are looking for truth. Speck and Hoppe (2007), who studied how spirituality affects the cognitive development of students, said, “As educators, we have an obligation to guide them in both quests” (p. 287).

Faith and Learning

Stegman (2015) explored pedagogy of evangelical Christian doctoral programs, and students who participated in the study remarked that discussions, experiential learning, and teacher modeling were important pedagogical techniques for equipping students to integrate their faith in their professional lives. Stegman (2015) noted that the mission of Biola’s doctoral program in psychology included a spiritual dimension desiring to advance “a biblical and psychological understanding of the human condition and to apply that understanding toward the relief of human suffering” (p. 61). Biola’s doctoral program fulfills its mission through the course curriculum, relationships between faculty members and students, training experiences, and professional development. The Wheaton College doctoral program aims to educate students from a Christian worldview, engage students in serving the church and underserved populations, and promote spiritual as well as professional development (Stegman, 2015). Humans are created in the image of God. The *imago Dei* is a holistic teaching of humanity. “We cannot separate our physical, material existence from our mental or spiritual life, nor can we regard one as being more ‘real’ than the other” (Estep & Kim, 2010, p. 16).

Christian university professors are able to talk about the spiritual dimension of their course. Their thoughts usually fall into the category of lifestyle or discipleship. Professors at

Christian universities may feel a personal responsibility to discuss spirituality in their courses, and most administrators expect professors at Christian institutions to be integrating their faith. What professors often forget is that students are expecting it. According to a study by Burton and Nwosu (2003), students viewed their professors' caring attitudes and exemplary lives as the most valuable elements in helping them integrate their faith and learning.

Imago Dei is the human distinction within God's creation (Fowler, 2004). *Imago Dei* influences the study of humanity, and doctoral students can apply such influences in their fields of study. Therefore, students seeking a doctorate in education, psychology, or another social science need to study the nature of people and how they change and grow. Students can be encouraged to develop a Christian worldview (Stegman, 2015). Estep and Kim (2010) asserted that educators who believe that all truth is God's truth cannot just be students of the social science; they must also be students of theology. The implications for Christian educators are many. Faculty members need to encourage a holistic engagement of students' minds and hearts, because it is through the "process of anchoring holistic knowledge to faith that people experience spiritual growth" (Estep & Kim, 2010, p. 89).

In a study with over 14,000 participants, Fleming et al. (2013) suggested that faculty members serving as mentors for students enhanced students' spiritual development. Activities focusing on personal growth and mentoring challenged students to engage in spiritual disciplines as part of their doctoral training, and students were encouraged to reflect on how spiritual disciplines affected their learning (Stegman, 2015). According to Estep and Kim (2010), faith is closely "related to the output of the intellect" (p. 77).

Conclusion

Thriving is a holistic construct that is attainable despite the challenges of a doctoral program (Schreiner, Louis, & Nelson, 2012). "Thriving students demonstrate high levels of

interpersonal, intrapersonal, and academic well-being” (McIntosh, 2012, p. vii). According to research, the factors of engaged learning, academic determination, social connectedness, positive perspective, and spirituality affect a student’s ability to thrive and may, in fact, be “predictive of student success” (Schreiner, Pothoven et al., 2009, p. 18). Doctoral programs that plan to meet students’ needs in these areas can impact students’ likelihood of thriving in the program.

Thriving “conveys that a student is fully engaged intellectually, socially, and emotionally, and is experiencing a sense of psychological well-being that contributes not only to his or her persistence to graduation, but also to success in life” (Schreiner, Louis, & Nelson, 2012, p. 4).

Thriving students gain maximum benefit from their educational experiences and function at optimal levels.

Engaged learning is active participation in learning that leads to academic success (Schreiner, Pothoven et al., 2009). Student engagement has been suggested to be a strong predictor of learning (Carini, Kuh, & Klein, 2006). In a doctoral program, engaged learning is evidenced by students’ investment of time and energy into processing what they are learning and being deeply involved in class assignments and activities (McIntosh, 2012). Learners who are engaged are invigorated by learning and seek to make connections across their courses. Engaged learners apply what they have studied in their personal lives and in their jobs (Schreiner, 2013).

Academic determination refers to students’ ability to set achievable goals, regulate their cognitive capacities, and persist in the face of difficulty (Lichtinger & Kaplan, 2011). Doctoral students must have the willpower to persevere toward their academic goals. Students who desire to master the content and develop their abilities are more likely to be successful at self-regulation than those students who only set goals to simply finish tasks (Lichtinger & Kaplan, 2011). Students who have academic determination do not give up (Schreiner, 2010a). They try new strategies and demonstrate academic hope (McIntosh, 2012).

The positive perspective factor in the *Thriving Quotient* describes students' ability to focus on success and maintain a confident outlook even under difficult circumstances. The element of positive perspective is characterized by optimism, well-being, and the ability to cope with struggles (Carver et al., 2010; Scheier, Carver, & Bridges, 1994). Students with a positive perspective have high expectations for their futures. For doctoral students, an optimistic outlook serves as a shield against difficult circumstances and builds resilience. Researchers have associated positive outlooks with persistence in educational endeavors (Carver et al., 2010).

McIntosh (2012) called attention to the “non-cognitive, psychosocial factors” which “contribute to a host of important student success outcomes” (p. 2). Social connectedness refers to the important social connections that influence students. Researchers have suggested that a sense of belonging and institutional fit encouraged students to thrive, and according to further research, that sense of belonging can be cultivated in doctoral programs (McIntosh, 2012). A community of learners can be established that encourages students to communicate with one another. When students collaboratively contribute to the fabric of the academic community, bonds of support are formed that can be very important in a doctoral cohort (Kobau et al., 2011). The type and quality of student-faculty interactions also impact a student's ability to thrive (Kuh et al., 2005). Social connectedness (student to student and faculty to student) can influence intrinsic motivation and enhance the quality of learning (Lovitts, 2008).

Spirituality has not been emphasized in some institutions of higher education; however, spirituality is relevant to the development of the mind. Educators who value a holistic approach to education give attention to cultivating the mind and the spirit and encourage a deeper discussion of issues, including the meaning of life and the purpose of learning (Astin et al., 2011b). Multiple researchers have suggested a significant correlation between spirituality and student learning gains (Astin et al., 2011a; Fleming, Purnell, & Wang, 2013). Spirituality may

even result in stronger social connections as students discuss their beliefs and their experiences (Astin et al., 2011b). Personal beliefs can serve as an anchor in difficult times, and spirituality can affect students' ability to cope with challenging situations (McIntosh, 2012). The spiritual dimension of thriving includes a reliance on a higher power when life is difficult, which is a very important aspect of doctoral studies.

This literature review introduced thriving as a way to understand more about the optimal functioning of doctoral students. Chapter Three identifies the research methodology used to compare the overall *Thriving Quotient* of doctoral students enrolled in a private Christian university to the national norm for graduate and doctoral students. Chapter Three also describes the methodology used to analyze the subscale scores of the *Thriving Quotient* of doctoral students enrolled in the subject university. Finally, Chapter Three explains the method for determining if the perceived level of the doctoral program's spiritual climate relates to student thriving.

III. METHODOLOGY

This chapter contains the methods used in the descriptive study of a survey of doctoral students. The focus of the survey was a comparison of the *Thriving Quotient* completed by students enrolled in the doctoral degree program at a private Christian university to the national norms for student thriving. The study also featured a comparison of the participants' *Thriving Quotient* subscale scores of engaged learning, academic determination, social connectedness, positive perspective, and spirituality to the national norms. Finally, the study concluded with an examination of the perceived spiritual climate of the doctoral program and sought to determine if the perceived spiritual climate was related to student thriving.

Participants

The sample selected for the current study was non-probability in nature. More specifically, the sample was both convenient and purposive, including students pursuing a Doctor of Education (Ed.D.) degree at the subject university who had earned at least 12 credit hours in the Ed.D. program at the subject university. Eligible doctoral students enrolled at the subject university were emailed an invitation to complete an online survey through *SoGoSurvey* (see Appendix A for voluntary consent for online survey). The doctoral program at this university was in its third year of operation at the time of this research. Participants were asked to denote their gender, age category, marital status, and the number of hours the doctoral student worked each week (see Appendix B for survey questions).

Instrument

The graduate student version of the *Thriving Quotient* was utilized to yield data for the purpose of addressing the study's research questions and hypotheses. The researcher added a few questions of interest (see Appendix B). The *Thriving Quotient* (TQ) had demonstrated high reliability and validity coefficients with undergraduate and graduate student populations (Petridis, 2015). Notably, a reported Cronbach's alpha of .89 for the *Thriving Quotient* reflected the very high level internal consistency of data yielded by the instrument (Schreiner, 2012). The graduate student version of the *Thriving Quotient* was designed for use with a graduate student population and had a reported internal reliability value of $\alpha = .86$. The goodness of fit is based on how well data that were collected compared to the model (in this case the mean *Thriving Quotient*). The excellent fit indices of $\chi^2(130) = 293.306$ ($p < .001$) illustrates the goodness of fit of the instrument (Petridis, 2015).

Researchers recognize a Comparative Fit Index (CFI) greater than or equal to .95 as indicating a good fit of the instrument to the construct being measured (Hooper, Coughlan, & Mullen, 2008). The *Thriving Quotient* had a CFI of .97 indicating a good fit. The Root Mean Square Error of Approximation (RMSEA) tells researchers how well the model would fit the population. RMSEA allows for the accurate testing of a null hypothesis (Hooper, Coughlan, & Mullen, 2008). A well-fitting model would have a RMSEA below .08. The *Thriving Quotient's* RMSEA was .042 which signifies a good fit (Hooper, Coughlan, & Mullen, 2008; Petridis, 2015).

Cronbach's alpha is an estimate of an instrument's internal consistency. In other words, Cronbach's alpha reveals how an item on a survey relates to the other items on the survey (Gay, Mills, & Airasian, 2012). Graduate student thriving was comprised of the same five factors as the undergraduate *Thriving Quotient*, and Cronbach's alpha coefficients were calculated for each

of the five factors on the *Thriving Quotient* in order to test for instrument reliability and internal consistency: engaged learning ($\alpha = .87$), academic determination ($\alpha = .78$), positive perspective ($\alpha = .73$), social connectedness ($\alpha = .79$), and diverse citizenship ($\alpha = .77$; Petridis, 2015).

Although determining an appropriate value for Cronbach's alpha depends on the number of items on a survey, Field (2009) suggests .8 is acceptable and .7 can be expected when the survey involves psychological constructs. Therefore, the instrument is considered reliable.

Study participants reported their levels of agreement on a six point Likert scale to statements in the following categories: engaged learning, academic determination, social connectedness, positive perspective, and spirituality. An overall thriving score was obtained for each doctoral student taking the survey. Subscale scores on the domains of engaged learning, academic determination, social connectedness, positive perspective, and diverse citizenship were also obtained (see Appendix B for survey questions).

In addition to the questions that comprise the *Thriving Quotient*, the survey included five questions that assessed a psychological sense of community (PSC). The PSC items on the survey were measured on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). The survey included three questions that inquired about students' perception of support from family and friends to pursue an advanced degree.

Also included in the survey were nine questions on the perceived level of spirituality in the subject doctoral program. Students responded to the spiritual climate items on the survey using a six point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). For example, students were asked to rate their agreement with statements such as, "The atmosphere in my online classes has been conducive to spiritual growth." Students were asked to rate their perception of whether or not members of the doctoral faculty had greatly influenced their spiritual growth and if the Christian worldview in the doctoral classes at the subject university had contributed to their

ability to thrive in this program. Students were asked to answer an open-ended question regarding what the doctoral program at the university had done to increase their overall sense of spirituality. The survey also included demographic questions such as gender, age, marital status, race, and number of hours worked per week.

Procedures

The following research questions and hypotheses were posed:

1. Does the overall *Thriving Quotient* of doctoral students enrolled in a private Christian university differ from the national norm for graduate and doctoral students?
2. Do the subscale scores of the *Thriving Quotient* of doctoral students enrolled in a private Christian university differ from the national norms for graduate and doctoral students?
3. To what degree does the perceived level of the doctoral program's spiritual climate relate to student thriving?

Null Hypothesis #1 (H_0 1)

There will be no statistically significant difference in the overall *Thriving Quotient* score for doctoral students enrolled in a private Christian university compared to the national normative score for the *Thriving Quotient*.

Alternative Hypothesis #1 (H_a 1)

Students enrolled in the subject private Christian university will manifest a statistically significant higher *Thriving Quotient* than the national norm.

Null Hypothesis #2 (H_0 2)

There will be no statistically significant difference in the subscale scores of the *Thriving Quotient* for doctoral students enrolled in a private Christian university compared to the national normative subscale scores for the *Thriving Quotient*.

Alternative Hypothesis #2 (H_a 2)

Students enrolled in the subject private Christian university will manifest statistically significant higher subscale scores on the *Thriving Quotient* than the national normative subscale scores.

Null Hypothesis #3 (H_0 3)

There will be no statistically significant correlation between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotient*.

Alternative Hypothesis #3 (H_a 3)

There will be a strong degree of relationship between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotient*.

Data were collected via the online survey tool *SoGoSurvey*. Participants were sent an online informed consent document via e-mail (see Appendix A for voluntary consent for online survey). Survey information was password protected and encrypted on the *SoGoSurvey* website. Although demographic characteristics were collected and utilized as part of the analysis, no student identifiers were collected in the survey. Study data were imported into *Statistical Package for the Social Sciences Version 24* (SPSS) for analysis purposes. SPSS is an analytic software package that creates predictive models and assists in the analysis of data.

The researcher utilized descriptive and inferential statistical techniques in the initial analysis of data. Preliminary analyses included the evaluation of frequencies, missing data, normality of data arrays, and internal consistency of participant response to survey items. Data were evaluated for minimum and maximum values, means, and standard deviations for each variable.

Data Analysis

To address the first and second research questions, descriptive statistical techniques were employed for comparative purposes. Specifically, measures of central tendency and variability were used to assess the significance of difference in the *Thriving Quotient* of doctoral students enrolled in a private Christian university compared to the national norm score for the *Thriving Quotient*. Measures of central tendency and variability were also used to assess the significance of difference in the sub components of the *Thriving Quotient* to the sub component national norms. Additionally, the magnitude of difference in mean scores (effect size) was assessed using Cohen's d. Cohen's conventions of interpretation were utilized in the qualitative evaluation of the interpretation of the d value. An a priori power analysis using G-Power was used to estimate a needed sample size in order to achieve adequate power (80). The needed sample size was calculated to be between 21 and 64 participants for confidence in rejecting null hypotheses for the proposed investigation (Field, 2009).

First Research Question

To assess the statistical significance of difference in the *Thriving Quotient* of doctoral students enrolled in a private Christian university to the national normative score for the *Thriving Quotient*, a single sample t-test was utilized. A t-test was used to determine whether the sample students' *Thriving Quotient* was significantly different from the national normative score. The alpha level of .05 was utilized as the threshold value for the evaluation of statistical significance.

Second Research Question

The t-test was also used to assess the significance of difference between the sample's subscale scores on the *Thriving Quotient* and the national norms subscale scores. The alpha level of .05 was utilized as the threshold value for the evaluation of statistical significance. If there was more than a 5% chance that the difference in *Thriving Quotients* was coincidental, the

researcher could not have been sure there was a real difference and would fail to reject the null hypothesis (Gay, Mills, & Airasian, 2012). However, if the data between the sample and the national normative scores were significantly different, the null hypothesis would have been rejected, and the alternative hypothesis accepted or retained.

Third Research Question

The focus of the third research question was to determine if a mathematical relationship existed between the students' perceived level of the spiritual climate in the doctoral program and the overall *Thriving Quotient*. A correlation coefficient is a number between +1.00 and -1.00 that indicates the degree that two variables, such as thriving and spirituality, are related (Gay, Mills, & Airasian, 2012). If the two variables were highly related they would have had a coefficient near +1.00 or -1.00. A low coefficient indicates a low level of association, and if the variables were not related, they would have had a coefficient near 0. Because the variables of thriving and spirituality were expressed as interval data, the Pearson Product Moment Correlation Coefficient (r) was utilized. Absolute qualitative interpretations of r were applied to the findings in the correlational analysis.

A coefficient of determination is a statistic that shows the percentage of variance in the criterion variable that was predicted by the other variables. The higher the coefficient of determination, the better the prediction (Gay, Mills, & Airasian, 2012). The coefficient of determination (r^2) was calculated to assess the amount of explained variability of data in the respective correlation comparisons and acted as the basis for the calculation of the effect size measure ($r^2 / 1 - r^2$). The statistical significance of the mathematical relationship between variables related to the third research question utilized the .05 alpha level as the threshold for statistical significance. If a correlation was found between the perceived spirituality of the

doctoral program and the *Thriving Quotient*, the third null hypothesis would have been rejected and the third alternate hypothesis accepted.

Summary

The purpose of the current investigation was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to the national norms on the *Thriving Quotient*. This comparison explored how the factors of engaged learning, academic determination, social connectedness, positive perspective, and spirituality among doctoral students at a private Christian university compared to the subscales on national norms. This study also assessed how the spiritual climate related to student thriving at the subject university. The methodology included a single sample t test with an alpha level of .05 to test for statistical significance. The Pearson Product Moment Correlation Coefficient (r) was utilized to address the degree of relationship between the perceived level of the doctoral program's spiritual climate and student thriving. The coefficient of determination (r^2) was calculated to assess the amount of explained variability of data in the respective correlation comparisons and served as the basis for the calculation of the effect size measure ($r^2 // 1 - r^2$). The .05 alpha level was used as the threshold for statistical significance when looking to see if a mathematical relationship existed between variables.

Chapter IV will provide a description of the results obtained using this methodology beginning with a preliminary analysis of the demographic information of participants, internal consistency of the survey instrument, and the survey data collected. Key demographics will be shared, and their effect on the *Thriving Quotient* will be assessed. Data to address each research question is analyzed and a decision whether to reject or retain each hypothesis will be explained.

IV. RESULTS

The purpose of the study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to national norms and, in the process, explore engaged learning, academic determination, social connectedness, positive perspective, and spirituality in comparison to the national norms. Chapter IV is organized to address the findings of the three null hypotheses presented in Chapter I. The overall *Thriving Quotient* of doctoral students enrolled in a private Christian university was compared to the national norm *Thriving Quotient*. Secondly, the subscale scores of the *Thriving Quotient* of doctoral students enrolled in a private Christian university were compared to national norm subscales. Finally, the perceived level of the doctoral program's spiritual climate was compared to student thriving to see if a relationship existed.

Preliminary Analyses

Prior to addressing the analysis of findings related to the research questions and hypotheses posed in the study, several preliminary analyses were conducted. Specifically, survey response rate, key participant demographic information, comparative demographic analyses by effect exerted upon participants' *Thriving Quotient*, missing survey data, and internal consistency (reliability) of participant response were all addressed in the preliminary analyses of the study's data set.

A total of 99 surveys were sent to doctoral students at the subject university. It was

intended that at least a 50% response rate would be achieved at the outset of the study, and 81 responses were received achieving an 81.8% survey participant response rate. The following demographic variables were elicited from participants in the study and were deemed key to the investigation: age, gender, university cohort membership, and enrollment status. As shown in Table 1, over 40% of the participants were between the ages of 41 and 50. The population surveyed for this study was 68.7% (N = 55) female and 31.3% (N = 25) male. One participant did not respond to the gender question. The subject university's doctoral program began in July 2014. The students enrolled in the initial group were identified as Cohort A. Students who began the following winter were identified as Cohort B. Cohort C is comprised of students who started in July 2015, and Cohort D identifies students who started in the winter of 2016. Cohort E identifies students who began the doctoral program in July of 2016.

Cohorts A and E comprised over 53% of the sample (see Table 2), and almost 90% of the sample participants were enrolled full time. The effect of the sample's demographics on the sample's *Thriving Quotient* was not statistically significant ($p > .05$). Less than 1% (.07%) of study data were deemed missing. The missing data were considered sufficiently random in nature (Little's MCAR $\chi^2_{(16)} = 6.15; p = .97$). Therefore, the imputation of missing data were not deemed necessary for study purposes. The internal consistency of participant response (reliability) analysis was conducted using Cronbach's Alpha (α). Values of .60 to .80 are considered high or strong for evaluative purposes (Gay, Mills, & Airasian, 2012). The internal reliability of participant response was considered acceptable at $\alpha = .70$.

Analyses by Research Question and Hypothesis

Three primary research questions with accompanying research hypotheses were posed in the current investigation in order to address the stated research problem. The questions and

hypotheses are stated and addressed analytically.

Research Question 1

Does the overall Thriving Quotient of doctoral students enrolled in a private Christian university differ from the national norm for graduate and doctoral students?

Considering the overall mean score difference between the study's sample of participants (4.92) and the nationally normed mean score (4.39) on the composite of five domains examined, the study's sample manifested a mean score difference of + .53 (4.92 – 4.39). The difference in mean scores was statistically significant ($t_{(80)} = 2.86; p = .005$). The magnitude of effect ($d = .52$) is considered medium (Gay, Mills, & Airasian, 2012). A comparison of individual study cohorts to the national norm for thriving indicated that each cohort in the sample scored higher than the national norm at a statistically significant level ($p < .05 - p < .001$).

Null Hypothesis #1 (H_0 1)

There will be no statistically significant difference in the overall Thriving Quotient score for doctoral students enrolled in a private Christian university compared to the national normative score for the Thriving Quotient.

In light of the statistically significant finding, the null hypothesis (H_0) for Question #1 is rejected.

Alternative Hypothesis #1 (H_a 1)

Students enrolled in the subject private Christian university will manifest a statistically significant higher Thriving Quotient than the national norm.

In light of the statistically significant finding favoring the study's sample over the national norm for *Thriving Quotient*, the alternative research hypothesis (H_a) for Question #1 is retained.

Research Question 2

Do the subscale scores of the Thriving Quotient of doctoral students enrolled in a private

Christian university differ from the national norms for graduate and doctoral students?

When compared to the subscale scores from the national norms for thriving, the doctoral students at the subject university had a statistically significant higher thriving score in engaged learning, academic determination, social connectedness, and diverse citizenship ($p < .01$). The sample also scored higher than the national norm in positive perspective, but the difference in positive perspective scores was not statistically significant (see Figure 1). Table 3 depicts the mean differences in the study's sample and the national norms for each of the five domains.

Null Hypothesis #2 ($H_0 2$)

There will be no statistically significant difference in the subscale scores of the Thriving Quotient for doctoral students enrolled in a private Christian university compared to the national normative subscale scores for the Thriving Quotient.

In light of the statistically significant findings in four of the five domains of the *Thriving Quotient*, the null hypothesis (H_0) for Question #2 is rejected for Domains 1, 2, 3, and 5, but retained for Domain 4 (positive perspective).

Alternative Hypothesis #2 ($H_a 2$)

Students enrolled in the subject private Christian university will manifest statistically significant higher subscale scores on the Thriving Quotient than the national normative subscale scores.

The alternative research hypothesis (H_a) for Domains 1, 2, 3, and 5 is retained, in light of the statistically significant findings indicating that the study's sample of participants had higher scores in these domains; however, in Domain 4 (positive perspective) the alternative hypothesis (H_a) is rejected.

Research Question 3

To what degree does the perceived level of the doctoral program's spiritual climate

relate to student thriving?

Utilizing linear regression, the overall associative relationship between the study's sample participants' *Thriving Quotient* and the concomitant spiritual climate rating is considered a weak to moderate but statistically significant predictor of student thriving ($r = .30$; $p < .01$). Participants' spiritual climate rating of the subject doctoral program represented a statistically significant predictor of overall *Thriving Quotient* ($\beta = 0.14$; $t = 2.61$; $p < .01$).

Null Hypothesis #3 (H_0 3)

There will be no statistically significant correlation between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' Thriving Quotient.

In light of the statistically significant associative relationship between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotient*, the null hypothesis (H_0) for Question #3 is rejected.

Alternative Hypothesis #3 (H_a 3)

There will be a strong degree of relationship between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' Thriving Quotient.

In light of the finding of a weak to moderate degree of relationship existing between the perceived level of the spiritual climate of the doctoral program in a private Christian university and the students' *Thriving Quotient*, the alternative research hypothesis (H_a) is rejected.

Summary

The purpose of the study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to established national norms on the *Thriving Quotient* and compare the means of the five subset scales of doctoral thriving to the corresponding mean

scores of the national norms. Three distinct research questions and accompanying hypotheses were posed to address the stated research problem.

Nearly 70% of study participants were female, with nearly half of the sample occupying an age range of 41-50. Nearly nine in 10 participants were enrolled in doctoral studies on a full-time basis. Participants were members of five distinct “cohorts,” with nearly half of the participant sample enrolled in Cohorts A and E. Comparative analysis of participant demographics with regard to effect upon overall *Thriving Quotient* yielded an equivocal finding, with no statistically significant findings between the respective comparisons.

Study participants manifested a statistically significant difference in their mean *Thriving Quotient* when compared to the nationally normed *Thriving Quotient*. A comparison of individual study cohorts with the national norm for *Thriving* indicated that each of the five cohorts had a statistically significant higher *Thriving Quotient* than the national norm.

When the five domains of the study’s focus within the *Thriving Quotient* are compared for differences between the nationally normed mean scores and the mean scores of the study’s sample, differences indicated that the study’s sample scored statistically higher than the national norms in four out of five domains. The domain of social connectedness reflected the greatest mean difference within the domain comparisons. The associative relationship between study sample participants’ *Thriving Quotient* and concomitant spiritual climate rating is considered to be midway between weak and moderate, but statistically significant. Moreover, participant spiritual climate rating in the study’s sample represented a statistically significant predictor of the overall *Thriving Quotient*.

Chapter V provides a more detailed discussion of the findings. Implications for policy and practice are considered as the researcher considers how a doctoral program can be

intentional in fostering students' ability to thrive. Possibilities for future research in the area of student thriving are also discussed in the next chapter.

V. DISCUSSION

As stated in Chapter I, the study examined factors that contribute to thriving in a doctoral program. The intent of the study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to the national norms on the *Thriving Quotient* and compare the subscales of engaged learning, academic determination, social connectedness, positive perspective, and diverse citizenship to national norms. Additionally, associative relationships that focused upon the spiritual climate of the program and the degree of mathematical relationship that might exist with student thriving at the subject university were evaluated. A focus on thriving, instead of just surviving, has the potential to improve doctoral programs and increase student thriving.

Statement of the Problem

Researchers have studied factors that contribute to not just surviving but thriving in education (McIntosh, 2012; Petridis, 2015; Petridis & Schreiner, 2013; Schreiner, McIntosh, Kalinkewicz, & Cuevas, 2013; Schreiner, Pothoven et al., 2009). The construct of thriving has not been fully explored at the doctoral level, and the traditionally low completion rates in doctoral programs indicate the need for creating programs that promote student thriving. The purpose of this study was to compare doctoral students' *Thriving Quotient* at a private Christian, liberal arts university to the national norms on the *Thriving Quotient* while evaluating how the spiritual climate of the program relates to student thriving at the subject university.

Review of the Methodology

Each participant in the study was a student enrolled in the doctoral program at the subject university. All participants in the study met with their respective cohort for an initial face to face, three credit hour course at the beginning of their doctoral program, and all participants had completed at least 12 credit hours in the doctoral program at the subject university. Participants were emailed a survey to complete for the study.

In order to address the first research question, descriptive and inferential statistical techniques were employed to compare the significance of difference in the *Thriving Quotient* of doctoral students enrolled in a private Christian university to the national norm score for the *Thriving Quotient*. Measures of central tendency and variability represented the primary descriptive statistical techniques. Statistical significance of difference in mean scores was assessed using a single sample t-test. An alpha level of .05 represented the threshold for the evaluation of the statistical significance of the finding. The magnitude of difference in mean scores (effect size) was assessed using Cohen's conventions of interpretation.

The second research question was evaluated using a combination of descriptive and inferential statistical techniques. Measures of central tendency and variability represented the primary descriptive statistical techniques. A single sample t-test was used to assess the statistical significance of difference in the subscale scores of the *Thriving Quotient* to the subscale national norms for graduate and doctoral students. An alpha level of .05 was utilized as the threshold value for the evaluation of statistical significance. The magnitude of difference in mean scores (effect size) was assessed using Cohen's conventions of interpretation.

The focus of the third research question was on the determination of the mathematical relationship between the students' perceived level of the spiritual climate in the doctoral program and the overall *Thriving Quotient*. As such, the Pearson Product Moment Correlation

Coefficient (r) was utilized. The statistical significance of the mathematical relationship between variables related to the third research question utilized the .05 alpha level as the threshold for statistical significance.

Summary of the Results

Study participants manifested a statistically significant difference in their mean *Thriving Quotient* when compared to the nationally normed *Thriving Quotient*. Students enrolled at a private Christian university located in the state of Florida had a higher *Thriving Quotient* than the national norm. When comparing the five domains within the *Thriving Quotient*, the mean scores of engaged learning, academic determination, social connectedness, positive perspective, and diverse citizenship were also higher in the sample. Although the sample scored higher than the national norms in all five domains with four out of the five domains being statistically significant, the domain of social connectedness reflected the greatest mean differences within the domain comparisons. The associative relationship between the participants' *Thriving Quotient* and the perceived spiritual climate rating is considered midway between weak and moderate, but statistically significant ($p < .01$). The participants' rating of the spiritual climate of the subject doctoral program represented a statistically significant predictor of the overall *Thriving Quotient*.

Discussion of the Results

An a priori power analysis using G-Power was used to estimate a needed sample size in order to achieve adequate power (.80). The needed sample size was calculated to be between 21 and 64 participants for confidence in rejecting null hypotheses for the proposed investigation. The survey was sent to 99 doctoral students. A total of 81 doctoral students participated in the study, representing a response rate of 81.8%. The sample size was reasonable for the purposes of hypothesis testing.

Comparisons across demographic groups were not found to be statistically significant (p

> .05). Table 4 depicts the equivocal nature of the comparisons of key demographics with regard to effect upon participant *Thriving Quotient*. Since demographics had an ambiguous effect on the sample's *Thriving Quotient*, one can assume that the ability of students to thrive in a doctoral program transcends age, gender, and racial categories.

The high internal reliability ($\alpha = .70$) of the *Thriving Quotient* instrument across all five cohorts at the sample university suggests thriving was not specific to one group of doctoral students. In fact, students across all five cohorts at the subject university have higher *Thriving Quotients* than the national norm. Figure 2 depicts the *Thriving Quotient* comparison by cohort of study participants and compares each cohort's mean *Thriving Quotient* to the national norm mean score. The researcher noted that Cohort D had the highest Thriving Quotient (5.37) with a strong internal reliability rating of .81 ($p < .001$). The difference between cohorts' *Thriving Quotients* was not statistically significant ($p > .05$).

The alternative hypothesis was retained for the first research question because the study's sample had a statistically significant higher *Thriving Quotient* score than the national norm. Students in this doctoral program are thriving at a level higher than the national mean. The subject institution has moved with great intentionality in launching its doctoral program, and the faculty has been purposeful in propelling students toward success. The doctoral program fosters learning through assignments that actively engaged students in concepts. Faculty in the doctoral program continuously inspire academic determination by telling students that no one needs to be left "ABD" in this program. One aspiration of the program is to help each student complete the dissertation and earn the doctoral degree. Faculty serve as academic advisors for students in the doctoral program and often help students engage in problem-focused managing of stressful situations. Such mentoring is a key aspect of helping students maintain a positive perspective. Faculty help students see negative events as opportunities for learning and mentor students in

coping with stress. Social connections were emphasized from the very first course in order to build a community of learners and to increase each student's sense of belonging to a cohort and to the overall degree program. Student relationships were promoted through face to face intensive courses as each new doctoral cohort began. Intensives also offered an opportunity for students to meet some of their online professors. Special chapel services during face to face courses established an emphasis on spirituality as faculty encouraged students to rely on a power higher than themselves. The university recognizes spirituality as a factor of thriving and has made it an integral part of the holistic development of doctoral students.

Engaged Learning

Study participants enrolled in doctoral studies at the subject university scored higher than the national mean in the domain of engaged learning. Over 85% of the participants agreed or strongly agreed that they were learning something that was worthwhile to them as individuals. Adult learners value learning which can be immediately applied in their lives, and over 85% of the study participants said they could usually find a way to apply what they were learning in their doctoral classes (Merriam & Bierema, 2013). One student wrote, "I have been able to apply many of the educational and leadership principles I have studied this far." The best coursework sparks intellectual curiosity and generates intrinsic interest (Lovitts, 2008). Almost 73% of study participants said they find themselves thinking about what they are learning in class even when they are not in class. Almost 70% of the participants said they feel energized by what they are learning in their classes. Knowing that student engagement is one of the best predictors of learning, the faculty at the subject university understand the value of engaged learning and create conditions to promote student engagement (Carini, Kuh, & Klein, 2006).

Academic Determination

Students at the subject university also scored higher than the national norm in the domain

of academic determination. An overwhelming 95% percent of the participants think others see them as hard workers, and 91% agreed or strongly agreed that they know how to apply their strengths to achieve academic success. Over 60% of participants agreed or strongly agreed that they were good at juggling the demands of life, but an even higher percentage (over 75%) said they persevere with a project until it is finished. Students in the subject doctoral program are thriving in the area of academic determination. In an open-ended question, one of the participants stated that “graduating is not an option – it is a certainty.” The importance of fostering academic determination in a doctoral program cannot be overestimated. When students are teetering on the edge of giving up, faculty members and advisors must be prepared to encourage students’ persistence in the program.

Social Connectedness

The sample scored 4.95 on social connectedness, which is 2.03 points higher than the national norm score for social connectedness. The difference between the sample’s score and the national norm for social connectedness represents the greatest mean difference between the participants from the subject Christian university and the national norm. Social connections in a cohort are a vital part of thriving in a doctoral program (Kobau et al., 2011). The subject doctoral program carefully planned for opportunities for students to connect. Each cohort met face to face for an orientation and their first doctoral class. One student recalled how face to face intensives offered a chance for “sharing dreams and burdens” and said face to face courses were a “great start to the journey.” While some students commented on the special bond formed during the face to face intensives, one student said even the online discussion forums provided “opportunities for encouragement and support” both “academically and personally.” Students used weekly discussion boards to interact in online classes, and several professors used web conferencing to gather students together digitally for class discussions. Web conferences were

recorded for students who were not available during the specified meeting time. Professors regularly made use of screen recordings to teach difficult concepts, and students used digital videos to share their course projects. Collaborative work was encouraged on specific assignments. The intentionality of this degree program to establish connections within each cohort resulted in a higher thriving score than the national mean.

When posed with an open-ended question, several students made reference to a “strong sense of community,” and several mentioned a “sense of belonging.” A student recalled a time when colleagues from the program “rallied around” a cohort member during difficult times. “My classmates are like family,” said another student, recalling specific examples of students’ willingness to help their peers through tough times. One doctoral student wrote, “My doctoral program provides me with a tremendous amount of support.” One student validated the social connections in this degree program by saying

As we have traveled this path, we have done so with prayer and with great love and support for one another that I do not believe is present on most college campuses. This has reminded me that I am not alone.

Both formal and informal interactions with faculty enhance student thriving, and students in this program benefit from interactions with faculty (O’Meara, Knudsen, & Jones, 2013; Umbach & Wawrzynski, 2005). The faculty are “supporting, helping, and listening to” the students. A student shared that the faculty “treats students as valuable to God.” Another study participant said, “The professors want what is best for me.” Several students recalled one or two specific faculty members who had encouraged them through moments of uncertainty. Reflecting after face to face courses, one student said hearing stories of the professors’ struggles from when they were in a doctoral program was helpful, and she recalled and thought about the stories after she was “back home alone.” The faculty-student interactions in this program have had a notable

impact on student thriving.

Positive Perspective

In the domain of positive perspective, the sample scored higher than the national norm but not at a statistically significant level. Based on the score of positive perspective (4.57), the faculty in this program are promoting a positive perspective and encouraging the students that they can thrive while completing a doctoral degree. One student said, “The support I received from my ‘core’ group of peers, as well as from my advisor/chair has . . . been a major key to my overall positive outlook.” Cohort members and faculty can help students make use of coping skills during stressful times and can encourage students to maintain a positive perspective. Doctoral students can learn to expect positive outcomes from tough situations. One study participant said, “Instead of giving up when hardship strikes, I press into Christ.” Another said the program has “encouraged me to be strong and persevere through difficult times.” Higher levels of hope are associated with greater levels of academic success, and faculty members are helping students expect positive outcomes despite hardships (Schreiner, Louis, & Nelson, 2012).

Diverse Citizenship

Diverse citizenship was assessed on a six point Likert response survey. Participants were asked to agree or disagree with statements about making a difference in the lives of others and speaking up for those who cannot speak for themselves. The sample scored 4.95 on diverse citizenship, which is .25 points higher than the national norm score for diverse citizenship ($p < .01$).

Spirituality

Spirituality was assessed by the following three items on a six point Likert response survey:

- My spiritual or religious beliefs provide me with a sense of strength when life is difficult.
- My spiritual or religious beliefs are the foundation of my approach to life.
- I gain spiritual strength by trusting in a higher power beyond myself.

There were three outliers in the domain of spirituality, but they were left in the study because they were part of the sample. Students at the subject university had a mean score of 5.68 for the domain of spirituality ($p < .001$). The national norm for the spirituality domain was 4.13. The study's sample scored, on average, 1.55 points higher than the national norm, implying that the subject university is emphasizing the spiritual dimension of student well-being. Over 90% of the participants agreed or strongly agreed that their spiritual beliefs provided them with a sense of strength when life is difficult. Prayer was mentioned over a dozen times in participant responses to an open-ended question about spirituality. Students commented how classes begin and end with prayer, and several students mentioned professors praying with them. One student said, "I love the fact that I have faithful professors who are willing to pray over me throughout this journey." Another student mentioned professors sharing Scriptures to "edify" students. Students also recalled weekly devotions with praise and worship music that online professors included in their courses.

Perceived Spiritual Climate and Thriving

The focus of the third research question was on the determination of a mathematical relationship between the students' perceived level of the spiritual climate in the doctoral program and the overall *Thriving Quotient*. As such, the Pearson Product Moment Correlation Coefficient (r) was utilized. According to qualitative interpretations of r for the correlational analysis, the relationship was midway between weak and moderate ($r = .30$) but statistically

significant ($p < .01$). Participants' spiritual climate rating of the subject doctoral program represented a statistically significant predictor of overall *Thriving Quotient* ($\beta = 0.14$; $t = 2.61$; $p = .007$).

Table 5 depicts the associative relationship between study participants' *Thriving Quotient* and concomitant spiritual climate across participants' cohorts. Cohort C had a moderate relationship between the cohort's perceived spiritual climate and thriving (.46), but it was not statistically significant. Cohort D had a strong relationship (.63; $p = .05$) between spiritual climate and thriving. Cohort E had a moderate to strong relationship between the perceived level of spiritual climate and student thriving (.59; $p < .01$). The strength of the relationship between thriving and the perceived spiritual climate is stronger in the later cohorts. Professors are continually seeking to improve courses, and perhaps professors added more of a spiritual emphasis during course revisions. In subsequent course rotations, professors may have found more ways to incorporate spirituality in courses or discovered ways to foster a more open atmosphere for the discussion of spiritual topics. A special communion service was scheduled during the initial orientation and two week face to face courses for most cohorts. However, a communion service was not scheduled for Cohort B because they only came to campus for one week. Not experiencing the special communion service during orientation may have contributed to a different perception of the spiritual climate of the program than the cohorts who had a special communion service during their orientation. Since spirituality is a statistically significant predictor of student thriving (McIntosh, 2012; Schreiner et al., 2013), the subject university may want to reflect and consider what, if anything, was done differently from one cohort to another to result in the various relationship outcomes between the perceived spiritual climate and thriving.

What did the subject university do to establish a spiritual climate in the doctoral program? In an open-ended question, students commented on the class prayers, devotions, and

intentional integration of faith into the lessons that help them “stop and reflect.” One student loved how the Bible was infused throughout lessons in various classes. One student commented that the doctoral program at this university provided the opportunity to “talk about God with other God-minded people.” Fourteen participants referred to the faculty praying for them. Students said that most classes in this doctoral program encouraged the discussion of Christian principles, and many assignments required Scriptural references. Another student commented that there was a faith component that tied back to each concept. One student shared that it was a pleasure to “incorporate spirituality into discussions and assignments” and another student appreciated the “opportunity to use a spiritual lens when completing projects and papers.”

Students described the faculty as “spiritually focused” and expressed appreciation for the spiritual emphasis saying “there is a vacuum that cannot be filled without God.” A participant referred to the doctoral faculty as “amazing spiritual mentors.” A student shared,

My professors pray for me even though I am an online student. . . I have felt the effects of their prayers. . . Instead of worrying and being anxious, I can cast my cares and burdens on God because I know my professors have got my back.

One doctoral student said, “God’s hand has been all over this process. He led me to this program.” “The teachers have served as spiritual role models . . . and demonstrate Christ’s love on a regular basis.” In discussing what the doctoral program at this university has done to increase students’ overall sense of spirituality, one student simply said, “It has been the overall foundation on which this program has been based.”

The pedagogy in this doctoral program includes teaching styles that incorporate engaged learning and encouragement that elevates academic determination. Social connections between students, as well as faculty-student connections, offer a collaborative learning environment and help establish positive perspectives. Spirituality is integrated throughout the degree program.

Implications for Practice

This study helped create a holistic picture of student thriving at the doctoral level and added to the body of literature concerning psychosocial factors that predict doctoral student success (Schreiner, McIntosh, Kalinkewicz, & Cuevas, 2013). The findings related to the five components of the *Thriving Quotient* may be seen as prescriptive areas for intervention for professors and advisors and areas deserving the focus of student life departments in order to empower a greater number of students to thrive. In light of the study's findings, universities may shift the focus from surviving to thriving and provide a repertoire of strategies and suggestions for the doctoral journey.

Addressing the thriving factors has the potential for positive outcomes at both the individual student and institutional levels. On the individual level, offering interventions on any of the thriving factors improves the students' ability to experience greater fulfillment in their college experiences. Further, increasing students' ability to thrive on an individual level could potentially affect institutional outcomes by increasing student persistence, graduation rates, academic success, and student satisfaction. (Schreiner, Pothoven et al., 2009, p. 17-18)

Leaders in doctoral education need to view their program, faculty, and students holistically. Leaders may want to invite others to analyze the program with them and look at the whole, the parts, and the relationships of each part to the whole.

Engaged Learning

Because student engagement is a factor of thriving, faculty should be encouraged to focus efforts at increasing student engagement. "Time and energy students devote to educationally purposeful activities" is the "best predictor of learning and personal growth" (Ambler, 2006, p. 3). Leaders in higher education may want to establish guidelines to encourage engaged learning.

How much active engagement faculty members should try to incorporate into their classes will vary from professor to professor and from course to course. However, since direct instruction, the main instructional method utilized by higher education faculty, does not promote high levels of retention or engagement, faculty members should be encouraged to collaborate and discuss ways to incorporate more active learning in their courses (Nash, 2010).

Students involved in real world problem solving will be engaged in their learning. Constructivist teaching strategies could be a critical part of planning in higher education as faculty develop opportunities for students to be deeply engaged in their education (Ambler, 2006; Goubeaud & Yan, 2004). A faculty member's timely feedback on assignments can be very helpful to students and can help engage the students in the learning experience (Schreiner, Louis, & Nelson, 2012; Schlossberg, 2011). At the doctoral level, opportunities for student engagement might also include research opportunities in the students' given fields (Stegman, 2015). Advisors can encourage doctoral students to engage in what they are learning by making connections between what they learn in class and their lives. Increasing student engagement will lead to deeper critical thinking and a higher level of cognition (Schreiner et al., 2013).

Academic Determination

Academic determination is the self-regulated investment of effort in completing assignments and projects (Schreiner, Pothoven et al., 2009). Faculty members can guide students in deciding where to devote their attention. Thriving students "pay attention to the right things and do so for the right reasons" (Sokolow & Houston, 2008, p. 18). Yet, academic determination is more than just self-discipline. Advisors can help students set goals and can discuss what motivates the student. Advisors and students can work together to develop key strategies to help a student persevere (Schreiner, Pothoven et al., 2009). Advisors can help doctoral students understand that it is the investment of effort on a continuous basis that will help

them thrive (Schreiner, 2010a). When students find classes difficult or boring, they need to be encouraged to exhibit academic determination and to persist. Students can be encouraged to try new approaches to learning and keep working towards their goals (Schreiner, 2010a).

Social Connectedness

Excellence in scholarship transcends a mere focus upon grades and project completion. Social connectedness is a measure of the healthy relationships in doctoral students' lives. Working collaboratively and listening to the thoughts of other doctoral students can help students strive for the greater good of the group. Doctoral students can experience transformational learning through working collaboratively with other students and developing relationships with each other. Students can find meaning in serving something larger than themselves (Sokolow & Houston, 2008). Working collaboratively can generate enthusiasm and creativity, and collaborative learning can create connections as students unite in their common journey.

Faculty shape “the culture and climate of their institutions” (Lindholm & Astin, 2008, p. 199), and faculty attitudes influence student development. Students with a strong social bond are more committed to strive for academic excellence and succeed. Faculty can interact with students in face to face courses and through podcasts and discussion boards in online courses in order to establish a learning community where students feel safe to share. Faculty can also increase communication with students by offering detailed feedback on assignments. Research groups or labs serve as vital opportunities for mentoring students. Research labs function as a blend of research support and professional development while establishing important faculty-student connections. While strengthening social connections, making doctoral students feel valued and accepted in their programs of study can increase academic motivation. Students thrive as they learn in a supportive community, and universities can provide students with opportunities to build supportive relationships with peers and faculty.

Positive Perspective and a Growth Mindset

A positive perspective can serve as a form of energy to empower doctoral students. Universities can infuse their doctoral programs with a positive perspective and enable students to “move toward becoming the best version of themselves” (Holland, 2008, p. 70). Faculty members and advisors can help students with *learned optimism* through which positive outcomes are expected despite hardships (Schreiner, Pothoven et al., 2009). With the knowledge that positive elements can be found in every situation, advisors can maintain a positive perspective when meeting with students and can encourage students to see difficulties as opportunities for growth. Seeing life through a positive perspective is something that students can practice doing all the time – not just during times when everything is easy.

Students with a positive perspective are grateful for negative lessons. Gratitude has a “real, almost magical power” (Sokolow & Houston, 2008, p. 21). Under the guidance of a mentor, students can appreciate the learning opportunities that come in difficult periods and acknowledge the opportunity for strength development. Thriving students frame their experiences as opportunities for growth. Optimism has been “linked to higher levels of engagement coping and lower levels of avoidance coping” (Carver, Scheier, & Segerstrom, 2010, p. 879), suggesting that optimists engage in problem-focused managing of stressful situations. Faculty members can model learning to face circumstances and using coping strategies when confronted with difficult situations (Scheier, Carver, & Bridges, 1994).

A positive perspective is one of the special gifts that someone can give away to others and still possess. Through socialization, one cohort member can possess a positive perspective and give it away to others. Students can be encouraged to take time for reflection when confronted with a problem and to analyze the whole situation. Reframing problems and using problem-focused strategies in difficult circumstances can help students think like optimists.

Strength development is an integral part of growing a positive perspective. Faculty feedback can point out student strengths, and professors can relate student's successful outcomes to the student's effort and the application of the student's strengths. Each person has unique talents and abilities, and some doctoral students may have gifts or talents they have not even discovered yet. Discovering all one's talents is a lifelong journey as circumstances offer "opportunities to discover and cultivate talents" (Sokolow & Houston, 2008, p. 20). Part of generating a positive perspective is to help students identify their areas of talent and then cultivate and develop those talents. Universities can help doctoral students develop their strengths and view the future with confidence. A doctoral program should encourage collaboration and communication and encourage students to maintain a positive perspective as they take on the issues that confront them. With such support and skills, faculty and students can be excited about the future that is unfolding before them.

Spirituality

The root of *education* is Latin and means to "pull forth that which is deepest" in students "in order to develop mind, skill, knowledge, and character" (Houston, 2008, p. 70). In addition to the cognitive aspects of earning the doctoral degree, such as taking classes, reviewing articles, conducting research, and passing comprehensive exams, students also experience an affective and spiritual development (Nettles & Millet, 2006). Many of the life principles that provide doctoral students with the energy, drive, and desire for quality work have spiritual roots (Sokolow & Houston, 2008). Spiritual principles can serve as habits of mind and guide students in the tasks along the doctoral journey. The spiritual dimension of education needs to be fostered in order for students to thrive.

Universities need to be more intentional in providing learning experiences that encourage spiritual growth in their students' lives. Christian universities in particular have a responsibility

to provide an education that ministers to students' mind and spirit (Banez, 2016). Christian universities must also expose students to different methods of integrating their faith into their professional lives (Stegman, 2015). Advisors can see the divine qualities in students, and through their own openness, they can foster spiritual growth in advisees. Professors may want to highlight spiritual principles in courses and encourage students to have an open heart and mind. Doctoral students are receptive to discussions about spiritual principles needed in leadership roles and can dialogue about spiritual principles that are essential in their professions.

Institutions of higher learning may want to pursue integrating activities that provide students with opportunities to reflect on spiritual matters. Students can write reflections about spiritual aspects of what they are learning (Sokolow & Houston, 2008). Doctoral programs at public or secular institutions face challenges on agreeing what spirituality is, but "the scholarly study of spirituality, marked by genuine inquisitiveness" provides learning opportunities in students' "search for truth" (Speck & Hope, 2007, p. 287).

Institutions of higher learning can include activities and goals related to spirituality (Jenney, 2012). Astin and Astin (2004) suggested that students' spiritual qualities could grow during college by exposing them to service learning, interdisciplinary coursework, and self-reflection. Students who were given opportunities to participate in self-reflection to advance their inner development experienced academic and leadership growth (Astin & Astin, 2004). Leaders in academia are now making attempts "to advance students' inner development, in which spirituality resides" (Nelms, Hutchins, Hutchins, & Pursley, 2007, p. 250). Rude (2015) stressed that institutions can establish learning communities that encourage spiritual development and focus on developing the whole student. As Palmer (2007) has noted, "As I teach, I project the condition of my soul onto my students, my subject, and our way of thinking together" (p. 31). Professors can model spiritual growth for their students as they continue to develop their own

relationships with God. A participant in this study said, “My doctoral program is a breath of fresh air, and it gives me strength and hope. My summer intensive classes were a healing experience for me after so many years of being ‘beaten down’ while working in non-Christian institutions.” Institutions of higher education can “intentionally create conditions” to “enhance student learning and personal development” (Ambler, 2006, p. 4).

Future Research

Much is yet to be discovered regarding students who thrive in doctoral programs. One important question that persists relates to the practices institutions might establish to help students thrive academically, emotionally, psychologically, socially, and spiritually. Future research could focus on the state of what is being done at the subject university that resulted in significantly higher *Thriving Quotients*. A qualitative study would produce interesting information as to what specific factors the students thought attributed to their ability to thrive. Research will provide valuable data for strengthening programs and keeping universities attentive to the changing needs of students. A thriving study could be replicated every five years to assess the effectiveness of the doctoral program. A longitudinal study could examine changes in levels of thriving at various points in the doctoral journey to offer more information about student experiences. Once more students have completed the degree program, the institution may want to conduct a study that examines students’ persistence in completing their dissertations and measures their *Thriving Quotient* at the completion of their degree and several years after earning the degree. The *Thriving Quotient* may be an important assessment of institutional effectiveness and of students’ sense of satisfaction. Because thriving had a significant, direct effect on students’ satisfaction ratings in other studies (McIntosh, 2012), the *Thriving Quotient* may be predictive of alumni giving. Since the subject university manifested a statistically significant higher *Thriving Quotient* than the national norm, an in-depth evaluation of the

practices and policies of this degree program may reveal program policies, teaching strategies, and advising techniques that would help other institutions create conditions conducive to doctoral student thriving. Further studies can help institutions of higher education plan to help students not only survive but thrive in their pursuit of a doctoral degree.

Conclusion

In Nettles & Millet's (2006) study of 9,036 doctoral students, an eighty-year-old student wrote a note stating, "What one does with a newly minted Ph.D. at 80 is a real question. But the getting there is worthwhile and broadening" (p. 46). Completing the doctoral degree is the ultimate prize, but multiple factors contribute to that outcome and help students thrive along the degree path (Nettles & Millet, 2006). Students enrolled in a doctoral program at a private Christian university are thriving and scored higher than the national norms at a statistically significant rate. Institutions can work to establish an environment that encourages doctoral students to thrive throughout the journey (Schreiner, Louis, & Nelson, 2012). Such an environment requires a commitment to holistic wellness considering students' academics, socialization, and spirituality. Students are unique in their likelihood to engage or not engage, their level of academic determination, their social connections, their level of optimism, and their spiritual commitment, but they are all are created with a mind, body, and spirit. Doctoral faculties, advisors, and student service departments must offer an environment conducive to thriving. According to previous research (Schreiner, Pothoven et al., 2009), each component of thriving is "predictive of student success," (p. 18) and doctoral programs that plan how to meet students' needs in the areas of engaged learning, academic determination, positive perspective, social connectedness, and spirituality can enhance students' chances of thriving in a doctoral program.

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APPENDICES

Appendix A

Voluntary Consent for Online Survey

Would you consider giving a few minutes of your time to respond to a survey on your doctoral journey? The survey is designed to gather information for a research project conducted by Sarah Yates as part of her dissertation. The principle investigator at Southeastern University is Dr. Susan Stanley, Associate Professor in the College of Education. Dr. Tom Gollery, the methodologist, is also an investigator in this project.

The purpose of this study is to compare doctoral students' Thriving Quotient at a private Christian, liberal arts university to the national norms on the Thriving Quotient while evaluating how the spiritual climate of the doctoral program relates to student thriving.

This survey should only take about 20 minutes of your time and will serve to further understanding of the relationships between engaged learning, academic determination, social connectedness, positive perspectives, spirituality, and thriving in a doctoral program. Please respond truthfully to all the items. The results of individual responses will remain totally confidential and will be used only for reporting grouped results in the dissertation.

By taking this survey, you certify that you are 18 years of age or older and that you consent to participate.

If you have any questions related to this survey, please feel free to contact Sarah Yates at 813-600-0243 or sjyates@seu.edu and/or Dr. Stanley at 863-667-5066 or skstanley1@seu.edu. If you would like a copy of the results of the study when it is completed, please email Sarah Yates to request results.

Thank you so much for your assistance in this important research project! Your prompt response to the survey is very much appreciated.

Note: If you do not wish to receive further email regarding this study, simply reply or forward to sjyates@seu.edu and type 'unsubscribe' in the subject line. Your name will be promptly removed.

Thank you!

Sarah Yates, M.Ed.

sjyates@seu.edu

1000 Longfellow Blvd., Lakeland, FL 33801

Schreiner, L. (2015). Graduate Student Thriving Quotient [Measurement instrument]. Retrieved from <http://www.thrivingincollege.org>

Click here OR <http://survey.sogosurvey.com/k/QsSTXSVsSsQRSTUVWXsQ>

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{[optout_future_reminders]}.

If you prefer not to receive future surveys from the organization behind this survey, please
{[optout_future_surveys]}.

Appendix B
Survey Instrument

GRADUATE STUDENT THRIVING QUOTIENT™

Thank you for agreeing to complete this survey on student success as part of a national project to better understand the graduate student experience. This survey will take about 20 minutes to complete. By submitting the completed survey electronically, you are granting us permission to use your results in our study. No individual information will ever be reported or released from this survey. Thanks for helping us better understand the graduate student experience! Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating "strongly disagree" and 6 indicating "strongly agree."

Schreiner, L. (2015). Graduate Student Thriving Quotient [Measurement instrument]. Retrieved from <http://www.thrivingincollege.org>

Engaged Learning:

1. I feel as though I am learning things in my classes that are worthwhile to me as a person. 1 2 3 4 5 6
2. I can usually find ways of applying what I'm learning in class to something else in my life. 1 2 3 4 5 6
3. I find myself thinking about what I'm learning in class even when I'm not in class. 1 2 3 4 5 6
4. I feel energized by the ideas I am learning in most of my classes. 1 2 3 4 5 6

Academic Determination:

5. Once I start a project, I stick with it until I am finished. 1 2 3 4 5 6
6. I am good at juggling all the demands of life. 1 2 3 4 5 6
7. Other people would say I'm a hard worker. 1 2 3 4 5 6
8. I find a way to get everything done for classes that I need to do in a given week. 1 2 3 4 5 6
9. I know how to apply my strengths to achieve academic success. 1 2 3 4 5 6

Social Connectedness:

- 10. I find the relationships in my life difficult. 1 2 3 4 5 6
- 11. I don't have as many close friends as I wish I had. 1 2 3 4 5 6
- 12. Other people seem to make friends more easily than I do. 1 2 3 4 5 6

Diverse Citizenship:

- 13. I spend time making a difference in other people's lives. 1 2 3 4 5 6
- 14. I know I can make a difference in my community. 1 2 3 4 5 6
- 15. I speak up for those who cannot speak for themselves. 1 2 3 4 5 6

Positive Perspective:

- 16. My perspective on life is that I tend to see the glass as "half full." 1 2 3 4 5 6
- 17. I always look on the bright side of things. 1 2 3 4 5 6

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Additional Scales

Spirituality:

18. My spiritual or religious beliefs provide me with a sense of strength when life is difficult. 1 2 3 4 5 6
19. My spiritual or religious beliefs are the foundation of my approach to life. 1 2 3 4 5 6
20. I gain spiritual strength by trusting in a higher power beyond myself. 1 2 3 4 5 6

Psychological Sense of Community

21. I feel like I belong in this program. 1 2 3 4 5 6
22. It's hard to make friends in this program. 1 2 3 4 5 6
23. Being a student in this program fills an important need in my life. 1 2 3 4 5 6
24. There is a strong sense of community among students in my program. 1 2 3 4 5 6
25. I feel proud of the college or university I have chosen to attend. 1 2 3 4 5 6

Family and Friends Support

26. My close friends encourage me to continue attending graduate school. 1 2 3 4 5 6
27. My family encourages me to complete my degree. 1 2 3 4 5 6
28. I regularly talk with my family about what I'm learning in my graduate program. 1 2 3 4 5 6

Outcome Measures:

29. I am confident that the amount of money I'm paying for graduate school is worth it in the long run. 1 2 3 4 5 6
30. I intend to complete my graduate degree at this institution. 1 2 3 4 5 6
31. Given my current goals, this program is a good fit for me. 1 2 3 4 5 6
32. I enjoy being a student here. 1 2 3 4 5 6
33. If I had it to do over again, I would choose a different college/university to attend. 1 2 3 4 5 6

Researcher's Added Spirituality Items

Please rate your satisfaction with each of the following:

SD _____ SA
1 2 3 4 5 6

34. There is a strong spiritual climate in my doctoral program.
35. My spirituality impacted my decision on which institution to attend to earn my doctorate.
36. The doctoral program at my university provides an open atmosphere for the discussion of spiritual topics.
37. The atmosphere in my online classes has been conducive to spiritual growth.
38. The atmosphere in my face to face courses has been conducive to spiritual growth.
39. A faculty member from the doctoral program at this university has helped me find meaning in times of hardship.
40. The faculty members in my doctoral program have greatly influenced my spiritual growth.
41. The Christian worldview in the doctoral classes at this university has contributed to my ability to thrive in this program.
42. How frequently do you currently attend religious services?
___ not at all
___ once a year
___ several times a year
___ once a month
___ 2-3 times a month
___ every week
___ more than once a week
43. How frequently do you currently read the Bible?
___ never
___ only on certain occasions
___ once a month
___ several times a month
___ once a week
___ several times a week
___ daily
___ several times a day

44. How frequently do you pray?

- never
- only on certain occasions
- once a month
- several times a month
- once a week
- several times a week
- daily
- several times a day

45. How frequently do you listen to Christian music?

- never
- only on certain occasions
- once a month
- several times a month
- once a week
- several times a week
- daily
- several times a day

46. How frequently do you journal about spiritual growth or other spiritual topics?

- never
- only on certain occasions
- once a month
- several times a month
- once a week
- several times a week
- daily
- several times a day

47. Do you have someone connected to this university with whom you can discuss spiritual concerns or needs?

Yes or No

Open ended question

48. Please provide examples of what the doctoral program at this university has done to increase your overall sense of spirituality.

Demographics

Finally, please tell us a little about yourself. Your answers will be grouped with those of other students to help us understand our students better. No individual information will be reported for any reason.

49. Gender: female male

50. Age: 20 or younger 21-30 31-40 41-50 51-60 61 or older

51. Marital Status: Never Married Married Separated Divorced Widowed

52. Children:

0

1-2

3-4

5 or more

53. Veteran: Post-9/11 Pre-9/11 No

54. I am a member of

Cohort A

Cohort B

Cohort C

Cohort D

55. I am enrolled

Full time

Part time

56. Are you in dissertation phase? Yes No

57. How many hours have you completed toward your Ed.D. degree?

12 to 24 credit hours

27 to 39 credit hours

42 to 54 credit hours

55 or more credit hours

58. Did you transfer in any credits? Yes or No

59. How many credits did you transfer in to this program from another university?

3 to 6 credit hours

9 to 12 credit hours

15 to 18 credit hours

60. How many hours per week do you work at your present job?

- none
- less than 20 hours per week
- 21-40 hours per week
- more than 40 hours per week

61. Race/ethnicity

- African-American/Black
- American Indian/Native American/Alaskan Native
- Asian/Asian-American/Asian/Native Hawaiian/Pacific Islander
- Caucasian/White/European American
- Hispanic
- Other (please specify:_____)

THANK YOU for your willingness to give us your time and feedback on this survey!

Appendix C

Age of Study Participants

Table 1

Participant Age Group

Age Group	N*	%
21-30	7	8.8%
31-40	15	18.8%
41-50	35	43.8%
51-60	16	20.0%
61<	7	8.8%

*One missing identifier

Appendix D

Breakdown of Sample by Cohort

Table 2

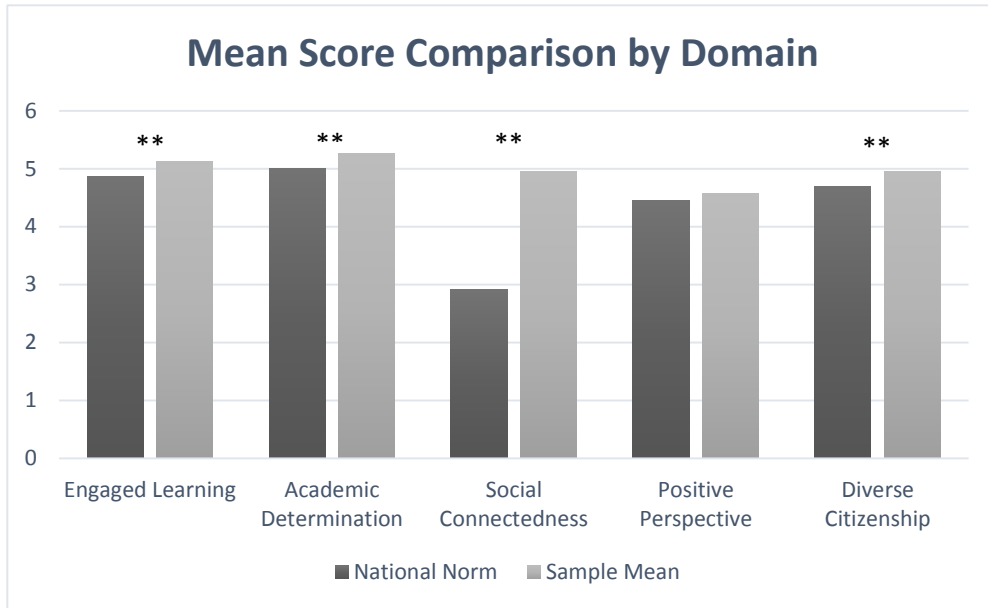
Participant University Cohort Affiliation

University Cohort	N*	%
A	22	28.2%
B	10	12.2%
C	16	20.5%
D	10	12.2%
E	20	25.6%

*Three missing identifiers

Appendix E

Mean Score Comparison by Domain



** $p < .01$

Figure 1. Thriving Quotient Domain Comparing Study Mean for Thriving in Each Domain to the National Mean.

Appendix F

Difference between Sample and National Norms

Table 3

Difference between Sample and National Norms

Domain	Mean Difference	<i>t</i>
Engaged learning	.26	2.86**
Academic Determination	.26	3.79***
Social Connectedness	2.03	2.97**
Positive perspective	.37	0.90
Diverse citizenship	.25	2.73**

* $p < .05$, ** $p < .01$, *** $p < .001$

Appendix G

Comparative Demographic Analyses by Effect upon *Thriving Quotient*

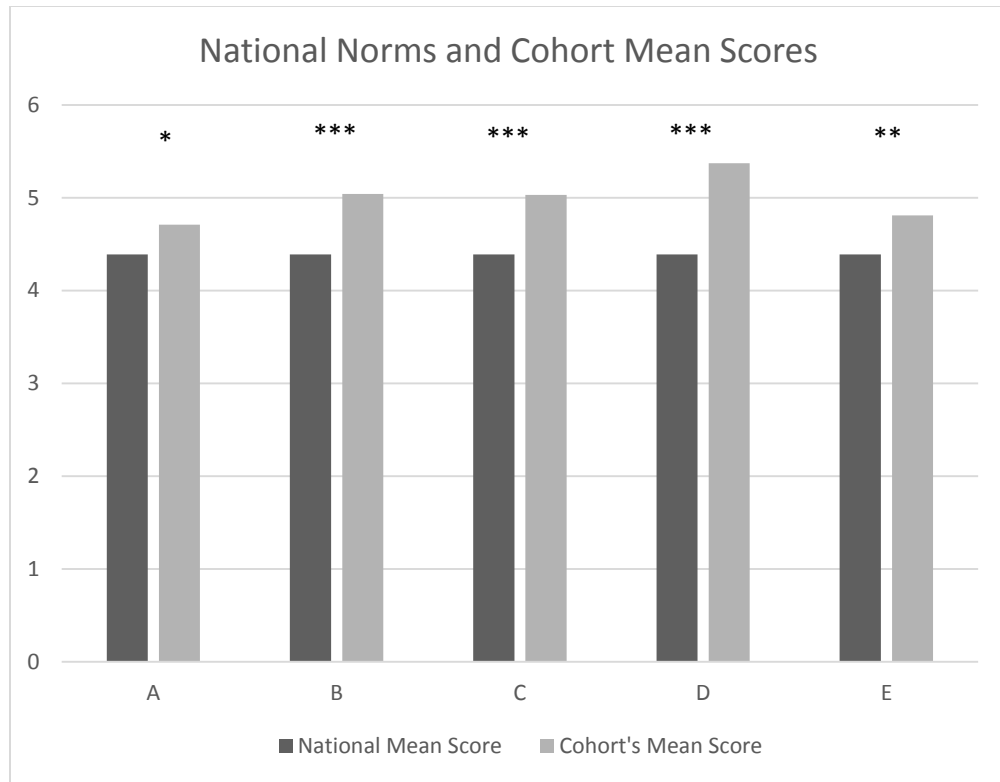
Table 4

Comparative Demographic Analyses by Effect upon *Thriving Quotient*

Demographic	<i>F</i> *
Age Group	1.76
Cohort	1.70
Gender	0.04
Enrollment Status	2.62

*All comparisons non statistically significant ($p > .05$)

Appendix H



* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2. Thriving Quotient Comparisons Comparing Cohort Mean Scores to the National Normed Mean Score

Appendix I

Relationship between Thriving and Perceived Spiritual Climate

Table 5

Relationship between Thriving and Perceived Spiritual Climate

Cohort	<i>r</i>
A	.31
B	.24
C	.46
D	.63*
E	.59**

* $p < .05$, ** $p < .01$