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Influence of Spirituality on University Students' Emotional Intelligence, Perceived Stress, and Life Quality

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Abstract

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MA, Walden University, 2019

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BS, Pacific Union College, 2000

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Abstract

First-year university students are at risk for mental and physical health ailments due to maladaptive stress coping mechanisms. A gap in research remains as to whether there are health benefits for minority religious groups or students who have a spiritual (nonreligious) belief system. The purpose of this study was to explore the relationship between student spirituality and the level of emotional intelligence (EI), perceived stress (PS), and life quality (LQ), as moderated by different campus types (secular or religious). The theory of spirituality and the theory of individual psychology were used as frameworks to explain the psychological, emotional, and physical well-being of students' experiences. This study featured a quantitative, nonexperimental, cross-sectional survey design that included a convenience sample of 340 first-year university students, with an 86% response rate. Four research questions were explored. Data were analyzed using SPSS software for correlations and moderations between spirituality, EI, PS, LQ, and campus type. The results showed only a significant relationship between spirituality and EI. No significant relationships were found between spirituality, PS, or LQ. A partial moderating effect was identified for campus type. Findings suggest that spirituality and EI could potentially increase first-year students' social adjustment and academic success. It is recommended that interventions to increase spirituality and EI start in high school and be applied at both university and community college campuses. This study could contribute to positive social change by aiding health practitioners and administrators in the development of wellness programs and other interventions for university students who are preparing to attend university for the first time.

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Dedication

I wish to dedicate this study to my mother, Nancy McMillin, who was one of my greatest supporters and who passed into the care of our Heavenly father in September 2019. She is survived by my father, John McMillin, and my sister, Carissa McMillin, and her four grandchildren: Patrick, Connor, Seanna, and Arwen. Without her undying support and love throughout my life, I would not have inherited the bravery and tenacity needed to finish this study. She would be so proud to know I finished my doctorate.

I also dedicate this study to my husband, Ben, and our children, Patrick, Connor, Seanna, and Arwen. May they always aim for the moon, even if they fall among the stars, as the adventure found along the journey is worth the effort. Their never-ending energy, passion, and understanding of our family legacy will forever be in my heart.

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The completion of this study would not have been possible without the support of my heavenly Father, my family, and my peer support. My husband, Ben Cooke, was my anchor and supporter through the ups and downs of life events that could have defeated me, but instead only delayed my journey. My children, Patrick, Connor, Seanna, and Arwen, will forever know that their mom is the biggest nerd out there and it is okay to love school. My sister of heart, J. Steiner, was instrumental in getting me started and frequently jump-started my motivation to finish a journey that will forever define my future endeavors. I surrounded myself with some amazing women, Jayde, Jan, and Nanette will always remind me to go beyond the impossible just because I can. Most importantly, my committee member, Dr. Carolyn King, and my chair, Dr. Medha Talpade, that made this journey something that I could complete. Dr. Talpade put her faith in me as a student and guided me until the end. Without the support of these amazing people, my journey would not have been possible.

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Chapter 1: Introduction to the Study

For many students, the first year of university is a stressful experience. Internal and external stressors can include depression, anxiety, stress, and academic requirements, as well as familial and social pressures (Fradelos et al., 2019; Foxtrot et al., 2015; Gan et al., 2011). First-year university students are at risk of developing both mental and physical health ailments that could cause them to withdraw from school and develop unhealthy stress coping mechanisms, such as drug and alcohol use, which could affect them throughout their lifetime (Kyalo & Chumba, 2011; Mattanah et al., 2011; Parade et al., 2010; Yavuz & Dilmas, 2020). With the added stress of the COVID-19 pandemic (Roshida et al., 2020), it is therefore imperative that researchers identify stress coping mechanisms that affect university students' ability to cope with both internal and external stressors of attending university during their first year. This knowledge may help both college administrators and health practitioners develop programs to increase the mental and physical health of this population. The benefits may accrue to students not only within the university environment but beyond graduation as they move into the workforce (Anand et al., 2015; Conley et al., 2013; Rajeswari & Selvam, 2019; Yavuz & Dilmas, 2020).

In this study, I examined whether emotional intelligence (EI), perceived stress (PS), and life quality (LQ) are affected by students' level of spirituality. Research suggested that spiritual well-being might increase both mindfulness and mental hardiness (Yavuz & Dilmas, 2020; Yonder et al., 2012), as well as increasing the quality of life (Frish, 2013; Kress et al., 2015; Lau et al., 2015), all of which are positive coping

mechanisms that increase mental health and physical well-being. I also considered whether attending both religious and nonreligious (or secular) university campuses moderated this relationship. The potential for positive social change is demonstrated at the macro level by assisting university shareholders in the development of wellness programs and at the micro level by increasing understanding among university staff about how spirituality may affect students' mental and physical health.

In this chapter, I provide a brief overview of the research. I identify the problem, the purpose of the study, the research questions (RQs) and hypotheses, and the theoretical framework for the study. Additionally, this chapter includes information on the nature of the study; definitions of key terms; and discussion of the assumptions, scope and delimitations, limitations, and significance of the study.

Background

The well-being of college students is an important topic due to the risky health behaviors they can develop resulting from the multiple stressors of attending college. Stressors can include the pressure of exams, adult responsibilities (e.g., career and debt payoff), drug and alcohol use, and life after college (Gan et al., 2011; Hankonen et al., 2010; Hansell et al., 2011; Liou et al., 2011). Alcohol is a commonly used substance among college students that researchers have found is associated with unintentional injury, homicide, and suicide (Moreno et al., 2016). LaBrie et al. (2009) noted that an estimated 599,000 college students within the United States have experienced health issues or death while under the influence of alcohol. Some research from New Zealand has indicated that although university students drink less frequently, they drink more

excessively than their nonuniversity peers (Foxcroft et al., 2015). The motivation behind excessive university student drinking continues to be studied because there are a variety of health-related concerns.

The use of alcohol can lead college students to have health issues such as depression, anxiety, and eating disorders (Gan et al., 2011) and social adjustment issues (Kyalo & Chumba, 2011) that exacerbate existing mental health and personality issues (Hetland et al., 2012; Olsson & Dahl, 2012). To address these issues, researchers have recommended treatment or prevention programs to eliminate or reduce stressors to increase success at college and beyond (Hetland et al., 2012; Schmidt, 2012). Wellness programs introduced to first-year college students have shown some potential benefit in stress reduction (Bowman & Small, 2012: Scott-Sheldon et al., 2014), especially when combined with gender-specific interventions (Ruthig et al., 2011) aimed at improving diet, exercise, and stress management (Daubenmier et al., 2007).

Stress and burnout affect college students and can eventually lead to unemployment, mental health issues, and other risky health behaviors (smoking, drinking, disordered eating; Gan et al., 2011; Hetland et al., 2012; Kasen et al., 2012). Sociodemographic and cultural factors may influence the coping mechanisms used by students to reduce stress (Schmidt, 2012). The use of alcohol or other substances as a coping mechanism could be related to personality type (Hankonen et al., 2010; Hetland et al., 2012). Various religious practices may provide a positive coping mechanism to reduce the level of stress and anxiety experienced by college students (Kasen et al., 2012; Morton et al., 2012). Specifically, applying a cross-cultural intervention could positively

affect university students attending religious and nonreligious schools (Astin et al., 2011; Ismail & Desmukh, 2012; Schafer, 1997), as well as address different types of personality (Hetland et al., 2012; Klimstra et al., 2012; Landa et al., 2010). Religious coping mechanisms are identified in some studies as having some relationship with religious practices (e.g., prayer, meditation, dietary restrictions) and spirituality (e.g., values, beliefs, moral development; Astin et al., 2011). These religious interventions can apply to both male and female students (Petrie et al., 2010; Ruthig et al., 2011). They may have more effective results if introduced during adolescence (Gurung, 2013; Nacinovich et al., 2012; Taylor, 2012).

Researchers have yet to explore whether there are health benefits found among minority religious groups who have a spiritual belief system not associated with organized religion or whether these health benefits are seen on both religious and nonreligious campuses. This study may help educate first-year college students, regardless of what type of campus they attend, about the influence of a spiritual belief system on the experience of stress. Additionally, shareholders associated with this population (college administrators, health practitioners, and educational professionals) may benefit by gaining knowledge on whether spirituality is an effective tool to help this population succeed during their first year of university and thereafter.

Problem Statement

First-year college students have been identified as an “at-risk” group because university students ages 18-24 are affected by alcohol problems, depression, and anxiety (Conley et al., 2013; Foxtrot et al., 2015; Kyalo & Chumba, 2011). Researchers have

found that a religious belief or practice, or both, along with spirituality, which includes purpose, meaning, and direction, can act as a buffer to internal and external environmental stressors affecting mental and physical health (Anand et al., 2015; Moreira-Almeida et al., 2006; Schafer, 1997; Yeon Shin & Steger, 2016). In some studies, students attending religious universities were found to have reduced depression and anxiety if they practiced some sort of spirituality or religious practice because their life satisfaction was increased (Bowman & Small, 2012; Marlin, 2009; Robinson et al., 2012). However, researchers have yet to explore whether health benefits are found among minority religious groups or students who have a spiritual (nonreligious) belief system. The problem is that university students are at risk for mental and physical health ailments due to increased levels of stress and maladaptive coping mechanisms (Bowman & Small, 2012; Conley et al., 2013). Therefore, looking at the level of spirituality among university students attending different campuses may identify useful mechanisms for helping students decrease their levels of PS and increase their LQ. I investigated the influence of university student spirituality (Gan et al., 2011; Schmidt, 2012) on EI, PS, and LQ and whether EI, PS, or LQ is affected by university type.

Purpose of the Study

The purpose of this study was to explore the relationship between spirituality and the level of EI, PS, and LQ among first-year university students, as moderated by different campus types (secular or religious). I intended to identify if spirituality among students is affected by different campus types. Furthermore, I explored whether a student's spirituality has an impact on levels of EI, PS, and LQ on 4-year secular and

religious campuses to expand on research in this area (e.g., Astin et al., 2011; Bowman & Small, 2012; Cartwright, 2001; MacCann et al., 2011). Health practitioners and college administrators, the stakeholders, can use the results of this study to develop programs to provide positive long-term mental and physical health while the student progresses through college and into the workforce after graduation to reduce dropout rates and improve other outcomes (Juster et al., 2011; Lewis et al., 2012; Martins et al., 2010; Morton et al., 2012; Ruthig et al., 2011). This study could also increase the literature on the construct of spirituality (Leven, 2009) and offer a biopsychosocial perspective (Galantar, 2010) by identifying if campus type plays a role in student spirituality that might also affect EI, PS, and QL.

Research Questions and Hypotheses

For the study, I used a quantitative design with the following variables: spirituality (predictor) and EI, PS, and LQ (outcome). The moderating variable was campus type (religious or secular). The RQs and hypotheses were as follows:

RQ1: How does a student's spirituality predict their EI?

$H_0$1: There is no relationship between a student's spirituality and EI.

H_a1: There is a significant relationship between a student's spirituality and EI.

Differential Hypothesis 1: Outcome expectations were that a significant positive relationship between a student's spirituality, as measured by the College Students' Beliefs and Values Survey (CBVS; Astin et al., 2011), and EI, as measured by the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2012), would be found.

RQ2: What is the relationship between a student's spirituality and their level of PS?

$H_0$2: There is no relationship between a student's spirituality and their level of PS.

H_a2: There is a significant relationship between a student's spirituality and their level of PS.

Differential Hypothesis 2: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and PS, as measured by the Perceived Stress Scale (PSS; Cohen & Williamson, 1988), would be found.

RQ3: What is the relationship between a student's spirituality and their LQ?

$H_0$3: There is no relationship between a student's spirituality and their LQ.

H_a3: There is a significant relationship between a student's spirituality and their LQ.

Differential Hypothesis 3: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and LQ, as measured by the Quality of Life Inventory (QOLI; Frisch et al., 2005), would be found.

RQ4: How does campus type moderate the relationship between spirituality and EI, PS, and LQ among university students?

$H_0$4: Campus type (secular versus religious) does not moderate the relationship between a student's spirituality and their EI, PS, and LQ.

H_a4: Campus type (secular versus religious) does moderate the relationship between a student's spirituality and their EI, PS, and LQ.

Differential Hypothesis 4: Outcome expectations were that campus type would moderate the relationship between student spirituality, as measured by the CBVS, and EI, as measured by the MSCEIT; PS, as measured by the PSS, and LQ, as measured by the QOLI.

Theoretical Framework

I used the theory of spirituality and the theory of individual psychology to explain the psychological, emotional, and physical aspects of students' experience

The Theory of Spirituality

The theoretical view of spirituality addresses the influence of religious or spiritual practices on the psychological, emotional, and physical of the human experience (Cartwright, 2001; Levin, 2009). Spirituality is an inner journey of human exploration throughout a lifetime that can influence cognitive development (Abu-Raiya et al., 2015; Chang et al., 2016). This is in contrast to an external show of religious practices that may be observed due to expectations (Abu-Raiya et al., 2015; Chang et al., 2016).

The Theory of Individual Psychology

The theory of individual psychology offers a humanistic view of how individuals develop and accept their role in society (Watts, 2015). It is also referred to as worldview or self-efficacy and encompasses the lifestyle experienced by children in their family structure (e.g., their birth order) and their view of inferiority or superiority as they develop into seeing themselves as a contributing individual within society (Pomeroy &

Clark, 2015; Robinson et al., 2012). The development of worldview or self-efficacy mirrors how an individual develops a spiritual identity, with both cognitive and emotional development from an individual's internal or external environment (Erguner-Tekinalp, 2017; Johnstone et al., 2012; Rockenbach et al., 2015). Combining the theories of spirituality and individual psychology allowed me to look at a wider range of research to address the gap in current literature, as I discuss in Chapter 2 of this study.

Nature of the Study

I used a quantitative, nonexperimental, cross-sectional survey design to gather data. Due to the limited time available to collect data, a cross-sectional study provided a means of capturing what university student spirituality looks like on different types of campuses. A nonexperimental survey provided the best method to gather information in that there were no control or experimental groups. The participants were selected from a convenience sample that met the inclusion criteria. The inclusion criteria were that participants were attending a 4-year university and that the universities required nonmarried first-year students between the ages of 18 and 24 years to live in on- or off-campus housing. I examined the influence of the dependent variable, university student spirituality, on the independent variables of EI, PS, and LQ. The moderating covariate was the type of university campus (secular/nonreligious or religious). The data were collected using an online survey format, with valid and reliable tests. I input the data into SPSS statistical software and analyzed them for any correlations among the dependent and independent variables.

Definitions

Coping mechanisms: Stress management techniques such as meditation, exercise, and dietary habits that can increase a positive reaction to a stressor (Conley et al., 2013; Gan et al., 2011).

Emotional intelligence (EI): A concept that is considered both a trait (emotional-related disposition and self-perception), as well as an ability (emotion-related cognitive awareness) that can be taught (Mayer et al., 2004). An individual's cognitive awareness and reactiveness to external and internal stressors identify their level of EI.

First-year university students: Students between the ages of 18 and 24 years who are unmarried and living on campus in a dormitory environment (Bowman & Small, 2010; Centers for Disease Control and Prevention [CDC], 2015; Conley et al., 2011; Gan et al., 2011).

Life quality (LQ): A concept that is based on an individual perception of life satisfaction (Frisch et al., 2005).

Mind and body: A relationship between the mind and body that shares a biopsychosocial etiology in disease development, management, or prevention (Kendall-Tackett, 2009; Littrell, 2015).

Perceived stress (PS): Stress that results when perceived external or internal stressors upset the balance of homeostasis within an individual. The reaction of that individual to the stressor can have positive or negative mental and physical effects (Cohen, 1994).

Religiosity: An external practice of beliefs and rituals that may or may not be from an internal belief system (Behere et al., 2013).

Spirituality: An individual's meaning, purpose, and direction from an internal belief system (Astin et al., 2011; Cartwright, 2001).

Worldview: An adult's set of beliefs regarding where they should fit within society. As referenced in individual psychology, worldview is defined by the age of 5 years and is based on childhood experiences and culture, as well as birth order (Pomeroy & Clark, 2015; Robinson et al., 2012; Watts, 2015).

Assumptions

In this study, I assumed that the level of student spirituality could be affected by the type of university attended (secular or religious). Additional assumptions were that minority religious students attending either campus could have different levels of spirituality based upon their perception of inclusion into the social context of the university climate. I based my assumption that EI, PS, and LQ were a positive influence on students with a higher level of individual spirituality on the research discussed in Chapter 2. Specifically, these assumptions were grounded in research suggesting higher levels of EI and LQ as well as coping mechanisms act as positive barriers to reduce the effects of environmental and social stressors that can affect physical and mental health (Frisch, 1994, 2013; Frisch et al., 2005; Juster et al., 2011; Kress et al., 2015; MacCann et al., 2011).

Another assumption was that the theories of individual psychology and spirituality best fit this study. I did not include other theories and conceptual frameworks

because I did not view them as addressing the worldview and the associated goal of individual social inclusion. For example, the theory of locus of control only focuses on external and internal beliefs, where individuals with an external locus of control blame everyone for what is happening to them and those with internal locus of control believe they have control over the events or outcome (Ciarrochi & Scott, 2006; Contrada & Goyal, 2004). I compared the level of student spirituality (a form of worldview) on EI, PS, and LQ among first-year university students on secular or religious campuses and did not focus on locus of control.

Regarding the study's methodology, I assumed that a quantitative, nonexperimental, cross-sectional survey methodology was the best approach to collect data. A quantitative survey involves the numerical representation of variables (Trochim & Donnelly, 2008). It can clarify trends in attitudes or opinions of the population and be used to determine if there are relationships among the variables, though it cannot establish a cause-and-effect relationship (Creswell, 2009). As the study had no experimental or control group, data were provided without a baseline (see Trochim & Donnelly, 2008). To gather data in a limited time frame, researchers use a cross-sectional survey design to take a "snapshot" at a specific time among participants, whereas they use a longitudinal design to collect data over a long period (Creswell, 2009). These methods of data collection assume that relationships will be more easily predicted from a population that may not be interested in taking a lengthy survey (Groves et al., 2004). Due to the length of the completed survey (there were four instruments), I assumed that recruiting the required number of participants would be a challenge; therefore, I chose an

online survey format to provide participants an easy method to engage in the study and to increase the number of survey responses (see Groves et al., 2004). I assumed that participants could read and respond in English and answer the questions honestly as well as use a computer.

Scope and Delimitations

This study addressed whether student spirituality is different among secular and religious campuses. I compared the levels of student spirituality with EI, PS, and LQ to assess if there are any correlations among the variables. Presently, research has shown that there are positive mental and physical health benefits among university students who have a higher level of spirituality (Astin et al., 2015; Garssen et al., 2015; Kane & Jacobs, 2010; Kasen et al., 2012; Mansor & Khalid, 2010; Marlin, 2013). Spirituality focuses on the internal identity of an individual versus external religious practices. As current research has shown that religious practices are beneficial for university study, I aimed to fill a gap stemming from researchers' exclusive focus on the level of student spirituality (Conley et al., 2013; Kyalo & Chumba, 2011: Reymann et al., 2015; Rockenbach et al., 2015). Additionally, most research has been conducted on either religious or secular university campuses, not on both types within the same study (Bowan & Small, 2012; Conley et al., 2013; Eryilmaz, 2015; Kyalo & Chumba, 2011; Lau et al., 2015; MacCann et al, 2011). This study added to this research by increasing the definition and understanding of student spirituality by looking at internal and external factors (see Levin, 2009). Although I acknowledge that other variables may impact spirituality, I selected the key variables based on empirical investigation.

I based the population chosen for this study on research identifying university first-year students, age 18-24, as a high-risk population for developing mental and physical health ailments including the abuse of alcohol and drugs and attempts at suicide (Bowman & Small, 2010; CDC, 2015; Gan et al., 2011). Because I presumed students in married relationships to have a stable support system and to have a different living environment than students residing in mandatory dormitory housing on- or off-campus housing (Conley et al., 2013; Gan et al., 2011), I selected students who were single and unmarried to participate (Parade et al., 2010). Married first-year students were therefore excluded. Thus, the results of this study are more applicable to first-year students who are single and living in campus housing.

Although this study focused on first-year university students, it is possible to relate the results to other university and college campuses within the United States. Research shows that, globally, first-year university student have similar mental and physical ailments (Chang et al., 2016; Kane & Jacobs, 2010; Kress et al., 2015; Kyalo & Chumba, 2011; Lau et al., 2015; Miu-Chi Lun & Bond, 2013), which makes it possible to generalize the results of this study to include all first-year students attending university, regardless of what country that university is in. First-year students (regardless of culture or ethnicity) appear to have similar physical and mental health issues (Abu-Raiya et al., 2015; Anand et al., 2015; Astin et al., 2011; Mansor & Khalid, 2010; Marlin, 2013; Reyman et al., 2015).

Limitations

I selected the universities and participants in the study using a geographic and scholastic convenience sample. Although I attempted to avoid bias in creating the inclusion criteria by focusing on previous research, there may have been bias when deciding which inclusion criteria would best fit this study. University selection was open to students living and attending school within the United States. Participant selection was localized to first-year students residing in on- or off-campus housing. If the participant universities allowed first-year students to live off-campus (e.g., unmarried students), the pool of participants increased provided they met the other inclusion criteria. Inclusion criteria addressed whether participants were unmarried and living in community housing. It was preferable that participants not have a significant partner as this could have skewed the results (e.g., participants may have had a partnership identity or support that single participants would not have had). However, most biases should have been resolved in the survey inclusion criteria prescreen that participants answered via Qualtrics (i.e., demographic data) and should not have affected participant responses. The use of an online anonymous survey methodology minimized self-report biases (see Groves et al., 2004; Nayak & Narayan, 2019).

Significance

This study adds to existing literature relating to spirituality and first-year university students, as well as expands upon the definition of spirituality. It fills a gap in the research on whether campus type and EI, PS, and QL play a role in university student spirituality (Astin et al., 2011; Cartwright, 2001; Conley et al., 2013, Marlin, 2009).

Researchers continue to look for specific mechanisms to reduce mental and physical health ailments among college students (Ferriero et al., 2011; Gan et al., 2011; Hetland et al., 2012; Kyalo & Chumba, 2011). Academicians, university administrators, and health practitioners may be able to use the information from this study to design programs to increase the physical and mental health of university students (Conley et al., 2013; Cote et al., 2010; Ferreiro et al., 2011; Johnstone et al., 2012; Marlin, 2009; Wiist et al., 2012). College administrators would like to reduce the rate of student dropout, not only for enrollment purposes and matriculation, but to aid society by having well-educated adults (Conley et al., 2013; Kyalo & Chumba, 2011; Sheldon et al., 2014). Helping students succeed in college from their first year forward may make it easier to continue succeeding after college and improve health, job prospects, and life satisfaction (Conley et al., 2013; Mattanah et al., 2011). This study also provides additional insight on first-year university students' conceptualization of spirituality. This knowledge is important as the definition of spirituality continues to have multiple interpretations (Astin et al., 2011; Kane & Jacobs, 2010) and may affect health on different levels (Levin, 2009). In summary, the study's potential for positive social change can be demonstrated at the macro level by assisting university shareholders in the development of wellness programs and at the micro-level by increasing understanding among the university community about how spirituality affects students' mental and physical health.

Summary

First-year college students experience multiple stressors in their first year of school that can lead to poor mental health and physical ailments, as well as poor coping

mechanisms that may lead to risky health behaviors (Abu-Raiya et al., 2015; Conley et al., 2013; Foxcroft et al., 2015; Kyalo & Chumba, 2011; Moreno et al., 2016; Schmidt, 2012; Scott-Sheldon et al., 2014; Wellness Center, University of Illinois Chicago, 2014). Many researchers have provided suggestions for treatment or prevention programs to eliminate or reduce the stressors experienced during the first year of college, while others have studied the etiology of stress to provide awareness to college students, health practitioners, and administrators (Anand et al., 2015; Chang et al., 2016; Conley et al., 2011; Marlin, 2013).

I conducted this study to consider the role of spirituality in first-year university students' experience of stress. Religious practices and spirituality show a positive correlation to increased mental health and physical well-being (Lau et al., 2015; Marlin, 2013; Sanders et al., 2015; Unterrainer, Lewis, & Fink, 2014; Reymann et al., 2015; Wiist et al., 2012). However, researchers have yet to explore whether student spirituality has any effect on the mental health and well-being among different types of campuses in the same study. I evaluated the influence of student spirituality on EI, PS, and LQ among secular and religious college campuses. The theories of spirituality and individual psychology provided a framework for explaining the results of this quantitative, cross-sectional, nonexperimental survey. Although the online survey focused on participants attending 4-year universities within the United States, the results of this study may be applicable to students in other settings. The study adds to the literature by furthering the definition of spirituality in relation to health as measured by EI, PS, and LQ, as well as identifying whether student spirituality is affected by university campus type. Using

study findings, health practitioners and administrators may be better able to develop prevention programs to assist students to succeed within and beyond university. A substantial amount of research supports the premise of this study and is reviewed at length in Chapter 2.

Chapter 2: Literature Review

Introduction

The literature review in this chapter supports the need for continued research in identifying mechanisms to help university students succeed during their scholastic years. More than one third of U.S. university students have mental health and physical ailments like depression and anxiety (Ruthig et al., 2011; Scott-Cheldon et al., 2015). This proportion is similar to that of students in Switzerland, Malaysia, Norway, New Zealand, and Finland, showing a pattern of ill health inclusive of the population and not the country of origin (Foxcroft et al., 2015; Gan, et al., 2011; Hetland et al., 2012; Ruthig et al., 2011; Schmidt, 2012). Diener and Suh (as cited in Landa et al., 2010; see also Martins et al., 2010) suggested that emotions are good predictors of psychological well-being. Other researchers have found that motivational beliefs of peace and enlightenment (self-identity) found among those with increased spirituality are associated with an increase in mental and physical health (Astin et al., 2011; Bowman & Small, 2012; Johnstone et al., 2012; Marlin, 2013).

In this chapter, I review literature on how spirituality (meaning, purpose, and direction), as opposed to religiosity (belief, practice, or both), can act as a buffer to internal and external environmental stressors that affect mental and physical health (Anand, Jones, & Gill, 2015; Schafer, 1997). I also consider LQ (Lau et al., 2015) among first-year university students (Chang et al., 2016; Lau et al., 2015; Sanders et al., 2015). I wanted to identify potentially unrecognized minority groups on university campuses

whose beliefs may also affect their quality of life (Bowman & Small, 2012; Sanders et al., 2015).

The literature recognizes that in the area of defining spirituality and its potential influence on mind-body health, there is a need to clarify the construct of spirituality (Levin, 2009), and to increase biopsychosocial perspectives (Galantar, 2010). The problem is that university students are at risk for mental and physical health ailments due to increased levels of stress and maladaptive coping mechanisms (Bowman & Small, 2012; Conley et al., 2013). Looking at the level of spirituality among university students attending different campuses may identify useful mechanisms to aid students in decreasing their levels of PS while increasing their quality of life. In this study, I investigate the influence of university student spirituality (Gan et al., 2011; Schmidt, 2012) on EI, PS, and LQ, as moderated by campus type.

One of the theoretical frameworks for this study focused on the influence of individual levels of spirituality as defined by Fowler (1994, 1981, as cited in Cartwright, 2001), who suggested that shared values and commitments among individuals help to create faith. The spirituality models proposed by Osen and Gmunder (1991, as cited in Cartwright, 2001) assert that a relationship with a Higher Power creates a level of spirituality independent of other moral and cognitive developments. These spirituality theories postulate that spiritual development involves relationships with a community or Higher Power that are projected both externally, by identifying their relationship to others, and internally, with mature cognition of emotions and reactions (Cartwright,

2001). Thus, spirituality may foster EI, initiate mature perceptions of stress, and improve LQ.

The second theoretical framework of this study consisted of individual psychology, which identifies feelings of superiority and inferiority developed from environmental influences experienced before the age of 7 (Robinson et al., 2012). Individual psychology focuses on an individuals' worldview or how they view themselves within society, which provides a motivating factor to find a place within society that can lead to increased stress if a meaningful place within their environment or community is not found (Robinson et al., 2012; Ruthig et al., 2011). Robinson et al. (2012) stated that self-efficacy and self-regulation are associated with social-cognitive factors and self-regulation, which drive an individuals' performance (what they are capable of), their level of confidence (strength), and the degree of belief (worldview) that applies to them. Ultimately, individuals strive to unite with society to provide a positive influence that adds a sense of purpose to their existence (Contrada & Goyal, 2004). Individual psychology can identify individuals who develop coping mechanisms that may mimic the health benefits found within the construct of spirituality (Cartwright, 2001; Levin, 2009; Robinson et al., 2012). Therefore, looking at student communities on different types of university campuses provides support for these theoretical models and identifies correlations between spirituality, EI, PS, and LQ, or lack thereof. The following literature review focuses on how spirituality, PS, and EI affect university students. I explored the relationship between spirituality, EI, PS, and LQ, with a final review of how they further relate to college students.

Literature Search Strategy

I conducted a search of the literature using spirituality, psychology, and medical databases available from Walden University Library and Northcentral University. These included PsychINFO, PscyARTICLES, Academic Search Complete, EBSCOhosthost, and ProQuest. I also searched GoogleScholar. The terms that were used while conducting the literature search included the following (with the number of results in parentheses): *spirituality and emotional intelligence* (2); *students and emotional intelligence* (9); *spirituality and religiosity* (7); *spirituality and students* (8); *spirituality and college freshman* (3); *first-year freshman* (6); *spirituality and anxiety* (6); *spirituality and stress* (6); *health psychology* (11); *biopsychosocial* (8); *psychoneuroimmunology* (8); *spirituality and quality of life* (4); *wellness and spiritualty* (4); *students and quality of life* (5); *the millennial generation* (5); and *spirituality, stress, emotional intelligence, and life quality* (9). The sources of articles were reviewed in both digital and existing print versions of professional journals dating from 1986 to 2017. I also used books by Field (2013), Nichols (2008), Taylor (2012), Gurung (2013), Friedman et al. (1995), and Contrada and Baum (2011).

Theoretical Foundation and Conceptual Framework

The Theory of Spirituality

Academic researchers have shifted from using the term *religion* to *spirituality* in discussions of health impacts. Explaining this shift, Levin (2009) noted, “The word ’spirituality’ was seen as more personal, even more democratic, and as carrying less of

the perceived stigma of the old term 'religion'" (p. 131). Previous scholars also noted the distinction:

> "Uncontaminated, religion is a noble word: deriving as it does from the Latin *religio,* to rebind, the word targets what religion is essentially about. But because it challenges the prevailing worldview, it has lost some of its respectability…Enter the word spirituality to name (without specification) what is good about religion." (Smith, 2001, as cited in Levin, 2009, p. 131)

The use of the word *spirituality* allows present-day researchers to study the health benefits that have been empirically supported in research that focuses on the influence of religious or spiritual practices on health and well-being. However, using the terms *religion* and *spirituality* interchangeably could create confusion because both terms encompass different approaches to ideological positions; as such, they should be used separately (Levin, 2009). Furthermore, by disconnecting research associated with spirituality and health from religion and health, researchers can focus on an individuals' internal journey and how it influences their physical and psychological well-being.

Spirituality often describes the inner journey of an individual and may have some connection to cognitive development. Cartwright (2001) compared various spirituality theories suggesting that cognitive development needed to be explored alongside spirituality as individuals grow from adolescence to adulthood. While Piagetian theory describes an increase in cognitive development, including identification of subjective versus objective modes of thoughts from infancy to adulthood, spirituality development also requires growth in cognition as individuals change their thought methodology

throughout their lifespan (Cartwright, 2001). The change in automatic, learned behaviors as child ages becomes more purposeful as adults solidify their inner belief systems and begin to understand their relationship with a higher power, either internal or external. However, Cartwright concluded that the mechanism for spiritual development does not explain spiritual conversions and might be better explored by looking at an individuals' understanding of self as they relate to others, especially in evaluating if there are similar changes in spirituality and cognition with specific religious frameworks like Buddhism, Christianity, or Judaism.

University students identifying with various religions were classified into three groups (majority, minority, or nonreligious) that expressed common views regarding the concept of spirituality. The majority religious groups (mainline Protestants, evangelical Protestants, Orthodox Christians, and Roman Catholics) believed that there is a connection to the divine, the universe, mostly grounded in faith and belief in a higher external entity (i.e. God, Higher Power; Rockenbach et al., 2015). Two of the university's to be used in this study identity as Seventh-day Adventist and although the campuses allow students of all spiritual and religious backgrounds to attend, students must adhere to the guiding religious practices of Seventh-Day Adventists like taking bible classes and attending worship services on Saturday regardless of personal ideology (Marlin, 2013). Similarly, Rockenbach et al. (2015) identified minority religious groups (Buddhists, Hindus, Muslims, Jews, Latter-Day Saints, Unitarian Universalists) as also believing spirituality connected them to the divine and the universe, although focusing more on the connection with the world around themselves versus a higher external entity, while

nonreligious (atheists and agnostics) believe spirituality has a connection to the divine and the universe not associated with any religious entity or organized religion. The commonality described among all three groups of students that spirituality is connected not only to self (internal) but to the world around them (external), supports the conceptualization multiple traditional and non-traditional religious belief systems have about understanding spirituality. These types of students should be found in non-religious or secular universities such as one private and one state institution. However, these students could also be found on the religious campuses as minority students. For university students who continue to question their values and beliefs outside of parental involvement, the university campus may need to provide a supportive environment where students can continue to question their relationship to their internal and external world.

Undergraduate, university students are described as emerging adults who are exploring their beliefs and values while solidifying their identity outside of any adolescent influences (i.e. parents). Reymann et al. (2015) found that the U.S. university campus is a location that many students use to cultivate an adult persona while discovering their connection to others, giving back to society, and maturing in their faith belief system. This idea was found to be true among university students in the United Kingdom, were talking about spirituality is less common among British society (Anand et al., 2013). Identifying that one gap in spirituality research is a lack of non-U.S., non-Judeo-Christian perspectives; Arand et al. (2013) explored whether U.K. students experienced the same levels of spirituality identification as their U.S. counterparts. Researchers found that students of various ages, gender, marital status, ethnicity, or

specific religious or spiritual societies, believe spirituality to be an important component to add meaning to their lives (Arand et al., 2013). Therefore, looking at spirituality among different age groups, campuses, and belief systems can add to the conceptualization of what spirituality means to university students.

The Theory of Individual Psychology

Individual psychology is also referred to as Adlerian psychology because it was founded by Alfred Adler, who developed a humanistic theory describing how individuals develop and accept their place in society (Pomeroy & Clark, 2015; Wilson & Dowda, 2017). Individual psychology is predominately used by therapists to understand and assist individuals and groups by using the cognitive, humanistic, psychodynamic, and systemic perspectives that are guided by goals and social inclusion (Watts, 2015). However, researchers can also use individual psychology to identify self-efficacy, how an individual believes they can combat challenges, and social interest that involves a sense of belonging among others (Pomeroy & Clark, 2015; Wilson & Dowda, 2017), and is used to describe individual motivation or authenticity within their environment (Erguner-Tekinalp, 2017). Authenticity is defined as "…a process of exploring, discovering, and accepting one's true self and as a result, behaving accordingly…[it] is a development process that includes exploration, discovery, acceptance, and consistent behaviors," (Erguner-Tekinalp, 2017, p. 55). The combination of identifying self-efficacy and social involvement creates an authentic individual who understands their capabilities and limitations. They have a mature understanding of where they fit into their social environment and what belief systems they chose to identify with. Overall, a healthy,

mature individual strives to find their purpose within their chosen peer group by using their worldview to interpret their internal and external understanding of self.

The ultimate goal of an individual is to provide society with positive influence that adds purpose to the individual's sense of self. Watts (20015) described individual psychology as defining personality, or creating a lifestyle, that develops from cognitions, affecting behaviors by creating unique convictions that help a person navigate life challenges: For example, by providing various coping mechanisms, or self-efficacy (Pomeroy & Clark, 2015). The created lifestyle is influenced by their family structure as children, creating a worldview, which is then used to find where they fit into society (Watts, 2015), to include a spiritual aspect (Wilson & Dowda, 2017), and personal authenticity (Erguner-Tekinalp, 2017). Yeon-Shin and Steger (2016) found that universities perceived by students' to be supportive of students while they searched for meaning in life, were more likely to have students' feel that the negative aspects of seeking their purpose (negative affect, depression, and neuroticism), were reduced. The purpose of searching for meaning in life, while questioning their created lifestyle, is a mature movement from childhood to adulthood. As a student questions and begins to discover how they fit into society, individual psychology addresses other areas of a worldview that are important in creating a mature understanding of self, such as the population found among first-year university students.

Diverse worldviews can interconnect or diverge since they develop from different childhood experiences, cultures, and a variety of other factors that are experienced by individuals. When looking at the worldview of university students and their interpretation

of spirituality, Rochenbach et al. (2015) found that there were as many similarities as differences within groups of university students attending both public and private research universities who identified as either a majority religion, a minority religion, or non-religious. In each group, all students felt that their spirituality involved looking within themselves to find their connection to the external world. The differences in each group were associated with whether or not the student believed their connection was through a divine entity (God, the universe), or through their definition of a higher power that does not encompass a specific entity. The four different universities in Southern California to be included in this study should share a similarity of religious and non-religious diversity thus providing a solid base of exploring how worldview, in relation to spiritual development, might influence EI, PS, and LQ on different campus types.

On the other hand, Bryant (2011) believed that students who do not identify as non-religious are not able to relate to concepts like religious diversity and spiritual development. Ecumenical worldview is used to explain how college encounters with religion, spirituality, and diversity in various settings affect an individual. Bryant (2011) used the term ecumenical worldview describing a "…pluralistic competence that reflects having an interest in diverse worldviews, accepting others, and believing in human interconnectedness," (p. 461). In a study of 14,527 UCLA taken from a survey of students in their first and junior year, it was found that students with minority or non-religious views had more challenging struggles when encountering religious or spiritual struggles (Bryant, 2011). However, these struggles were increased or decreased by the choice of social groups or co-curricular activities that the students wanted to engage in.

Based on the ability of the student to understand their belief system within the environment they chose to participate in resonates with the theory of individual psychology in regard to worldview and authenticity.

Individual psychology identifies individual feelings of superiority or inferiority that can affect an individual's worldview. Superiority is defined as an individual who believes they are better than everyone, a defense mechanism often use to counteract feelings of inferiority; while inferiority refers to a common belief that the individual is not worthy, smart, or good enough (Watts, 2015). Robinson et al. (2012) and Ruthig et al. (2011), identified that individuals use their worldview to find their identity within society and that increased levels of stress from feelings of inferiority result from a lack of societal purpose. In other words, individuals strive to achieve self-efficacy and self-regulation, which are connected to social-cognitive awareness and drive their performance (what a person is capable of), their level of confidence (strength), and the degree of how much their worldview means to them (Ruthig et al., 2011). If students feel they are inferior in their peer or social group, they are more likely to develop negative aspects in their quest for meaning in their life. Contrarily, the superior worldview assists individuals to explore and embrace who they are within their peer group; to find their authentic self by being the best they can be and always striving to do better.

A supportive college environment can be a positive mechanism for students who are searching for meaning and purpose in life. The search for meaning is both external, understanding their peers' worldviews, and internal, understanding their worldview or identity. Yeon Shin and Steger (2016) stated that students evolving from late adolescents

into young adults are in a critical development phase where their cognitions solidify into a specific life purpose or goal. The authors explored four domains of the college environment that when perceived as supportive, was considered a positive and enjoyable experience to find a student's worldview. The four domains of the college environment were identified as the institution and the professors, the classmates, the culture, and the social atmosphere (Yeon Shin & Steger, 2016). Within these domains two dimensions of support were looked at: the emotional and psychological (via social and academic peers as previously listed), and the opportunity-related (courses, conversations, and activities). The results supported previous research into positive health and well-being when students view their campus as supportive while searching for meaning in life. However, student outcomes were influenced through their worldview and those who felt their university was unsupportive did not find as much meaning to life as their counterparts. Overall, the use of individual psychology to understand the motivation behind how university students view their spirituality, PS, and their level of EI provides this study a viewpoint that can be understood among a variety of academic and health professionals.

Literature Review Related to Key Variables and/or Concepts

College Students and Spirituality

Earlier it was mentioned that researchers prefer to keep the subjects of religiosity and spirituality separate; however, due to the plethora of research over the past half-century, there are similarities as well as differences that need to be addressed to understand why separating the subjects may be a challenge when looking at the university student population. Astin et al. (2011), distinguished spirituality and

religiousness by college description since there is a lack of an agreed-upon definition among religious entities. According to the students who responded to their study, students identified religiousness as an adherence to a set of faith-based beliefs and practices, while spirituality describes intuition, inspiration, creativity, and a connection to the world. In opposing research, Kane and Jacobs (2010) found that most students in a Florida University believed that both religious and spiritual habits were associated with having a relationship to a higher power versus a nonpersonal relationship looking for enlightenment. Most of these students believed that dietary habits or types of clothing, worn for religious or spiritual reasons, were not important when compared to the belief and practices. Findings like these support the idea that the statistically significant response from the students identified that religious and spiritual beliefs are both interconnected and different at the same time. However, other researchers and university students choose to separate the difference between religion and spirituality.

Religiosity

Religious practices can often be passed from parents to their children, or via peer groups to individuals who search for a like-minded community. Supportive community environments often have positive coping mechanisms like prayer, meditation, and weekly meetings that can reduce the effects of negative environmental stressors (divorce, life changes, leaving home for school) (Astin et al., 2011; Behere et al.; Bowman & Small, 2012). Ismail and Desmukh (2012) found that the link between religiosity and psychological well-being was directly related to the participation (attendance) at worship services, belief salience, and frequency of prayer. They found that among their Pakistani

Muslim participants there was a decrease in levels of anxiety and loneliness and an increase in life fulfillment when they participated in religious beliefs like prayer. Religious mechanisms such as prayer and worship services have a positive relationship to increased mental health among different religions, as long as individuals are consistent with the practices on a daily and weekly basis. There are instances when religious and spiritual struggles can lead to poor mental health and well-being.

Even though research more commonly supports a positive relationship between religious practices and physical and mental health, some negative aspects should be considered. Abu-Raiya et al., (2015) identified that most research overlooks the darker side of religious and spiritual influences by eliminating the population that struggles to find their place within whatever belief system (religious or spiritual) they chose to practice. The struggles found within this other population show an increase in tension, strain, and conflict with others, self, and the supernatural that lead to poor mental health and well-being. Limitations of looking at the negative influences of religion and spirituality on health are usually associated with college students, the medically ill, and religious individuals; it is not normally associated with a national population (Abu-Raiya et al., 2015). Therefore, although some research points to negative aspects of religiosity and spirituality, the majority of research shows the mental and physical health benefits for individuals who are not struggling to accept their belief system.

Individuals who practice religion are physically and mentally healthier than those who do not practice religion. Activities such as meditation and prayer can effectively lower heart rate, blood pressure, and increase mental health (Wiist et al., 2012). In a

recent study by Yadav et al. (2012), yoga and meditation were found to reduce oxidative stress, fasting glucose, and improve lipid profiles, while increasing the subjective well-being in patients with chronic diseases. Morten et al. (2012) found that psychological well-being was directly related to a reduction in stress reactivity by increasing psychosocial functions (community involvement, church attendance), and increase stress coping mechanisms found with dietary religious adherence (vegetarianism). Bowman and Small (2012) concluded that college students who use these types of religious practices, whether they are religious or not, may also benefit from the stress-reducing coping mechanisms found in meditation and yoga. Based on these studies it appears that religious practices can positively help individuals increase their physical and mental health. Although research is limited regarding the development of a spiritual belief system without a higher power, as it has less established and identifiable requirements, studies in spirituality showed similar mental and physical health effects as found in adherence to religious practices.

Spirituality

Spirituality and religion are often interconnected; however, in research, there is a noted difference between the two fundamental definitions although they are used interchangeably to describe positive associations with health and well-being. Religiosity (belief, practice, or both) and spirituality (meaning, purpose, and direction) can act as a buffer to internal environment stressors that affect mental and physical well-being (Shafer, 1997). Spirituality is a personal journey with limited structure contained within a personal belief system where individuals look to their inner-self to find peace,

enlightenment, and satisfaction (Astin et al., 2011; Cartwright, 2001; Johnstone et al., 2012). Johnstone et al. (2012) found that better mental health is significantly related to increasing spirituality among a cross-sectional analysis of 160 participants who identified with five different religions (Buddhists, Catholics, Jews, Muslims, and Protestants). Additionally, there is a positive correlation between the religious practices of meditation and prayer, and increased self-identity found in spirituality, which creates a positive influence for reducing stress and anxiety levels among students (Bowman & Small, 2012; Gan et al., 2011; Yadav et al., 2012). These studies support spirituality as a common influence for both mental and physical health attributes among populations that identify with a specific religion or who create their spiritual definition. The fact that spirituality and health can affect an individual provides enough scientific interest to keep research in this area at the forefront of health and wellness.

Since spirituality can influence the mental and physical health of a population or individual, more research is necessary to see where the benefits can be applied. Levin (2009) recommended that research on religion and health should be expanded to include constructs such as spirituality as a method to help academia and health practitioners identify and define what interconnections may be present. Galantar (2010) also suggested that looking at spirituality from a biopsychosocial perspective among any culture or population could provide a positive mechanism for coping with illnesses. Assessing levels of spirituality could provide additional insight into why some college students adjust better during their first year at university versus others who struggle during the same year.

College Students and Stress

The mind and body relationship is studied in Health Psychology by looking at the biopsychosocial aspects of an individual in the etiology of disease, including both mental well-being and physical health that are affected by social experiences. Psychoneuroimmunology (PNI) describes a relationship between the mind and body that is interconnected and affects individuals differently based upon their unique physiology and ability to cope with various stressors (Barrett, 2009; Bonneau, Padgett, & Sheridan, 2007; Littrell, 2015). PNI developed when Robert Ader demonstrated that autoimmune diseases like Lupus could trick patient's white blood cells when they used placebo drugs (Littrell, 2015). Additional research has continued to support the interconnection between the mental and physical processes with how the mind affects patients with cancer and viral infections (Kendall-Tackett, 2009; Littrell, 2015), as well as pain tolerance (Carver, 2011; Laureate Education, 2012). The physiological and mental effects of stress in short and long-term situations have been well documented and researched.

The Effects of Stress

Acute and chronic stress can affect the mental and physical health of individuals. Stress is usually defined when the perceived demands on the organism upset the homeostasis of the body (Garung, 2013). Homeostasis is the level at which the body is harmoniously working together to maintain optimal functions. Taylor (2012) expanded on this definition by stating stress is a negative emotional response affecting the biochemical physiological, cognitive, and behavioral changes that respond to combat the stress event. The stressors, which include money, the economy, work, family, and health

problems (Taylor, 2012), the environment (Schmidt, 2012), home life (Laporte et al., 2011), or anything that gets the body out of homeostasis (Gurung, 2013). The flight or fight response is the body's attempt to reestablish homeostasis when an imbalance from these stressors occurs. Gurung (2013) and Taylor (2012) acknowledged that the flight or fight response was once used to protect the organism by providing an aggressive response (fight) or a passive response (flight) to protect the organism. These authors believed that the responses could further harm the organism (or individual) by eliciting a violent (aggressive) response or causing social withdrawal (passive), or withdrawal into substance use.

Stress can affect individuals on different levels, either negative or positive, depending upon the coping mechanisms of the individuals. Acute stress is normally related to physical injury that damages tissues (surgery) or bone (break), whereas chronic stress lasts for a prolonged period such as adjusting to the death of a loved one or learning how to live on a university campus (Conley et al., 2012; Hammen et al., 2012; Gan et al., 2011; Thoits, 2010). Chronic stress activates the autonomic immune systems (ANS) that discharge the release of both epinephrine and norepinephrine leading to neurochemical imbalances if not regulated (Taylor, 2012). Demands from the environment (stressors) act on the cortex of the brain activating the hypothalamus that in turn activates the pituitary gland, which then turns on the adrenal cortex (releasing corticosteroids) or the adrenal medulla (releasing catecholamines, norepinephrine, and epinephrine) that can affect the immune system and cycle back around to affect the cortex (Gurung, 2013; Taylor, 2012).

Chronic stress experienced over a lengthy period can cause increased levels of epinephrine and norepinephrine to surge within the body leading to the suppression of cellular immune function, producing hemodynamic changes (increased blood pressure and heart rate), neurochemical imbalances (psychiatric imbalances), or effecting the lipid levels and free fatty acids found in atherosclerosis (Taylor, 2012). Thoits (2010) found that the impacts of stressors are also affected by gender, racial-ethnic, marital status, and social class inequalities, and can be reduced have higher levels of self- mastery and esteem, as well as social support. Lewitus and Schwartz (2009) believed that enhancing stress resilience via behavioral immunization could help improve the reaction some individuals have to various stressors. Therefore, college students experiencing high levels of stress with poor coping abilities could benefit from finding methods to increase stress coping mechanisms that cause negative health outcomes.

Coping Mechanisms

College students are a good population to benefit from health prevention and intervention that can be provided with stress management techniques, which fall into one of three categories: cognitive, behavioral, or emotional (Conley et al., 2013; Gan et al., 2011; Martins et al., 2010). Utilizing stress management techniques that encompass all three strategies has shown positive results in helping these populations learn about and apply appropriate stress coping skills (Conley et al., 2013; Hetland et al., 2012). Conley et al. (2013) found that college students participating in a wellness program focused on increasing the knowledge and practice of stress management were more likely to see academic improvement, perceived social support, and decreased levels of stress. First,

students were shown how to increase their social support to find other students who are equally stressed and confused (Kyalo & Chumba, 2011). By identifying and participating in small groups, these groups can help students relate to others who feel the same stressors, thus normalizing the academic environment and creating a positive social support group, thus increasing their overall psychosocial adjustment (Conley et al., 2013). Second, was the use of stress management techniques such as mediation, exercise, and proper nutrition to reduce the level of stress experienced in the academic environment (Hetland, et al., 2012; Gan et al., 2011). Students learning how to effectively use mediation and exercise to increase physical and mental health are less likely to develop anxiety and depression than others who chose alternative methods (eating disorders, substance use) as a form of stress relief.

Stress coping mechanisms are developed by the environment of the individual, which can include familial, community, and peer influence (Carver, 2011; Rook, August, & Sorkin, 201l). These influences together form a social context where ideas about stress, injury, and pain are either normalized or exacerbated through shared beliefs, values, and norms; all influenced by the culture in which they reside and create a culture (Chun, Moos, & Crokite, 2011; Laureate Education, 2012). Chun et al. (2011) elaborates that culture is a complex system that constantly evolves and shares information from one generation to the next. Within the culture, an individual appraises stress by identifying if something is a stressor, and if it is, how it should be responded to (Carver, 2011). Additionally, the health and well-being of an individual are also correlated to the support, companionship, and control within the community. However, if support within the

community (or by an individual) is not given freely and without restrictions (indebtedness) then individuals may not develop positive coping mechanisms within their culture's environment and may use alcohol or drugs to self-soothe (Carver, 2011; Chun et al., 2011).

First-year college students in Malaysia, the United States, and Norway were all shown to have similar coping strategies (alcohol, drugs, smoking) or their ill-health related counterparts (anxiety, depression), suggesting that regardless of ethnicity this population is a functioning social environment with its influences, expectations, and stress coping mechanisms (Carver, 2011; Conley et al., 2013; Gan, Mohd Nasir, Zalilah, & Hazizi, 2011; Hetland, Saksvick, Albertsen, Berntsen, & Henriksen, 2012; Laureate Education, 2012; Ruthig, Marrone, Hladkyj, & Robbinson-Epp, 2011; Wellness Center, University of Illinois Chicago, 2014). Within this population of first-year college students numerous stressors can elevate their level of stress such as increased academic expectations (Hetland et al., 2012), and poor psychosocial adjustment (Conley, Travers, & Bryant, 2013). To cope with these stressors, first-year college students may turn to use alcohol, smoking, drugs, or sex as forms of self-medication, which are 'normal' college activities for relieving the stress of academic and social pressures (Gan et al., 2011; Ruthig et al., 2011; Wellness Center, University of Illinois Chicago, 2014). If the stressors are left untreated, this same population could develop anxiety, depression, or eating disorders (Gan et al., 2011), or health-related issues from the use of alcohol, drugs, and smoking (Wellness Center, University of Illinois Chicago, 2014).

Mental Health and Burnout

College students with poor stress coping skills can suffer from negative mental and physical health behaviors. The CDC (2015) reported that the highest percentage of adults seriously considering suicide were between 18 and 26 years of age (7.4%) and that males, more than females, are more likely to take their lives. Young adults, especially university students, have been identified as a vulnerable population with developing anxiety and depression (Gan et al., 2011). One explanation offered by Hetland et al. (2012), stated that students who are more likely to experience anxiety and depression are more likely to have neurotic personalities and suffer from 'overcommitment.' The authors define *overcommitment* as a pattern of attitudes, behaviors, and emotional characteristics in individuals who are driven by a high need for approval and control. This need for approval and control is developed through an individual's ambition and personal motivation (Hetland et al.). Naturally, this can increase their levels of stress and anxiety, which in turn require an outlet to reduce these negative emotions (Hankonen et al., 2010).

There is a relationship between overcommitment and students suffering from mental burnout. This can be seen in Type-A behaviors that are characterized by ambition, competitiveness, impatience, and aggression (usually associated with neurotic personalities) who have been more likely to show burnout (Hetland et al., 2012). Neurotic personalities have shown to be more hostile, depressed, and vulnerable to anxiety that can lead to eventual heart-related problems as previously identified (Taylor, 2012). Therefore, to reduce the negative effects that can be seen in overcommitment, as related

to Type-A or neurotic personalities, stress-reducing interventions need to be introduced. These interventions might be found in the proven health benefits of students who practice various forms of religiosity or spirituality (Johnstone et al., 2012). Thus, it was identified that greater religiosity, in both high and low-risk individuals, may have a beneficial effect to protect mental health concerns within risky populations.

College Students and Emotional Intelligence

Young adults mature both physically and mentally sometime in their late teens or early twenties. EI describes how an individual is personally aware of their feelings and reactions within their environment and themselves (Copestake, Gray, & Snowden, 2013). EI focuses on positive thoughts, as well as increasing an individual's awareness regarding individual reactiveness to various socio-environmental stressors (Contrada & Goyal, 2004). Copestake et al. (2013) identified EI as both a trait (emotion-related disposition and self-perception), as well as an ability (emotion-related cognitive awareness) that can be taught. A commonly accepted four-branch hierarchical model identifies EI using four basic skills: "…1- perceive, appraise, and express emotions accurately, 2- access or generate feelings that facilitate thought, 3- understand emotions and emotional knowledge, and 4- regulate emotions to promote emotional and intellectual growth," (Landa et al., 2010, p. 748; MacCann et al., 2011). Most interventions are directed at increasing individual understanding in each of these areas as a method to improve mental and physical health outcomes in various stressful situations. Stressful situations can be both internal or external, encompassing mental, physical, or social health.

Increasing levels of EI can help individuals improve both health and relationships. Recently, it has been suggested that increased EI via teaching responsibility help individuals become more aware of their role in creating their reactions to the various stressors (Copestake, Gray, & Snowden, 2013; Martins et al., 2010). Kotsou et al. (2011) found that a 15-hour intervention designed at increasing EI showed a positive response up to one year after completion. Martins et al. (2010) identified that EI was positively correlated to increased mental and physical health when higher EI scores showed a significant decrease in clinical symptoms, versus an individual who scored lower on the scales. While Kyalo and Chumba (2011) found that the attitude of university students towards their environment and the academic program was directly related to their level of social and academic adjustment. By providing educational interventions designed to increase EI, study results reveal that there is a benefit to help individuals become aware of how EI influences their lives. These examples demonstrate that assisting students to become more aware of their reactions to various stressors could help them adjust to their university environment more quickly and with more positive outcomes.

First-year university students experiencing college for the first time away from home may not be aware of how they will react to their new environment. EI is also identified as a component of the self-regulating theory, derived from disposition optimism that could reach across secular and religious college campuses to positively affect the mental and physical well-being of first-year college students (Behere et al., 2013; Bowman & Small, 2012; Kyalo & Chumba, 2013; MacCann, Fogarty, Zeidner, & Roberts, 2011). First-year college students away from home for the first time were shown

to have increased levels of eating disorders, anxiety, depression, and stress, and were more likely to drop out of college (Gan et al., 2011). However, Conley et al. (2011) found that students who participated in an intervention educational program to increase their stress coping skills, including EI, were more likely to have a successful first year of college than their counterparts who chose not to participate in the program. First-year students may not be aware of how academic and social stressors will differ from their high school years, which can be remedied by providing interventions designed to increase EI, as well as other useful skills like communication and self-awareness. Increased EI and self-awareness is remarkedly similar to the common definition of spirituality and may each have their influence over first-year college students.

Spirituality and Emotional Intelligence

Both spirituality and EI are interconnected, affecting individuals equally, but with different approaches. Diener and Suh suggested that emotions are good predictors of mental health (Landa et al., 2010). Individuals who followed religious practices were found to have higher levels of EI and increased coping mechanisms when compared to non-religious practicing groups (Gurung, 2013; Lewis et al., 2012; Wiist et al, 2012). The positive influence of religious practices is thought to increase levels of EI via achieving a higher level of consciousness (Astin et al., 2011; Kotsou et al., 2011; Robinson et al., 2012). In comparison, spirituality also shows a positive influence on college adjustment by helping students maintain healthy spiritual growth that encompasses a purpose in life (Mansor & Khalid, 2012). Looking at how spirituality and EI affect each other can

provide a deeper understanding of how they influence the individual reactions to stressors.

In current EI research scientists have started to show a significant increase in health when individuals properly identify their emotional response and personal reaction to any given situation (stressor) (Robinson, Moeller, Buchholz, Boyd, & Troop-Gordon, 2012). Therefore, the cognitive response to the stressor that modifies the emotional reaction to that same stressor can be increased or decreased based on the stress perception of the individual (Lovallo, 2005). Of course, whether or not the stressor is 'real' for that individual (physical, mental, or emotional), they will experience a physiological reaction of epinephrine and norepinephrine (Martins, Ramalho, & Morin, 2010). The physiological reaction to stress is directly related to how individuals mentally process the stressor, which contains similarities to how spirituality influences the emotional response.

Individual spirituality has been defined as an internal belief system that can express itself in mental and physical health outcomes, as well as influencing an emotional response to various stressors. Sanders et al. (2015) found that intrinsic religiousness, spiritual maturity, and self-transcendence were directly related to better mental health and positive functioning among young adults. The authors also found that participants had lower levels of depression, anxiety, and obsessive-compulsiveness, showing a higher level of global self-esteem. Similarly, young adults were less likely to have risky behaviors and depression if they had higher levels of spirituality (Yonker et. al., 2012). These same adults also showed higher personality scores in conscientiousness,

agreeableness, and openness. It appears that spirituality and EI directly affect physical and mental health outcomes among young adults.

EI and spirituality can influence personalities as they are directly associated with worldview (self-identity). Johnstone et al. (2012) found that positive personality traits (i.e. extraversion) were directly influenced by both EI and spirituality due to the belief systems of the individuals that guide their identity and influence their personalities. Likewise, personality traits like neuroticism were decreased with higher levels of spirituality (Johnstone et al., 2012). Unterrainer et al. (2014) also found that well-being and personality were directly related to different personality types by positively influencing the well-being of those same participants. EI and spirituality are influencing factors for how an individual expresses their personality traits, with extroversion being on the higher level with increased EI and spirituality attributes. However, there is also research that believes personality may not be able to overcome the negative aspects of spirituality and EI.

An overlooked topic of research is how individuals can struggle both internally and externally with their spiritual beliefs. Abu-Raiya and Pargament (2015) identified spiritual struggles as a conflict, tension, or strain with other people or themselves, which is directly related to poor mental health and well-being. Although the authors identified that spirituality can be a key factor with goals and relationships, the problem arises when individuals struggle to fit into society (acceptance), or when stressors directly affect their belief system (i.e. death, illness). It when these belief systems that stem from spirituality (worldview) can create negative mental and physical health if they go unresolved.

Therefore, it appears that an emotional factor in spiritual expression can help negate the confusion when these internal conflicts arise. Overall, when spirituality and EI are combined, they can directly influence social-emotional behaviors and reactions to a variety of stressors.

Spirituality and Stress

Researchers have concluded that an individual's level of spirituality directly affects the psychological and physiological reaction to a variety of stressors. These reactions can increase or decrease the homeostasis of an individual creating a positive or negative effect on the well-being of that individual. In a study aimed at reducing stress and anxiety as a method to decrease chronic diseases like diabetes, heart and respiratory diseases, and psychiatric disorders, researchers introduced a yoga-based lifestyle (i.e. meditation) with one hour of yoga and education for 10 days (Yadav et al., 2012). This short-term intervention was evaluated with a pre- and post-evaluation that showed a significant improvement in the areas reviewed: anxiety, subjective well-being, and personality (i.e. neuroticism, extraversion, openness). The researchers concluded that if this short-term intervention was introduced, patients would see an improvement in anxiety levels and chronic disease.

Spirituality can affect how an individual reacts to various stressors, shown to affect their mental health and physical well-being, by providing a mechanism for individuals to understand how they should react to those stressors. Meditation is used in some forms of spirituality as a method to focus internal thoughts and becomes aware of oneself (Brown et al., 2013). Among a sample of 886 Buddhist respondents, 82% were

from the USA, and of those 99% practiced Buddhist meditation (Wiist et al., 2012). Most Buddhists practicing mediation reported that their health was good or excellent, with a 15% increase in the odds of there being a non-smoker. While Brown et al. (2013) found that out of 121 undergraduate students attending either a small private university or a large public university, most who identified with higher levels of well-being, reported lower levels of anxiety, while students reporting higher levels of spirituality had fewer symptoms of depression. It appears that meditation as a method to discover one's spirituality may provide some health benefits. One reason why spirituality may increase wellness is the idea that hope is an underlying influencing factor.

Hope has been seen as a method that can improve the positive aspects of spirituality by reducing depression. Hope, like forgiveness, is often associated with spirituality but not unique to it (Chang et al., 2016). To identify if spirituality aspects like hope affect mental health, researchers explored the association between spirituality, hope, and depression (Chang et al., 2016). They found that there is a positive correlation between hope and decreased levels of depression, and that depression may be related more to the participant's inability to identify purpose and meaning in their life. Spirituality plays a big part in how an individual will react to stress since those reactions would be directly related to their spiritual belief system. If the reaction is positively associated with their belief system, they will have a better mental outcome than if their reaction is contrary to their belief system.

Spirituality and Life Quality

The positive mental and physical benefit of religiosity has been shown in multiple studies. Although Bowman and Small (2012) reference conflicting studies that religious practices can reduce college stress, a large quantity of research provides positive correlations between meditation, prayer, and self-identity solidification (Johnstone et al., 2012; Yadav, et al., 2012) providing a positive influence of reducing both stress and anxiety (Gan et al., 2011). This reduction is shown by the increase in LQ as defined by the level of life satisfaction, happiness, and a lack of depression and anxiety among minority religion students when compared to their non-religious counterparts as found among the 14,527 participants, attending 136 institutions, who responded to their longitudinal survey (Bowman & Small, 2012). Johnstone et al. (2012) found in a cross-sectional analysis of 160 participants of five different faiths (Buddhists, Catholics, Jews, Muslims, and Protestants) that better mental health is correlated to increased spirituality and positive personality traits. Therefore, the idea that spirituality and LQ are interdependent is supported. Indeed, it appears that even a small amount of spiritual or religious belief or practice can yield positive qualities.

Families are an important influence on the development of spirituality in students before entering the college environment. According to Marlin (2013), parents' moderate portions of their children's lives that influence not only their choice of peers, but their level of involvement in school, neighborhood environments, and social inclusion. Parade et al., (2010) found that white and minority females students who had a secure attachment with their families in the summer before attending college were able to develop

friendships among their peers in their first year of college. Contrarily, non-supportive parental environments can negatively affect adolescent growth, increasing the risk of depression (Gan et al., 2011, Marlin, 2013). In Malaysia, it was found that both male and female students who were separated from their parents were more likely to experience depression and anxiety, while females experienced significantly higher levels of stress when compared to the males (Gan et al., 2011). Based on current research it appears that any level of familial involvement can affect the quality of life and that positive relationships among family members may create a buffer against the negative health qualities found among first-year college students. The influence of family and the level of individual spirituality continues to grow from adolescence into young adulthood, thus affecting their LQ at college.

Some families with individuals who have mental-health issues find that spirituality can reduce the negative effects experienced by satellite family members and increase LQ. Kasen et al., (2012) found that high-risk offspring (identified as having at least one depressed parent) were found less likely to have mental health problems if they practiced some form of religion, the reduction in mental health illness was especially reduced when they regularly attended their weekly worship gatherings. Similarly, students practicing religiosity in religious universities showed increased levels of mental and physical well-being even when stating they experienced anxiety and stress over college attendance (Behere et al., 2013; Bowman & Small, 2012; Galantar, 2010; Mansor & Khalid, 2012; Marlin, 2009). Findings from these studies support the idea that even a

small level of spirituality can positively impact the college student and that the quality of life experienced within the family unit can have lasting influences during college.

As previously mentioned, the transition between adolescence and early adulthood (ages 17 to 25 years old), is commonly known as the highest level of emotional and social formation where parental influences decline and social influences increase. Reymann et al. (2012), explored the differences of spirituality development to a students' year in college and their gender. They found that among 216 students attending a small university in Maryland, faith maturity grew among students from their first to senior years, with the greatest growth among male students. Faith maturity was measured by assessing academic success, psychological distress, problems in living, and purpose in life (Reymann et al., 2012). Sanders et al. (2015) also found that among 898 students with an average age of 20.5 years scoring higher on intrinsic religiousness, spiritual maturity, and self-transcendence had "…lower levels of depression, anxiety, and obsessive-compulsiveness, and higher levels of global self-esteem, identity integration, moral self-approval, and meaning in life," (p. 871). Quality of life appears to improve mental health and as levels of spirituality increase, affecting social, academic, and self-identification among college students. Research has also shown that spirituality and LQ affect students all over the world.

In other countries, students with increased levels of spirituality also demonstrate an increase in their quality of life at college. Lau et al. (2015) sampled 1,160 students from a Chinese university in Hong Kong and found that the level of spirituality was a causal predictor directly related to LQ although LQ did not affect spirituality. Increased

spirituality showed a reduction in mental and emotional illness (anxiety and depression) among students (Brown et al., 2013), that mirrored the subjective well-being of students in Turkey who reported involvement in religious activities (prayer, going to the mosque) that created intimacy (i.e. friendship) directly increasing their feelings of security, hope, and their ability to cope with stress (Eryilmaz, 2015). In countries around the world, researchers have found a direct correlation between spirituality and LQ, where spirituality is the direct influence of quality of life. However, some researchers believe that the relationship between spirituality and LQ avoids the cultural contexts of the participants.

Individuals who live in societies where living situations are more difficult often show an increase in their level of religiosity or spirituality. Miu-Chi Lun and Bond (2013) identified that subjective well-being (LQ) and level of spirituality were higher among national cultures who experienced widespread hunger and low life expectancy versus societies who had fewer difficulties. Using the Worlds Value Survey, Miu-Chi Lun and Bond (2013) demonstrated that nations who support religious faith are more likely to have increased levels of subjective well-being versus nations where religious practices are less prevalent. Nations where social hostility towards religious groups increased, subjective well-being was even stronger than nations with lower hostility towards religion (Miu-Chi & Bond, 2013). Therefore, researchers are encouraged to look at the cultural context of participants, where they reside (nationally, and economically), as additional components to evaluate the LQ of individuals. However, regardless of student ethnicity or country of origin, it appears that spirituality can affect the LQ of college students, as well as influencing EI and stress.

Spirituality, Emotional Intelligence, Stress, and Life Quality Among College Students

Spirituality and EI affect reactions to stressors that are found in a variety of environments measured by mental and physical health, as well as LQ. However, spirituality studies often use the same type of questionnaires that appear to be more appropriate as an indicator for the quality of life due to the overlapping content regarding LQ and spiritual well-being (Garssen et al., 2015). Therefore, it is important to look at how spirituality, EI, stress, and LQ relate to college students. Chang et al. (2016) identified that spirituality is a multidimensional concept that encompasses the following: 1. Ritualistic spirituality is found in structured rituals with one's deity; 2. Theistic spirituality reflecting non-structured connections (or no religion), and 3. Existential spiritualty is a non-theistic search for individual meaning and purpose, all of which have a foundation in the concept of "hope". Chang et al. (2016) compared 316 college students with hope as moderators to their theory of multidimensional spirituality, finding that hope is a key component between spirituality and psychological adjustment (measured by a decrease in depression). Reviewing the combined influence of spirituality on EI, stress, and LQ among college students and how the students are affected is continued. area of interest among researchers. First-year college students have the most emotional, social, and intellectual growth that provides a wealth of information to be gathered and analyzed.

First-year college students are transitioning from adolescence to early adulthood. More than 18 million students (ages 18-24) are currently enrolled in U.S. colleges (Ruthig et al., 2011). Reymann et al. (2015) defines this group as individuals who

challenge their adolescence, parental influence and examine their ability to make individual choices, developed from their interests and beliefs. Transitional periods may increase the level of stress for some students as they adjust to a new living arrangement, financial obligations, academic autonomy, and self-reliance (Ruthig et al., 2011). Robinson et al. (2012) compared the reactions of daily stressors among two groups of students who reacted with depressive feelings or somatic symptoms. Among the 151 participants who completed the daily diary to record their reaction to various stressors, it was found that higher levels of affect perception had a more positive reaction to the stressor in both groups of students. Although college may be a stressful transition for some students, those that have higher levels of EI and healthier reactions to stress, have lower levels of depression.

First-year college students are identified as a high-risk group for developing mental, physical, and psychosocial maladjustments due to their poor skills in handling the challenges they face at school. Students attending 4-year nonreligious universities in Asia (Gan et al., 2011), Africa (Kyalo & Chumba, 2011), and Norway (Hetland et al., 2012) had increased levels of dropout rates due to poor social adjustment and high academic expectations that also led to hypertension and cardiovascular disease. Contrarily, Mattanah et al. (2011) and Parade et al. (2010) found that students with positive parental attachment had improved student adjustment. A parental attachment was defined as students who felt comfortable confiding in their parents, and whose parents were actively involved in their college transition. Students are also encouraged to increase their social interaction during college to increase their level of social and academic adjustment, while

they get used to a new environment away from their previous support system (Kyalo & Chumba, 2011; Parade et al., 2010). When spirituality was assessed among these students, researchers found that there was an increase in social, physical, and mental adjustment that could improve the outcome of the successful completion of a students' first year in college.

Health Behaviors

College is a transitory time when adolescents grow into young adulthood and learn to develop the adult life skills, they will need to be successful after college. Lifestyle behaviors developed in adolescence and young adulthood' be related to premature morbidity and mortality, especially as related to alcohol or tobacco use (Schmidt, 2012). Ruthig et al. (2011) found that 18% of a national sample of college students were found to have significant alcohol problems. In the United States, depression is listed as one of the most serious health problems among young adults (Gan et al., 2011) affecting more than 16% of undergraduates (Ruthig, et al., 2011). Depression can lead to high levels of stress that could result in disordered eating such as binging, purging, or excessive eating (obesity) to reduce the level of anxiety experienced by college students (Gan et al., 2011). Additionally, it has been shown that more than one third of U.S. university students have mental health issues that appear to affect students in Switzerland, Malaysia, Norway, and Finland (Gan et al.; Hetland et al., 2012; Schmidt, 2012). The goal of current research is to find solutions to assist this population to be successful throughout their college journey and beyond. Spirituality appears to be one common variable among EI, stress, and LQ.

There are a variety of influential areas that can affect how a student will handle the stressors they find at college. Sociodemographic data related to gender, age, culture, marital status, and education of parents can affect a student's ability to cope with stress (Schmidt, 2012). One method college students use to reduce stress is through disordered eating like anorexia and bulimia (Liou et al., 2011; Piquero, Fox, Piquero, Copwich, & Mazerolle, 2010). According to Gan et al. (2011), more than 90% of the eating disorders identified in a Malaysian study of university students were associated with increased anxiety, stress, and depression. Students attempted to regulate their stress through food restrictions, especially when associated with fraternity involvement (Piquero et al., 2010). The student's reaction to stress can result in poor health choices to reduce the negative emotions experienced with the stressful event. Eating disorders are only one form of negative health choices students can choose to reduce stress.

Another stress reduction technique is the excessive use of alcohol and the resulting risky health behaviors like unprotected sex. LaBrie et al. (2009) stated that because of the normative nature of college drinking, college students have been known to use and misuse alcohol. They identified that heavy alcohol use can lead to academic neglect, unsafe driving, and risky sexual behaviors. In their study, the authors identified that college women who were more socially healthy (set group of friends, self-identity) were more likely to drink less and have overall healthier behaviors. Likewise, those with poor mental health were more likely to be sad, depressed, and nervous, leading to more alcohol use and the resulting negative behaviors. LaBrie et al. (2009) found that campus outreach programs needed to include mental health education since the majority of

students experiencing higher levels of alcohol use were more likely to suffer from low self-esteem, anxiety disorders, and depression. Scott-Sheldon et al. (2014) also found that first-year students who received an intervention such as moderation strategies, identifying risky situations, and goal setting reduced the amount of alcohol consumption and its related problems. Increasing a student's access to health services at their college might provide a positive resource to increase their ability to cope with various stressors.

Health and wellness programs are one area that universities are looking to help college students adjust to their new environments. Hetland et al. (2012) and Kyalo and Chumba (2011) stated that increased academic expectations and social isolation increase the risk factors among first-year college students to experience poor mental and physical health. Conley et al. (2012) and Gan et al. (2011) found that first-year college students were more likely to suffer from mental and physical health problems due to the challenges and stressors experienced at college without an immediate support group (i.e., family), including increased feelings of loneliness, homesickness, and distress in personal relationships. In a study conducted by Conley et al. (2013), students introduced to stress coping wellness programs were more likely to have better psychosocial adjustment and stress management during their first year than the control group who did not have any educational wellness interventions. This suggests that student wellness programs might provide a mechanism for universities to aid the first-year students with the adjustments needed to be successful at school.

While adolescence (ages 12-17) is a very turbulent time in an individual's life where not only hormonal changes influence the physical characteristics of their body, but

their identity begins to solidify; the college years (ages 18-21) have less physical development and more emotional growth. College-age adults continue to develop their identity through choice of career, partner, social sphere, and their ability to cope with stressors (academic expectations, peer pressures, and final identity development). Overcoming the challenges of creating an identity seems to be a universal aspect of growth encompassing all genders of individuals.

Gender

Across gender lines, it has been shown that both males and females can be affected by unhealthy behaviors associated with college attendance. Gender does not affect the levels of stress, alcohol use, anxiety, depression, or eating disorders (Ruthig et al., 2011). Study results showed that women who reported higher levels of stress and anxiety were less likely to have the same concerns at the end of the academic year. This may have been due to the increased level of exercise noted in the study; however, Ruthig et al. (2011) believed that the women adjusted to the new lifestyle over the year, and their perceived levels of stress decreased accordingly. Likewise, this same inverse relationship was seen in the smaller levels of men complaining about high stress and increasing their participation in health services towards the end of the year. What did not change was the amount of alcohol consumption among both groups, suggesting that college normative behaviors and expectations require the use of drinking as a socially acceptable practice (Ruthig et al., 2011). Overall, it appears that gender may have some slight differences in the manner they experience stress, suggesting that gender-neutral wellness programs may be effective among the entire population of first-year college students.

Gender differences and their reactions to stress have been the focus of other research. In a study assessing social and academic adjustment of university students in Kenya, a lack of gender gaps was noted (Kyalo & Chumba, 2011). The authors of this study found that social isolation and poor academic performance were more likely to be associated with first-year students and their higher level of required adjustment than when compared to other students within the same university, regardless of gender. One of the key features presented by Kyalo and Chumba (2011) is that understanding the level of social and academic adjustment in college students can help their parents (and the students) make a financially sound investment by providing the necessary mental and physical health services required for successful completion of university. This idea opens the thought that parental or community involvement before university attendance might help students avoid risky health behaviors as they seek solutions to handle the higher levels of stress and potential burnout (Schmidt, 2012). Since gender does not appear to be the main factor of how stress is interpreted and handled, increasing the social support system at the university to mirror positive community involvement could be one solution in future health and wellness college programs.

Religious Minorities

Minority religious students include those who chose to have a religious or spiritual belief or students who identify as nonreligious. Either type of minority religious student may find themselves attending University campuses that promote a specific religion or spiritual belief or who strive to remain neutral, as commonly found among public institutions. Minority religions are identified as Islamic, Buddhist, Unitarian

Universalist, Hindu, Eastern Orthodox, and non-mainstream Christianity like Seventh-day Adventist (Bowman & Small, 2012), which also includes non-religious students (Rochenbach, Mayhew, & Bowman, 2015). Religious minorities may have other stressors beyond the currently identified first-year college student stressors.

Minority religious students may find it difficult to find a societal place on university campuses. Bowman and Small (2012) and Astin et al. (2011) found that a previously unrecognized minority group within the university environment may have additional life stressors due to their religious or non-religious beliefs and practices. A conservative lifestyle and specific or non-specific religious practices may be the etiology of increased stress (Astin et al., 2011; Schafer, 1997). For example, the dietary practices that require avoidance of alcohol consumption (Morton et al., 2012), which are also considered an acceptable college indulgence (Schmidt, 2012). These types of dietary differences versus social expectations may cause increased levels of stress for the minority student abstaining from drinking alcohol with other college students. Although religious minority students were found to have more challenges with spiritual struggles than mainstream Christians or larger religious organization (where a student is free to choose what they are going to practice or believe), as they find their identity within secular culture, they are still less likely to have the same level of risky health behaviors found in their non-religious fellow students.

Summary

During stressful situations, spiritual beliefs can influence the mental and physical health of individuals. There are different opinions among researchers regarding the

definition of spirituality, and most research focuses on religious practices as a positive mechanism to reduce stress and its' effect on mental or physical well-being (Bowman & Small, 2012; Chang et al., 2016). Research has been conducted on both religious and secular campuses with varying degrees of results. The themes found among researchers have identified that a student's level of PS, , and LQ may be influenced by their religious or spiritual belief, while others believe that spirituality and religious practices increase negative mental and physical health, especially among minority groups attending non-religious or secular universities as found in the themes presented in the previous literature review ((Astin et al., 2011; Chang et al., 2016; Gan et al., 2011; Kyalo & Chumba, 2011; Hetland et al., 2012). Many researchers conclude that further study should be conducted among this population to identify specific prevention and treatment solutions to increase both mental and physical well-being during college and beyond. However, researchers have yet to explore if student spirituality affects levels of PS, EI, and LQ among university students attending either secular or religious campuses. This study aimed to identify how student spirituality affected EI, stress, and LQ among secular and religious universities while adding more research regarding the definition of college student spirituality.

Chapter 3: Research Method

Introduction

The purpose of this study was to explore the relationship between spirituality and the level of EI, PS, and LQ among first-year university students, as moderated by different campus types (secular or religious). . Students attending both religious and secular 4-year universities share similar challenges with adjusting to college social and academic expectations (Conley et al., 2013; Kupcewicz et al., 2020; Kyalo & Chumba, 2011; MacCann et al., 2011; Marlin, 2013). By examining whether campus type affects student spirituality in relation to EI, PS, and LQ, I sought to add to the growing body of literature defining spirituality and whether spirituality affects EI, PS, and LQ among students attending different types of universities.

In this chapter, I will outline the research design and rationale and identify the population and sampling procedures. The sampling strategy and procedures for recruitment, along with descriptions of the instruments that were used, will also be reviewed. Finally, I will explore the threats to validity and ethical considerations that may affect the study.

Research Design and Rationale

I used a quantitative design with the following variables: EI, PS, and LQ (outcome) and spirituality (predictor). The moderating variable was campus type (religious or secular). Use of a cross-sectional, nonexperimental design allowed me to identify whether campus type (moderator) was an influencing factor on any of the dependent variables (Baron & Kenny, 1986).

I used a quantitative survey approach. Such an approach involves a numerical representation of some object (Trochim & Donnelly, 2008), trend or attitude, or the opinion of a population (Creswell, 2009). An experimental study is typically conducted to verify if a specific treatment or intervention will influence an outcome (Creswell, 2009; Trochim & Donnelly, 2008); however, I sought to gather data from students using questionnaires without utilizing an experimental or control group to gather data. Conley et al. (2013) demonstrated in a longitudinal study that students who actively participated in a wellness intervention program were more successful during their first year of college. However, in their cross-sectional studies, Unterrainer et al. (2014) and MacCann et al. (2011) were able to evaluate the data needed to answer their quantitative studies on spirituality and EI, respectively. Additionally, both Mui-Chi Lun and Bond (2013) and Landa et al. (2010) showed that cross-sectional quantitative studies conducted on international campuses provide an additional cultural context that can be applied to universities in the United States. The purpose of this study was to gather data on the levels of student spirituality, EI, PS, and LQ. A quantitative survey approach more adequately fit the RQs presented in this study (Chandler et al., 2019).

Using a quantitative, cross-sectional, nonexperimental survey design, I gathered information from participants from religious and secular universities who fit the inclusion criteria. Participants were selected for inclusion if they were between the ages of 18 to 24 years old, attending university for the first time, unmarried, and living in campus housing (i.e., a dormitory on campus). A simple linear regression was appropriate to examine the variables in RQs 1, 2, and 3. To assess the multiple variables in RQ4, I used a

multivariate regression model because there was more than one predictor (see Field, 2013). The questionnaires were administered in a digital format via mTurk, Qualtrics, Pearson, and Q-Global online testing sites.

Methodology

Population

The population sample included students from the United States who were first-year students required to live on campus and in programs recommending a minimum 4-year attendance. Due to the restrictions and limitations of the COVID-19 pandemic and quarantine, I recruited students via mTurk who identified themselves as either having attended a secular or religious university during Fall 2019. The goal was to gather information from an appropriate number of first-year students eligible to participate in this quantitative study with a target size of 240 participants (n = 120 religious, n = 120 secular). Participants were excluded if they were not required to be housed on campus during their first year (see Parade et al., 2010). Married students were also excluded as they are generally allowed to live off-campus with their significant other. Additionally, the nature of marital relationships (i.e., having a support system) may not be comparable to the EI data of single or unmarried first-year university students (Ciarrochi & Scott, 2006; Juster et al., 2011). The total number of surveys received exceeded the goal number, even when excluding the participants who did not meet the inclusion criteria (N = 340; n = 317).

Sampling and Sampling Procedures

I obtained a convenience sample of first-year students who were listed in the mTurk database and linked with the Qualtrics survey. The data were analyzed using SPSS software. The Qualtrics survey program included the informed consent, demographic data, the PSS, and the CBVS. Qualtrics was able to remove nonlive participant responses such as computerized bot responses. Links to both Pearson and Q-Global were included in the Qualtrics survey for the participants to fill out the MSCEIT and QOLI, respectively, before they were able to continue with the Qualtrics survey. The participants identified as attending a religious or nonreligious university with the use of a code SSS or SRE for proper survey scoring within Qualtrics, and when filling out the MSCEIT and QOLI.

The sampling strategy for this study included first-year university students from the primary population of university students, allowing individual units to participate with no preselection into groups. The stratified random sampling strategy involved selection of first-year university students (ages 18-24 years)as the individual unit regardless of campus type (secular or religious; see Field, 2013). Inclusion criteria for participants were unmarried first-year students, between the ages of 18-24 years old, attending university for the first time, living on-campus or off-campus in university housing, or dormitory-style living during Fall 2019.

According to Field (2013) a G*Power analysis set at a power of 80%, alpha equal to 5%, and a conservative effect size of .3 suggests that the sample population should be 237 (rounded up to 240) participants (N = 240, n = 60), with a critical F = 2.05 and λ=

14.8 (Faul et al., 2013). As there are two types of campuses (five groups total), Cohen's effect size suggests that standard deviations among groups measure as small = .2; medium = .5, and large = .8 (Field, 2013). The statistical tests used to analyze the hypotheses were Pearson's and Spearman's coefficient, a one-way MANCOVA, and a one-way ANCOVA, with a Mann-Whitney U test (Laerd Statistics, 2021; Laureate Education, 2009; Field, 2013).

Procedures for Recruitment, Participation, and Data Collection

Before collecting data, I obtained approval from Walden University's Institutional Review Board (IRB) to approach students for participation in this study (approval no. 11-14-19-0496021). Research participant groups attached to mTurk were used to get the data for this study. Participants used the online survey platform Qualtrics, in conjunction with Pearson and Q-Global online testing, to complete the survey questionnaire and to provide the responses for this study.

Students were provided an electronic copy of the informed consent and not allowed to continue the survey unless they agreed to the conditions listed therein. The survey involved multiple portions with two sections requiring the students to leave the Qualtrics survey site to answer the MSCEIT and QOLI. The survey was designed to be taken in one session or to leave and complete the survey later. Participants had to complete each section of the survey before moving forward to the next section, but they could pause, save their work, and exit electronically. There was no follow-up procedure as the instruments were given online without individual identifiers. Any student electing not to finish all four surveys could exit the program at any time. The total anticipated

time to complete the entire survey was approximately 20-30 minutes. Students desiring to receive a copy of their results could do so by emailing me with their randomly assigned identification number (via mTurk), which they could receive after their survey. Additionally, participants were directed to a Facebook website where the results of the study will be posted once final approval of the study and the results are approved.

Instrumentation and Operationalization of Constructs

In this section, I describe the instrumentation and operationalization of constructs. Appendices A and B contain the CSBV and PSS, respectively. Appendices C, D, E, and F contain permission documentation to use the CSBS, MSCEIT, PSS, and QOLI, respectively.

College Students' Beliefs and Values Survey (CSBV)

Developed by Astin et al. and published in 2011, the CSBV is appropriate for adults ages 18 and above attending college. Astin et al. (2011) tested I CSBV three different times in over 150 institutions with over 98,000 participants during 7 years. Results of their study indicate that the survey is both valid and reliable as a measure for identifying levels of spirituality. A Cronbach's alpha score of .7-.8 for 12 of the first 19 scales was included in the survey. The other seven scales were excluded because they did not fall into the acceptable reliability based on Cronbach's alpha. The response format for the survey is a 175-item questionnaire. Participants self-select high to low values for each of the items within the scales.

The CSBV is a newly tested survey providing 12 new measurements that identify spirituality (3-scales: spiritual identification, spiritual quest, and equanimity),

religiousness (5-scales: religious commitment, religious struggle, religious engagement, religious/social conservatism, and religious skepticism), and spirituality related qualities (4-scales: charitable involvement, ethics of caring, ecumenical worldview, belief, and compassionate self-control) of undergraduate students (Astin et al., 2011). Scores are identified with a Likert scale (1 being the lowest and 3, 4, 5, or 6 being the highest) in 12 areas, which are grouped into three categories: (a) spiritual identification, quest, and equanimity; (b) religious commitment, struggle, engagement, social conservatism, and skepticism; and (c) charitable involvement, ethical caring, ecumenical worldview, and compassionate self-concept (Astin et al., 2011). There are 175 items on this measurement. I obtained permission to use this measurement. Via email, I requested additional information about a computerized version of the instrument, as well as the length of time required to take the test.

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)

Developed by Mayer et al. and published in 2004, the MSCEIT is appropriate for use among adults aged 17 and above (MacCann et al., 2011; Mayer et al., 2012). The scale was designed to measure EI in a response format. Each of the four branches of EI identification are measured using a 5-point Likert scale. There are two markers for each branch of EI: (a) emotion perception (faces and pictures); (b) emotional facilitation (facilitation and sensation), (c) emotional understanding (change and blends), and (d) emotional management and emotional relationships, where 1 equals *not useful* and 5 equals *very useful* (Copestake et al., 2013; Karim & Weisz, 2010; MacCann et al., 2011). The MSCEIT has 141 items and takes about 30-45 minutes to complete in a survey

format (Copestake et al., 2013; Firoi et al., 2014). The MSCEIT is available for open use and does not require additional permissions (see Appendix D). Scoring is computed via software, online, or with a scoring service (available for purchase with the use of this instrument). Cronbach's alpha for reliability should fall between .7 and .8 (Creswell, 2009; Field 2013). Mayer et al. (2012), reevaluated their instrument for validity and reliability, finding that the results were significant. However, Firori et al. (2014) found that the MSCEIT was most effective with low EI identifiers; the researchers found that, overall, the instrument was still within Cronbach's .93 reliability rating.

Quality of Life Inventory (QOLI)

Frisch developed the QOLI in 1994; the test is appropriate for individuals aged 17 years and older. The QOLI is written at a sixth-grade reading level and can be given in both paper-and-pencil or computer format. It takes about five minutes to complete a 32-item questionnaire with a 3-point rating scale for importance, and a 6-point scale for satisfaction. The response format can be conducted via pencil and paper or by use of a computer.

The QOLI is an evidence-based positive psychology test that has been used in intervention planning and published by Pearson Assessments (Frisch et al., 2005). The QOLI evaluates the quality of life, well-being, and life satisfaction, and is used for its predictive validity in a variety of clinical and non-clinical locations. This test is available open for use and does not require additional permissions. Scoring options include Q-global scoring and reporting, Q Local Scoring and Reporting Desktop Software, Mail-in

Scoring Service, and Manual Scoring. Cronbach's alpha for reliability should fall between .7 and .8.

Perceived Stress Scale (PSS)

Developed by Sheldon Cohen, the PSS was published in 1988 and is the most used psychological test that measures the perception of stress as experienced within the previous month (Cohen, Kamarack, & Mermelstein, 1983). The 10-items on the instrument was designed to identity "…how unpredictable, uncontrollable, and overloaded respondents find their lives," (Cohen, 1994, p. 3). The test is open for use and does not require additional permissions. It takes about 5 minutes to complete the 10-item instrument, written for individuals with at least a junior high school educational level. The response format is a simple survey. It is scored by using reverse responses to the survey questions (i.e., 0=4, 1=3, 2=2, 3=1, and 4=0). Cronbach's alpha for reliability should fall between .7-.8. The PSS was retrieved from http://www.mindgarden.com/documents/PerceivedStressScale.pdf for free as it is an open-source testing instrument.

Operationalization

Spirituality. Defined as an internal belief system, as opposed to external religious belief practices, will be measured using the CSBV survey that was developed to assess the various definitions of spirituality and separate the religiousness that often confuses participants when they are evaluated (Astin et al., 2011).

***Emotional Intelligence*.** The cognitive awareness and emotional reactivity to both internal and external stressors as objectified by the individual is measured with the MSCEIT instrument (Mayer et al., 2004).

***Perceived Stress*.** Based on the objective degree that individuals find a specific situation to be stressful. Measured by the PSS, stress levels will be summarized on how unpredictable, uncontrolled, or overloaded the participants find their life over a month review (Cohen, 1994).

***Life Quality*.** Known also as Quality of Life, will be measured using QOLI that was developed to analyze the quality of life, well-being, and life satisfaction as objectively viewed by the participants (Frisch et al., 2005).

***University Campus Type (Moderator)*.** Secular and religious universities are identified as a college whose goal to have students graduate in four years with a bachelor's degree. Secular universities are private or state institutions that do not identify with any organized religion. Religious universities are private institutions that are affiliated with some organized religion, which may also require students to participate in religious services or take religious classes.

Data Analysis Plan

The scoring of the instruments was conducted using the appropriate scoring companies as appropriate per individual instrument. SPSS Statistical Software was utilized to analyze the data collected from the measurements and scored according to the type of test, as was appropriate for each RQ and set of hypotheses. Some of the statistical

tests completed include descriptive statistics, multiple linear regression, Pearson's correlation coefficient, MANCOVA, and a Mann-Whitney U Test.

I used a quantitative design with the following variables: EI, PS, and QL(outcome) and spirituality (predictor). The moderating variable was campus type (religious or secular).

RQ1: How does a student's spirituality predict their EI?

$H_0$1: There is no relationship between a student's spirituality and EI.

H_a1: There is a significant relationship between a student's spirituality and EI.

Differential Hypothesis 1: Outcome expectations were that a significant positive relationship between a student's spirituality, as measured by the CBVS, and EI, as measured by the MSCEIT), would be found.

I analyzed Hypothesis 1 using Pearson's correlation coefficient. Descriptive statistics were reported, including their age, marital status, and what type of university they attend. The Pearson's correlation coefficient demonstrated the strength and direction of the relationship between the variables. The value of *r* is the coefficient measuring both the strength and direction of the linear relationship between two continuous variables (Lund & Lund, 2018). The value of *r* ranges from -1 (perfect negative linear relationship) to +1 (perfect positive linear relationship). A value of 0 (zero) indicates that there is no relationship between the two variables. Three of the five assumptions of a Pearson's correlation include: Establishing if a linear relationship exists, using a scatterplot to test for outliers, and testing for normality using the Shapiro-Wilk test. If assumptions were violated, nonparametric tests were conducted.

RQ2: What is the relationship between a student's spirituality and their level of PS?

$H_0$2: There is no relationship between a student's spirituality and their level of PS.

H_a2: There is a significant relationship between a student's spirituality and their level of PS.

Differential Hypothesis 2: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and PS, as measured by the PSS, would be found.

I analyzed Hypothesis 2 using Pearson's correlation coefficient. Descriptive statistics were reported, including their age, marital status, and what type of university they attend. The Pearson's correlation coefficient demonstrated the strength and direction of the relationship between the variables. The value of *r* is the coefficient measuring both the strength and direction of the linear relationship between two continuous variables (Lund & Lund, 2018). The value of *r* ranges from -1 (perfect negative linear relationship) to +1 (perfect positive linear relationship). A value of 0 (zero) indicates that there is no relationship between the two variables. Three of the five assumptions of a Pearson's correlation include: establishing if a linear relationship exists, using a scatterplot to test for outliers, and testing for normality using the Shapiro-Wilk test. If assumptions were violated, nonparametric tests were conducted.

RQ3: What is the relationship between a student's spirituality and their LQ?

$H_0$3: There is no relationship between a student's spirituality and their LQ.

H_a3: There is a significant relationship between a student's spirituality and their LQ.

Differential Hypothesis 3: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and LQ, as measured by the QOLI, would be found.

I analyzed Hypothesis 3 using Pearson's correlation coefficient. Descriptive statistics were reported, including their age, marital status, and what type of university they attend. The Pearson's correlation coefficient demonstrated the strength and direction of the relationship between the variables. The value of *r* is the coefficient measuring both the strength and direction of the linear relationship between two continuous variables (Lund & Lund, 2018). The value of *r* ranges from -1 (perfect negative linear relationship) to +1 (perfect positive linear relationship). A value of 0 (zero) indicates that there is no relationship between the two variables. Three of the five assumptions of a Pearson's correlation include: establishing if a linear relationship exists, using a scatterplot to test for outliers, and testing for normality using the Shapiro-Wilk test. If assumptions were violated, nonparametric tests were conducted.

RQ4: How does campus type moderate the relationship between spirituality and EI, PS, and LQ among university students?

$H_0$4: Campus type (secular versus religious) does not moderate the relationship between a student's spirituality and their EI, PS, and LQ.

H_a4: Campus type (secular versus religious) does moderate the relationship between a student's spirituality and their EI, PS, and LQ.

Differential Hypothesis 4: Outcome expectations were that campus type would moderate the relationship between student spirituality, as measured by the CBVS, and EI, as measured by the MSCEIT; PS, as measured by the PSS, and LQ, as measured by the QOLI.

Hypothesis 4 was analyzed using descriptive statistics, one-way MANCOVA, one-way ANCOVA, Person's correlation coefficient, and a Mann-Whitney U Test to account for the moderator variable or a moderator analysis using a dichotomous moderator variable. Each statistical test was chosen to identify if a relationship exists between the dependent and independent variables, if there is a significant relationship between the variables, and if the campus type is a moderator affecting any relationship.

Results for the partial correlation were interpreted to show if there is a relationship between the variables while controlling for the effect of campus type. Assumptions of the linear model include additivity and linearity, independent errors, homoscedasticity, normally distributed errors, and included predictors that are uncorrelated with the external variables, variable types, multicollinearity, and non-zero variance (Field, 2013).

To study the effect of campus type on students' spirituality and EI, PS, and LQ, I conducted a between-groups t-test. In conducting this test, I assumed equal variances between the groups. Because these assumptions were violated, I conducted nonparametric tests.

Threats to Validity

Both external and internal threats to validity existed in this study. External threats included the population sample located within the United States and differed in both socioeconomic status (i.e., the income level of students), as well as cultural and ethnic differences. The sample characteristics were benchmarked against the first-year student characteristics in the United States. Internal validity threats included the level of participation of the population when they took the computerized tests and if they answered truthfully. Both external and internal threats were addressed with statistical tests that were designed to identify errors in data input and analysis. Participants could choose to lie about their relationship status or age, which would affect the results of the survey. However, Qualtrics identified the possible "bot" responses with a ReCaptcha score so those surveys were excluded. Attrition, due to the length of the survey, might have been another threat.

Ethical Procedures

There were a few ethical considerations that were be considered when conducting this study. IRB approval from Walden University was obtained before gathering any data.

***Treatment of Human Participants*.** Participant selection was found among the mTurk database. Participants were able to print or download an electronic copy of the informed consent if desired. University students could have developed uncomfortable feelings while completing the survey instruments, which might have required that they seek mental health assistance from their universities or personal resources. Students electing not to finish the survey were provided the same information and opportunity for

electronic download if they exited the survey. Students had access to a computer or the ability to complete the online surveys and were proficient in English to answer the assessment questions. Students without the ability to access a computer could have felt that the study was biased if they were not able to access or respond to the assessments and thus denied the opportunity to participate. However, university campuses could have had computers for student use that made the ability to access the survey website and could select a computer with appropriate privacy to complete the survey. Students also needed access to the online participant database, mTurk, to get access to the survey as they needed to agree to the informed consent.

***Treatment of Data*.** Students needed to know how to access their test results and have confidence that their data remained anonymous. Students were able to access their results if they emailed their mTurk ID code to the researcher. Otherwise, their data is stored by a neutral participant number within the online survey data center for three years and then deleted. Data could be reviewed and accessed by the Walden dissertation committee assigned to this study. Additional reviews by Walden IRB, Form and Style, and other Walden representatives required the data to verify the statements and conclusions drawn at the end of the study. The data will remain confidential to these sources, and student participants would be alerted to these additional reviewers in the informed consent. Although the data may be reviewed, the survey results provided by Survey Monkey will maintain the anonymity of the participants.

Summary

A quantitative, cross-sectional, non-experimental survey gathered data from at least 340 students attending religious or non-religious universities within the United States. The goal of the survey was to collect data on student spirituality, EI, PS, and LQ utilizing appropriate four testing measures: CSBV, MSCEIT, PSS, and QOLI. The data was collected using mTurk, Qualtrics, MHS, and Q-Global programs to maintain the anonymity of the participants, identified by a random number and specific code to identify the type of university attended. The data were analyzed with SPSS software, utilizing the following tests to identify whether a significant relationship exists between the variables and moderator: Pearson's correlation coefficient and a moderator analysis. All participants were provided with informed consent. The results from the data collection demonstrated if student spirituality was affected by EI, PS, or QL and if campus type played any role in the outcome of the results.

Chapter 4: Results

Introduction

The purpose of this study was to identify if student spirituality significantly affects EI, PS, and QL and if there were any differences among students attending a religious or secular campus. I used a quantitative design with the following continuous dependent variables: EI, PS, and QOL. I independent variable, spirituality, was dichotomous. The moderating variable was categorical: campus type (religious, secular, or nonreligious). The RQs and hypotheses were as follows:

RQ1: How does a student's spirituality predict their EI?

$H_0$1: There is no relationship between a student's spirituality and EI.

H_a1: There is a significant relationship between a student's spirituality and EI.

Differential Hypothesis 1: Outcome expectations were that a significant positive relationship between a student's spirituality, as measured by the CBVS, and EI, as measured by the MSCEIT), would be found.

RQ2: What is the relationship between a student's spirituality and their level of PS?

$H_0$2: There is no relationship between a student's spirituality and their level of PS.

H_a2: There is a significant relationship between a student's spirituality and their level of PS.

Differential Hypothesis 2: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and PS, as measured by the PSS, would be found.

RQ3: What is the relationship between a student's spirituality and their LQ?

$H_0$3: There is no relationship between a student's spirituality and their LQ.

H_a3: There is a significant relationship between a student's spirituality and their LQ.

Differential Hypothesis 3: Outcome expectations were that a significant relationship between student spirituality, as measured by the CBVS, and LQ, as measured by the QOLI, would be found.

RQ4: How does campus type moderate the relationship between spirituality and EI, PS, and LQ among university students?

$H_0$4: Campus type (secular versus religious) does not moderate the relationship between a student's spirituality and their EI, PS, and LQ.

H_a4: Campus type (secular versus religious) does moderate the relationship between a student's spirituality and their EI, PS, and LQ.

Differential Hypothesis 4: Outcome expectations were that campus type would moderate the relationship between student spirituality, as measured by the CBVS, and EI, as measured by the MSCEIT; PS, as measured by the PSS, and LQ, as measured by the QOLI.

I analyzed Hypotheses 1-3 using a Spearman's correlation coefficient. 'I analyzed Hypothesis 4 using a one-way MANCOVA to account for the dichotomous independent and moderator variables and the multiple dependent variables. I used the latter statistical test to determine if a relationship exists between the dependent and independent

variables, if there is a significant relationship between the variables, and if the campus type is a moderator affecting any relationship.

To study the effect of the campus type on students' spirituality and EI, PS, and LQ, I conducted a between-groups Mann-Whitney U Test. The purpose of conducting this test was to identify variances between the groups. If assumptions were violated, nonparametric tests were conducted.

In Chapter 4, I explain how the data were collected and analyzed. I also discuss the criteria for accepting or rejecting the null hypotheses. Additionally, Chapter 4 includes the results of the study.

Data Collection

The Walden IRB approved the proposal for this study, allowing data collection to begin, in 2019. During Summer 2019, I completed the online and in-person survey format for data collection. In Fall 2019, the four proposed universities were contacted to set up a date when the survey could be given to their first-year university students. Due to my relocating to another state and the death of a parent in Fall 2019, I changed the date of data collection to late January or early February 2020. However, concerns regarding COVID-19 delayed the data collection at the four universities indefinitely. I contacted Walden University's IRB to approve a modification in participant recruitment and data collection methods, which was approved.

I used Amazon's mTurk participant database to send the survey to participants. Final surveys were collected if they met the inclusion criteria for age, relationship status, university type, and campus housing. Qualtrics survey software was used for collecting

demographic data, the CBVS, and the PSS responses, with outside links provided to both the MHS and Q-Global surveys. Participants were required to enter completion codes to ensure that they finished the five surveys. A total of 340 surveys were sent out via mTurk, and 337 survey responses were collected. Of the survey responses collected, 23 were excluded as they were deemed bot responses. Another 27 were excluded for not meeting eligible criteria, for a total inclusion of 292 completed surveys. Participants responded within 48 hours, and the data collection was complete in September 2020.

Qualtrics created a data and analysis report for the three surveys, while MHS and Q-Global compiled the results from the MSCEIT and QOLI, respectively. However, I did not upload the data from the completed surveys into SPSS software for analysis until Winter 2020. This delay was due to my becoming infected with the COVID-19 virus soon after and requiring additional time to recuperate from the illness. Additional discrepancies in the original proposal were also due to the COVID-19 pandemic.

Discrepancies from the original proposal include expansion of participant recruitment and university location. Due to the COVID-19 pandemic in 2020 and the resulting national quarantine, the proposed Southern California universities were closed. The requested modification approved by Walden IRB allowed for an expansion of participant data collection. Participant inclusion was expanded to include students from anywhere in the United States, so long as they met the original inclusion criteria for the online participant survey. I added questions regarding COVID-19 to the survey to identify if the student attended university and lived in mandatory housing before the national quarantine and university closures.

Demographics

Participants completed the five-section survey using the Qualtrics survey platform (*N* = 340; *n* = 316) as found in Table 1. Table 1 also identifies participants based on religious (*n* = 254) and nonreligious (*n* = 63) campuses attended. Surveys from participants between the ages of 18-24 (*n* = 292) were included in the data analysis. Surveys were excluded if the participants did not meet the age requirement (*n* = 27). Nonmarried participants (*n* = 173) and first-year students (n=253) were included along with participants living in mandatory on-campus (*n* = 241) or off-campus (*n* = 44) housing. Other survey exclusions included married participants (*n* = 146) and nonmandatory housing (*n* = 34) as the participants did not meet inclusion criteria.

Table 1

Demographics of Spirituality Survey

Variable	*N*	*n*
Participants	340	316
Age 18-24		292
Age > 24		27
Marital status	317	
Single		173
Married		241
Campus type	340	
Religious		254
Nonreligious		63
Housing	317	
On-campus (Mandatory)		241
Off-campus		44
First-year student	253	
Q_Recapcha Score	316	
Valid Responses		312

Table 1 shows that Qualtrics was able to identify 23 surveys that were more than likely "bot" responses from automated computer programs that were excluded from the final analysis via a ReCaptcha score to verify human participation versus automated bot (i.e. computer) responses (N = 312). Both Qualtrics and mTurk electronic survey sites were able to identify the time each participant took to answer the four assessments, and responses less than 20 minutes were not included in the final data analysis. The total sample size for participants exceeded the original 244 surveys that were identified as being representative of the student population. However, the sample size of religious campuses (n = 254) is higher than the sample size of secular campuses (n = 63), which falls outside of the desired 144 sample size for each campus that would have provided a better representation of the different campuses. However, the SPSS analysis was able to use the responses received as will be interpreted in the results section.

Final survey data were collected from the Qualtrics, MHS, and Q-Global websites zipped into a file and opened in SPSS Statistical Software for data analysis. Variables were separated in accordance with the appropriate statistical analysis and required participant inclusion criteria. The results for each RQ are discussed in the following section.

Results

Research Question 1RQ1: How does a students' spirituality predict their EI?

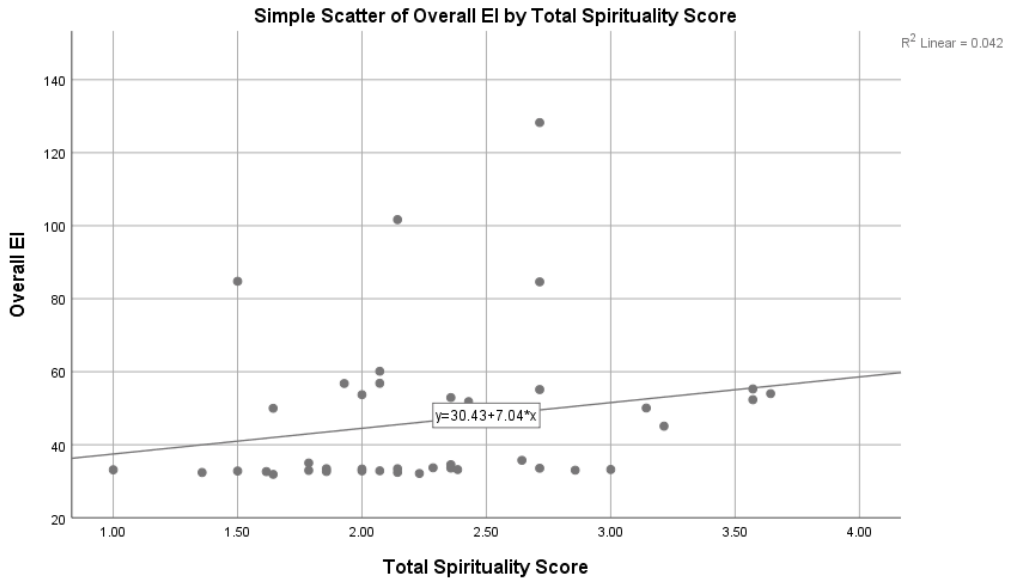
Pearson's correlation reviews the strength and direction of a linear relationship between continuous variables (Laerd Statistics, 2021). There are five assumptions required to verify if Pearson's is the appropriate statistical test to provide a valid data

analysis and interpretation. The first two assumptions require that first there are at least two continuous variables, and second, that those continuous variables are paired. Both spirituality and EI meet these first two assumptions as continuous and paired variables.

The third assumption identifies if there is a linear relationship between the variables using a scatterplot. Figure 1 demonstrates a moderately positive linear relationship between spirituality and EI.

Figure 1

Scatterplot Spirituality and EI



The fourth assumption indicates that there should be no outliers, since Pearson's correlation coefficient, *r*, is sensitive to outliers that may exaggerate the influence of *r*. The data collected were tested for outliers (see Figure 2) which shows that there are data points that do not follow a similar pattern as other data points violating Assumption 4,

there are outliers. To address this violation, the data could be transformed, removing the outliers; however, due to the number of outliers, the data were not transformed.

Spearman's correlation can be used in place of Pearson's as Assumption 4 regarding outliers is not required; however, Spearman's will only show if there is a relationship since it is a non-parametric test, it will not identify how strong that relationship is. Therefore, to continue with Pearson's correlation with a violated assumption, the analysis must address that *r* may be exaggerated. Spearman's correlation was run to test whether the violation of Pearson's Assumption 4 would still indicate a linear.

Pearson's fifth assumption reviews the significance of the null hypothesis using bivariate normality. The Shapiro-Wilk test was run for both variables due to the smaller sample size. Table 2 shows that not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p = .000$).

Table 2

Tests of Normality: Shapiro-Wilk (RQ1)

	Statistic	df	Sig.
Total Spirituality Score	.967	40	.296
Overall EI	.691	40	.000

When the data are not normally distributed the three options available include: 1. Transforming the variable that is not normally distributed (i.e. Overall EI $p < .05$); 2. Run a non-parametric test like Spearman's rank-order correlation; or 3. Continue with

Pearson's correlation since the test is considered robust to deviations from normality. Option two and three were completed since the null and alternate hypotheses address both correlation and strength (statistical significance) of the variables.

The three assumptions of Spearman's correlation reference study design and that the nature of the data can be tested by SPSS. The first assumption is that there are at least two continuous or ordinal variables (spirituality and EI), and the second, that these two variables are part of a paired observation: Does spirituality affect EI? Provided the answer to these first two assumptions is affirmative, the third assumption determines if there is a monotonic relationship between the two variables (Laerd Statistics, 2021). A monotonic relationship is seen in a scatterplot where a) as the value of one variable increases, the value of the other variable increases as well, or b) as the value of one variable increases, the other variable decreases in value. Figure 1 demonstrates that there is a mostly linear, monotonic relationship where the increase in spirituality shows an increase in EI.

The three assumptions for Spearman's correlational test have not been violated for RQ 1. Therefore, the data can further be analyzed using Spearman's correlation coefficient to identify the strength and direction of the association between spirituality and EI. Spearman's results indicate that the correlation is significant (p =.386) and positively correlated: the higher the spirituality, the higher the EI. In comparison, Pearson's correlation is considered a robust test even when assumptions four and five were violated showing the strength of the relationship but no significance due to the violated assumptions. Table 3 shows the differences between Pearson's and Spearman's

Correlations. Effect size is measured via the partial eta squared, where the percentage of the DV is explained by the IV. The higher the percentage, the more important the effect of the IV. Table 4 also shows that EI is 47% affected by spirituality.

Table 3

Pearson and Spearman Correlation Between Spirituality and EI, and Effect Size

		Pearson	Spearman's rho	Partial Eta Squared
Total Spirituality	Correlation Coefficient	.206	.386*	
	Sig. (2-tailed)	.203	.014	
Total EI	Correlation Coefficient	1	1	
	Sig. (2-tailed)	.203	.	
Spirituality	Emotional Intelligence			.473

Note. EI= Emotional Intelligence *.Correlation is signification at the 0.05 level (2-tailed).

Research Question 2

RQ2: What is the relationship between a students' spirituality and their level of perceived PS?

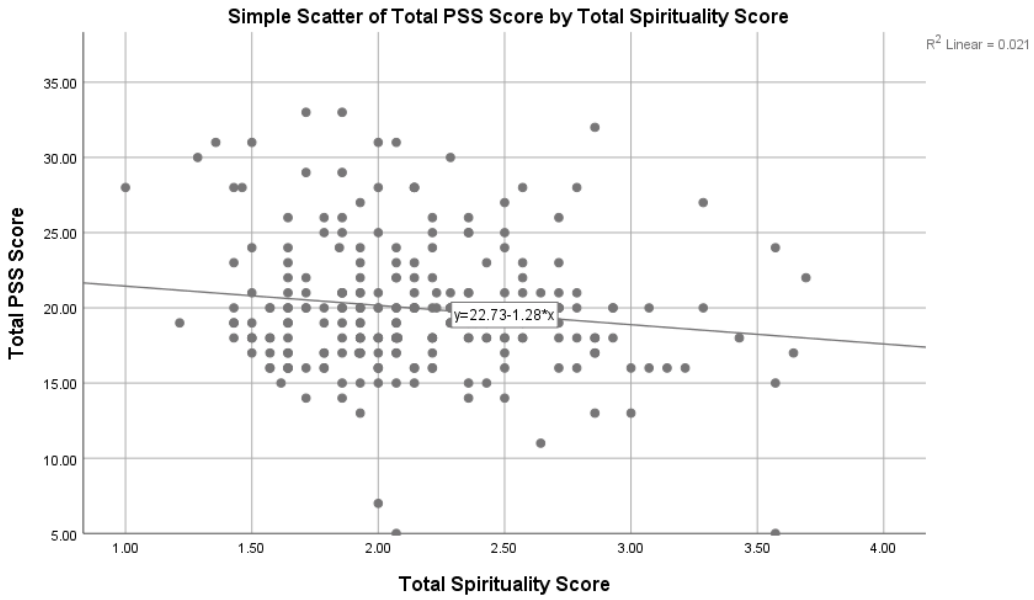
Pearson's correlation reviews the strength and direction of a linear relationship between continuous variables (Laerd Statistics, 2021). There are five assumptions required to verify if Pearson's is the appropriate statistical test to provide a valid data analysis and interpretation. The first two assumptions require that first there are at least

two continuous variables, and second, that those continuous variables are paired. Both spirituality and EI meet these first two assumptions as continuous and paired variables.

The third assumption identifies if there is a linear relationship between the variables using a scatterplot, the relationship can be negative or positive. Figure 2 demonstrates a moderately negative linear relationship between spirituality and PS.

Figure 2

Scatterplot Spirituality and PSS



The fourth assumption indicates that there should be no outliers, since Pearson's correlation coefficient, *r*, is sensitive to outliers that may exaggerate the influence of *r*. The data collected were tested for outliers (figure 2) which shows that there are data points that do not follow a similar pattern as other data points violating Assumption 4. Spearman's correlation can be run in place of Pearson's as Assumption 4 regarding outliers is not required; however, Spearman's will only show if there is a relationship, it

will not identify how strong that relationship is. Therefore, to continue with Pearson's correlation with a violated assumption, the analysis must address that *r* may be exaggerated. Spearman's correlation was run to test whether the violation of Pearson's Assumption 4 would still indicate a linear relationship.

The fifth assumption reviews the significance of the null hypothesis using bivariate normality. Table 4 shows that not all variables were normally distributed, there is no significance (p=.000).

Table 4

Tests of Normality: Shapiro-Wilk (RQ2)

	Statistic	df	Sig.
Total Spirituality Score	.969	247	.000
Total PSS Score	.934	247	.000

The three assumptions of Spearman's correlation reference study design and that the nature of the data can be tested by SPSS. The first assumption is that there are at least two continuous or ordinal variables (spirituality and PS), and second, that these two variables are part of a paired observation: Does spirituality affect PS? Provided the answer to these first two assumptions is affirmative, the third assumption determines if there is a monotonic relationship between the two variables (Laerd Statistics, 2021). A monotonic relationship is seen in a scatterplot where a) as the value of one variable increases, the value of the other variable increases as well, or b) as the value of one variable increases, the other variable decreases in value. Figure 2 demonstrates that there

is a non-monotonic relationship, violating the third assumption: Spirituality does not have an effect on PS.

Two of the three assumptions for Spearman's correlational test were not violated for RQ 2. However, the third was violated which demonstrates that another SPSS test might prove more beneficial if it does not require a monotonic relationship. Using Spearman's correlation coefficient to identify the strength and direction of the association between spirituality and PS, the results indicate that the correlation is not significant (p= -.064) and negatively correlated, the level of spirituality does not affect PS. In comparison, Pearson's correlation is considered a robust test even when assumptions four and five were violated showing a significant negative relationship. Table 5 shows the differences between Pearson's and Spearman's Correlations. Effect size is measured via the partial eta squared, where the percentage of the DV is explained by the IV. The higher the percentage, the more important the effect of the IV. Table 6 also shows that PS is 75.3% affected by spirituality.

Table 5

Pearson and Spearman Correlation Between Spirituality and PSS, and Effect Size

		Pearson	Spearman's rho	Partial Eta Squared
Total Spirituality	Correlation Coefficient	-.143*	-.064	
	Sig. (2-tailed)	.024	.317	
Total PSS	Correlation Coefficient	1	1	

	Sig. (2-tailed)	.	.
Spirituality	Perceived Stress		.753

*.Correlation is significant at the 0.05 level (2-tailed). Perceived Stress Scale (PSS).

Research Question 3

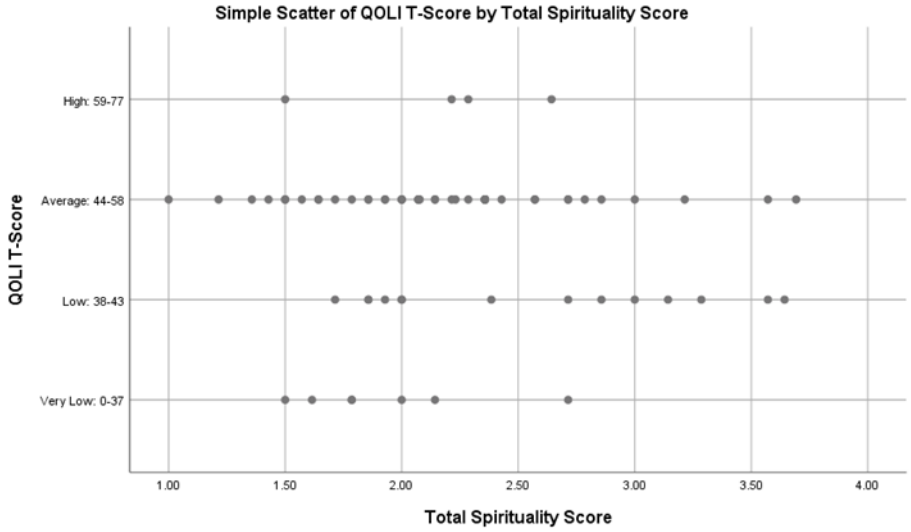
RQ3: What is the relationship between a students' spirituality and their LQ?

Pearson's correlation reviews the strength and direction of a linear relationship between continuous variables (Laerd Statistics, 2021). There are five assumptions required to verify if Pearson's is the appropriate statistical test to provide a valid data analysis and interpretation. The first two assumptions require that first there are at least two continuous variables, and second, that those continuous variables are paired. Both spirituality and EI meet these first two assumptions as continuous and paired variables.

The third assumption identifies if there is a linear relationship between the variables using a scatterplot. Figure 3 demonstrates that there is a moderate linear relationship, but there are outliers.

Figure 3

Scatterplot: Spirituality and LQ



The fourth assumption indicates that there should be no outliers, since Pearson's correlation coefficient, *r*, is sensitive to outliers that may exaggerate the influence of *r*. The data collected were tested for outliers and Figure 3 shows data points that do not follow a similar pattern as other data points thus violating Assumption 4. Spearman's correlation can be run in place of Pearson's as Assumption 4 regarding outliers is not required; however, Spearman's will only show if there is a relationship, it will not identify how strong that relationship is. Therefore, to continue with Pearson's correlation with a violated assumption, the analysis must address that *r* may be exaggerated. Spearman's correlation was run to test whether the violation of Pearson's Assumption 4 would still indicate a linear relationship.

The fifth Pearson assumption reviews the significance of the null hypothesis using bivariate normality. Table 6 shows that not all variables are normally distributed and there is no linear relationship, thus violating the fifth assumption.

Table 6

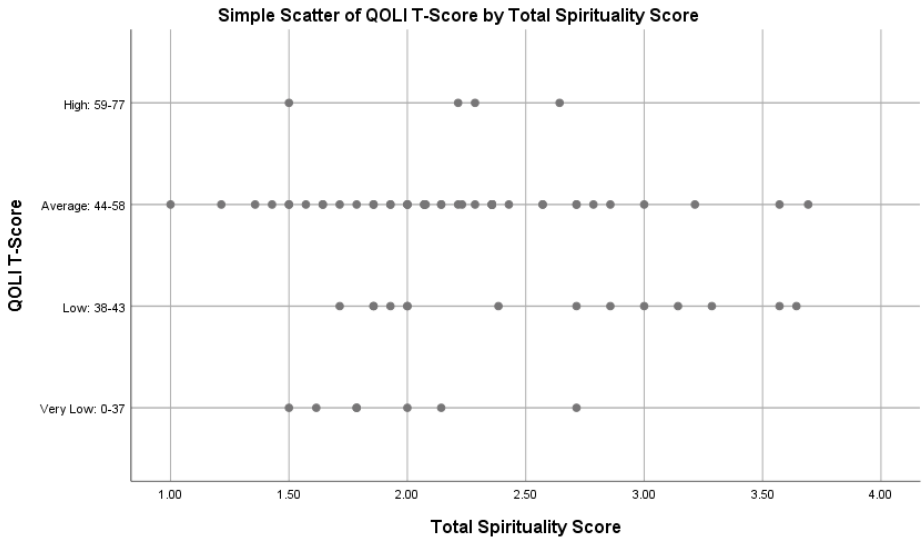
Tests of Normality: Shapiro-Wilk (RQ3)

	Statistic	df	Sig.
Total Spirituality Score	.964	69	.044
Overall EI	.760	69	.000

The three assumptions of Spearman's correlation reference study design and that the nature of the data can be tested by SPSS. The first assumption is that there are at least two continuous or ordinal variables (spirituality and LQ), and the second, that these two variables are part of a paired observation: Does spirituality affect LQ? Provided the answer to these first two assumptions is affirmative, the third assumption determines if there is a monotonic relationship between the two variables (Laerd Statistics, 2021). A monotonic relationship is seen in a scatterplot where a) as the value of one variable increases, the value of the other variable increases as well, or b) as the value of one variable increases, the other variable decreases in value. Figure 3 shows that there is a non-monotonic relationship between the variables, violating assumption number three and identifying that spirituality does not have an effect on LQ.

Figure 3

Scatterplot: Spirituality & LQ



Two of the three assumptions for Spearman's correlational test were not violated for RQ3. However, the third was violated which demonstrates that another statistical test might prove more beneficial if it does not require a monotonic relationship. Using Spearman's correlation coefficient to identify the direction of the association between spirituality and LQ, the results indicate that the correlation is not significant and is negatively correlated indicating that level of spirituality does not affect the LQ of students. In comparison, Pearson's correlation is considered a robust test even when assumptions three, four, and five were violated showing a negative relationship, but no significance. Table 7 shows the differences between Pearson's and Spearman's Correlations. Effect size is measured via the partial eta squared, where the percentage of the DV is explained by the IV. The higher the percentage, the more important the effect of the IV. Table 4 also shows that LQ is 60.5% affected by spirituality.

Table 7

Pearson and Spearman Correlation Between Spirituality and LQ, and Effect Size

		Pearson	Spearman's rho	Partial Eta Squared
Total Spirituality	Correlation Coefficient	-.032	-.029	
	Sig. (2-tailed)	.796	.813	
Total LQ	Correlation Coefficient	1	1	
	Sig. (2-tailed)	.	.	
Spirituality	Life Quality			.605

Research Question 4

RQ4: How does campus type (secular versus religious) moderate the relationship between spirituality and EI, PS, and LQ among university students?

The one-way multivariate analysis of covariance (MANCOVA) is a way to identify if there is a linear relationship between a covariate (campus type) and multiple dependent variables (EI, PS, LQ) (Laerd Statistics, 2021). A one-way MANCOVA can determine if any statistically significant differences are noted between three or more independent (unrelated) groups, controlling for a continuous covariate (Laerd Statistics, 2021). Laerd further states this *omnibus* test identifies which independent variate is statistically significant based on the combined dependent variables.

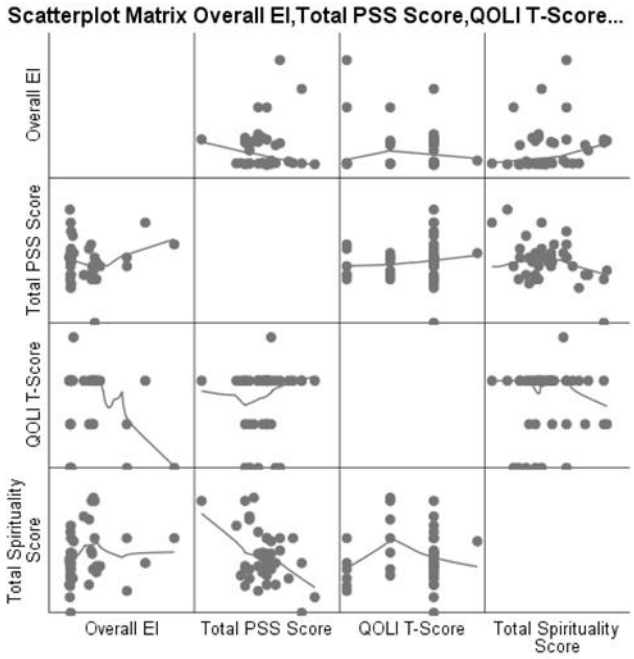
There are 11 assumptions that must be conducted in a one-way MANCOVA to verify that this test is the best option available to analyze the collected data. The first four assumptions relate to study design: a) there are two or more continuous dependent

variables (EI, PS, & LQ); b) the independent variable is categorical with two or more groups (spirituality: low, moderate, high); c) there is a continuous covariate (campus type), and d) there is an independence of observations (yes) and were met with the data available in this study. The following seven assumptions are completed in SPSS and it is expected that some violations will occur requiring the use of follow-up methods to verify the results.

Assumption 5 states that there should be a linear relationship between each pair of dependent variables within each group of the independent variable. Figure 4 demonstrates that there is a linear (either positive or negative) within each pair of dependent variables, Assumption 5 has been met.

Figure 4

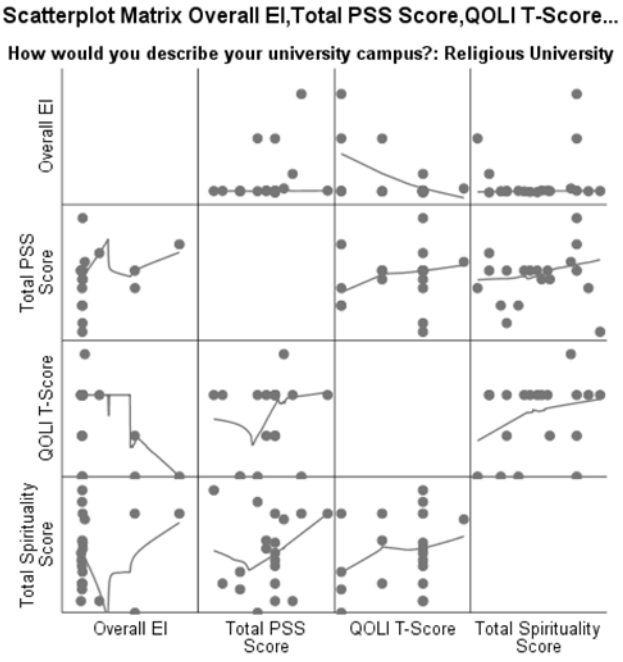
Scatterplot: Campus Type Moderating EI, PSS, LQ, and Spirituality



Assumption 6 states that there should be a linear relationship between the covariate and each dependent variable within each group of the independent variable. Figure 5 demonstrates that there is a linear relationship (positive or negative), showing that Assumption 6 has been met.

Figure 5

Scatterplot: Groupings EI, PSS, LQ, and Spirituality



Assumption 7 requires homogeneity of regression slopes, identifying that the relationships are the same whereas Assumption 6 assesses a linear relationship. Homogeneity uses a multivariate test like Wilks' Lambda that identifies a p-value for the interaction term "spirituality*campus type" where p = .094, a non-statistically significant interaction term that meets Assumption 7's requirement of homogeneity of regression

slopes. Table 8 shows that there was homogeneity of regression slopes, as assessed by the term between weight and group, $F(3, 33) = 2.313$, $p = .094$

Table 8

Wilks' Lambda Homogeneity of Regression Slopes (RQ4)

	F	Hypothesis df	Error df	Sig.
Spirituality*Campus Type	2.313[b]	3.000	33.000	.094

Assumption 8 states that there should be a homogeneity of variances and covariances, identified by using Box's M test of equality of covariances. Table 9 shows there was homogeneity of variances and covariances, as assessed by Box's M test, $p > .001$. Assumption 8 has been met.

Table 9

Box's Test of Equality of Covariance Matrices

Box's M	23.305
Sig.	.002

Assumption 9 states that there should be no significant univariate outliers in the groups of your independent variable in terms of each dependent variable, verifying that standardized residuals for EI, PS, and LQ are greater than +/-3 standard deviations. Univariate outliers are extremely small or large compared to the other scores. There were no univariate outliers in the data as assessed by standardized residuals great than +/- 3 standard deviations (Table 11). Assumption 10 states that there should be no significant

multivariate outliers in the groups of the independent variable in terms of each dependent variable. Using a Mahalanobis distance can determine if there is a multivariate outlier. There were not multivariate outliers in the data, assess by Mahalanobis distance, (p > .001). Table 10 shows that both these assumptions have been met.

Table 10

Univariate and Multivariate Outliers (RQ4)

Univariate Outliers	ZRE_1	ZRE_2	ZRE_3
	1.61	1.28	1.30
Multivariate Outliers	MAH_1		
	-14.70		

Assumption 11 states that the residuals should be approximately normally distributed for each group of the independent variable. The use of multivariate normality is a challenge to test for using a 'best guess' scenario since normally distributed residuals for each group of the IV and DVs can show multivariate normality; however, normally distributed group residuals do not guarantee multivariate normality. A total number of 254 participants identified as attending a religious campus and 63 participants identified as attending a secular campus. However, the one-way MANCOVA homogeneity of variances and co-variances identified 39 valid cases (19 religious; 20 non-religious) and 301 cases as missing. The Shapiro-Wilk test for normality is used in this instance (Table 11).

Table 11

Tests of Normality (RQ4)

	University Campus Type	Shapiro-Wilk		
		Statistic	df	Sig.
Residual for Total LQ	Religious	.806	19	.001
	Non-Religious	.687	20	.000
Residual for Total PS	Religious	.957	19	.522
	Non-Religious	.970	20	.752
Residual for EI	Religious	.599	19	.000
	Non-Religious	.767	20	.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The one-way MANCOVA assumptions were all met, the use of a one-way ANCOVA for each dependent variable with the covariate is not needed but could be used to verify the results of the one-way MANCOVA. Instead, Table 12 shows the results of a Mann-Whitney U Test used to compare the overall results of the one-way MANCOVA. The results indicate that the null hypothesis is partially supported.

Table 12

Mann-Whitney U Test: Campus Type as Moderator of PSS, QOLI, EI, and Spirituality (RQ4)

Research Question	Null Hypothesis	Sig.	Decision
1	The distribution of the QOLI T-Score is the same across categories of [University Campus].	.217	Retain the null hypothesis.
2	The distribution of the Total PSS Score is the same across categories of [University Campus].	.146	Retain the null hypothesis.

3	The distribution of the Total Spirituality Score is the same across categories of [University Campus].	.021	Reject the null hypothesis.
4	The distribution of the Total EI Score is the same across categories of [University Campus].	.025	Reject the null hypothesis

Asymptomatic significances are displayed. The significance is .05.

A final measure of whether the IV and DV are affected by the moderator, is shown via the effect size. The effect size is measured by partial eta squared, where the percentage of the DV is explained by the IV. The higher the percentage, the more important the effect of the IV. Table 13 also shows that campus type has little effect on the measured DV's as all results are less than 10% (LQ: 10.6%; PS: 2%; EI: 3%).

Table 13

Effect Size of Campus Type as Moderator of LQ, PS, and EI (RQ4)

Moderator	Dependent Variable	Partial Eta Squared
Campus Type	Life Quality	.106
	Perceived Stress	.022
	Emotional Intelligence	.033

Summary

Based on the data analyzed using SPSS software for correlations between spirituality, EI, PS, and LQ it appears that there was only a significant relationship between spirituality and EI, and no significant relationships between spirituality, PS, or

LQ. Additionally, after adjusting for campus type (religious or secular) there was only a partial moderating effect.

A Pearson's product-moment correlation was run to assess the relationship between spirituality and EI among first-year university students aged 19-24 years. A total of 340 participants were recruited and 292 finished this survey for an 86% response rate. Preliminary analyses showed the relationship to be non-linear as not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$), and there were outliers. There was a statistically significant, moderate correlation between spirituality and EI. There was a statistically significant relationship between spirituality and EI. Therefore, we can reject the null hypothesis and accept the alternative hypothesis.

A Pearson's product-moment correlation was run to assess the relationship between spirituality and PS among first-year University students aged 19-24 years. Preliminary analyses showed the relationship to be non-linear as not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$), and there were outliers. There was no statistically significant, correlation between spirituality and PSS. The relationship between spirituality and PS was not statistically significant. Therefore, we cannot reject the null hypothesis.

A Pearson's product-moment correlation was run to assess the relationship between spirituality and LQ among first-year university students aged 19-24 years. Preliminary analyses showed the relationship to be non-linear as not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$), and there were outliers. There was no statistically significant, correlation between spirituality and PS.

The relationship between spirituality and PS was not statistically significant. Therefore, we cannot reject the null hypothesis.

A one-way MANCOVA was run to assess the effect of campus type (as a moderator) on the relationships between spirituality, EI, PS, and LQ among first-year University students aged 19-24 years. A total number of 254 participants identified as attending a religious campus and 63 participants identified as attending a secular campus. However, the one-way MANCOVA homogeneity of variances and co-variances identified 39 valid cases (19 religious; 20 non-religious) and 301 cases as missing. Using the 39 valid cases, a Mann-Whitney U Test was completed to verify the results of the one-way MANCOVA indicating that the null hypothesis was partially supported.

The following chapter discusses how the results of this study can be utilized in future research, what immediate implications might be applied, and the positive social changes that could be beneficial for university students and the shareholders responsible for supporting their success. A larger societal influence is also addressed as related to recent events where the COVID-19 pandemic and quarantine might have affected the outcome of this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The study was a quantitative, nonexperimental, cross-sectional survey. I explored a gap in research to identify if spirituality significantly affects EI, PS, or LQ while also exploring if campus type (secular or religious) moderates the effect. The results of the study revealed correlations between spirituality, EI, PS, and LQ; however, there was only a significant relationship between spirituality and EI, and no significant relationships between spirituality, PS, and LQ. Additionally, after adjusting for campus type (religious or secular) there was only a partial moderating effect. This chapter highlights how these findings can be interpreted, what the limitations of the study were, what recommendations can be made with the conclusions of the study, and finally, how this study can effect positive social change among university students and shareholders involved in these students' academic journey.

Interpretation of the findings in this study were used to answer four RQs concerning the impact, if any, of student spirituality on EI, PS, or LQ and whether campus type might be moderator. Defining spirituality as intuition, inspiration, creativity, and connections to the world (Astin et al., 2011), I examined whether increasing spirituality among university students would provide beneficial interventions for mental and physical well-being or to increase academic success. Conceptually, the spirituality models that connect a mature response to emotions in various situations are supported by the current study. Individual psychology also explains that increasing coping mechanisms such as spirituality (via self-efficacy and self-regulation) and identifying an individual's

self-regulation improve their performance, confidence, and belief system (worldview) regarding where they fit into society (their purpose; (Lipka & Gecewicz, 2017; Pomeroy & Clark, 2015).

The first RQ explored student spirituality and EI. The results showed that there was a significant relationship between student spirituality and EI. Preliminary analyses showed the relationship to be nonlinear as not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$), and there were outliers. There was a statistically significant, moderate correlation between spirituality and EI indicating that student spirituality does have an influence on EI. Therefore, I rejected the null hypothesis and accepted the alternative hypothesis.

In a similar study, Mohammadiani and Homaei (2017) found multiple correlations between EI, cultural intelligence, and spiritual intelligence among university students that were significant and positive when compared with individual-social adjustment. Rajeswari and Selvam (2019) found that when emotional and spiritual intelligence was higher, academic achievement was higher. Fradelos et al. (2019) also found that there was a positive link between EI and spirituality as a protective factor of university student's mental health regardless of gender, and after accounting for psychological distress associated with other areas of life (gender, living arrangement, and financial frustration), which supports the conclusion in this study that spirituality and EI are interrelated and should be looked at as a combined intervention to improve the well-being of university students.

The second question explored if student spirituality affected PS. The results indicated that there was no significant relationship between student spirituality and PS. There was no statistically significant correlation between spirituality and PS. The relationship between spirituality and PS was not statistically significant indicating that spirituality does not affect PS of students. Therefore, I cannot reject the null hypothesis and cannot accept the alternative hypothesis.

The results of the current study contrast with those of Yavuz and Dilmac (2020) that showed a significant positive correlation between mindfulness and psychological hardiness and a positive linear correlation between spiritual well-being and psychological hardiness and well-being. Yavuz and Dilmac, along with Fradelos et al. (2019), showed that psychological health as might be found in PS is affected by the level of an individual's spirituality. The conclusion that no significant relationship exists between spirituality and PS does not negate that there may be a relationship. Perhaps the online method of data collection for the current study is an area where future researchers can improve and thus identify if any significant relationship exists between spirituality and PS.

The third question looked at student spirituality and LQ. The results identified that there was not a statistically significant relationship between student spirituality and LQ. Preliminary analyses showed the relationship to be nonlinear as not all variables were normally distributed, as assessed by Shapiro-Wilk's test ($p < .05$), and there were outliers. There was no statistically significant, correlation between spirituality and LQ The relationship between spirituality and LQ was not statistically significant indicating

that spirituality does not effect LQ. Therefore, I cannot reject the null hypothesis and cannot accept the alternative hypothesis.

Contrary to the results found in the current study, other researchers have shown statistically significant relationships between stress intensity and psychological distress as related to the quality of life and spirituality. Kupcewicz et al. (2020) found that master's-level nursing students in Poland, Slovak, and Spain had the most positive relationships (less stress) when the quality of life was combined with increased stress coping strategies like increased physical health, psychological well-being, and social relationships. Fradelos et al. (2019) found similar positive correlations of decreased distress when student's EI and spirituality levels were higher. Therefore, the differences found in the current study and similar studies may be explained by the individual student responses to the COVID-19 pandemic.

In 2020, the COVID-19 pandemic resulted in a worldwide shift in how individuals studied among university closures and quarantine restrictions. Roshida et al. (2020) administered a questionnaire in a cross-sectional study of 160 students taking compulsory university courses in the second semester. The researchers found that students were not able to adapt well to the pandemic stressors if their level of spirituality was low. Roshida et al. explained that universities emphasize knowledge-based and information-oriented education while having little to no spiritually oriented curriculum, which might change the outcome of how students respond to future stressors. Although the current study may not have shown any statistical relationship between spirituality and PS or LQ, it can be suggested that the method of data collection and the length of the

survey may have affected the responses since other studies have shown contrary results between student stress. LQ, and spirituality.

The fourth, and final, question looked at campus type as a moderator of the effect of student spirituality on EI, PS, and LQ. The results showed that there was a partial moderating effect on campus type, indicating that both student spirituality and EI are affected by campus type, whereas PS and LQ are not affected by campus type. The Pew Research Center found that an 8% increase among the U.S. population (inclusive of gender, ethnicity, age, education, and political affiliation) currently identify as spiritual instead of religious; thus, increasing the percentage of U.S. adults to 27% that identify as spiritual and not religious (Lipka & Gecewicz, 2017). The increase in spiritual versus religious identification supports the idea that regardless of campus type, spirituality may be higher among university students now than in previous years.

In a longitudinal study of college students attending 122 different campuses, less than 32% of participants increased skills to interact with individuals of diverse beliefs, while the remaining 74% focused more on learning about race, ethnicity, and different countries, and less time learning about individuals from different religions (Redden, 2020). Campus type may have a limited effect on university students because they are focused less on religion and more interested in the overall makeup of individuals, this dichotomy may be useful once the student graduate's university. Long et al. (2019) suggested that a shared understanding of building relationships among all types of communities can yield a richer understanding of shared humanity, encompassing areas of religion, spirituality, and public health. Focusing on the similarities found in spirituality,

religion, and public health versus identifying the differences could increase EI and LQ and decrease PS.

Spirituality theories postulate that individuals who connect with a higher power (or community), who know their relationship of self to others, and who have an increased understanding of their emotions will be able to have a better reaction to stressors (Osen & Gmunder, 1991, as cited in Cartwright, 2001). Although in the present study a significant relationship was not identified between spirituality, PS, and LQ, there was a significant relationship between spirituality and EI, indicating that increased spirituality will also increase EI. The theoretical foundations found within the various spiritual models and individual psychology were supported by this study and suggest that increasing spirituality may benefit university students. Study results support the positive effects of spirituality. Contrada and Goyle (2004) stated that individuals who can identify a purpose to their existence as found in increasing spirituality will have a positive relationship with society. Additionally, as found in the theory of individual psychology, when individuals develop effective coping mechanisms, and identify their relationship or place in society, health and wellness can improve (Cartwright, 2001; Levin, 2009; Robinson et al., 2012). Therefore, both spiritual and individual theories explained in this study were validated by the results found in the data analysis identified in Chapter 4.

The results of this study showed that student spirituality did affect EI, but student spirituality does not affect PS or LQ. As there was a partial moderating effect of campus type on student spirituality, EI, PS, or LQ, it is within the interpretation of this study that interventions found on one type of campus could be introduced to another type of

campus. The main purpose of increasing student spirituality is to use it as a coping mechanism for increased mental and physical well-being. This study was conducted with approval and oversight from Walden University; however, some limitations might have affected the outcome of the participant responses beyond what was first identified in Chapter 1.

Limitations of the Study

Methodological limitations of this study included the geographic and scholastic convenience sampling of students located within the United States, the method of the online survey format, and if the participants answered the inclusion criteria honestly. Specific threats to internal validity may be due to convenience sampling or online recruitment and survey methodology. However, the power of the test was sufficient, and the reliability of the measures was adequate.

mTurk recruited participants, while Qualtrics was able to create a multi-dimension survey that required participants to leave the Qualtrics format twice to complete additional surveys on the Q-Global and MHS platforms. However, the online survey platforms were able to identify if participant responses were computerized or human, such as identifying if the survey was answered in less than 20 minutes, which was the absolute minimum amount of time required for a human response. In addition, survey mechanisms assisted human participants in completing the study one step at a time. Participants were not allowed to move to the next section of the survey without responding affirmatively for having fully completed the previous section. However, due

to the COVID-19 pandemic, the original research study had to be expanded to include participants from the entire United States to get a proper sample size.

Limitations of this study were more recently affected by the COVID-19 pandemic and subsequent quarantine. The original data collection plan had to be modified due to university closure and the lack of support by university contacts to reach out to their students via emails or online classroom settings. The researcher changed their plan from collecting data both in person and via internet survey at four specific universities, to expanding data collection via electronic method only via a nationwide search for participants. Data collection modifications during the pandemic were sought and approved from Walden University's IRB. Qualtrics were used to develop the survey, while Q-Global and MHS provided permission for the use of the QOLI, and the MSCEIT, respectively (Nayak & Narayan, 2019). mTurk was then used as a nationwide participant recruitment source since face-to-face interactions were not possible with the university closures and the lack of online platforms available for face-via-computer interviews. Both the mTurk and Qualtrics online platforms were able to use algorithms to identify and eliminate non-human (BOT) responses. Eliminating BOT responses made the applicable surveys more valid, but some automatic responses may have been included (Chandler et al., 2019). Appendices G (mTurk), H (Qualtrics), I (QGlobal), and J (MHS) provide information on the security measures used by each of the platforms used in the study.

The method of data collection from the Qualtrics Survey may have served as another limitation. Qualtrics analyzed and summarized the demographic data, the CBVS,

and the PSS questionnaires, but the QOLI and MSCEIT instruments were analyzed by MHS and Q-global platforms due to copyright laws. I then entered the data into SPSS, adding potential user error even with cleaned data. For example, a total of 340 participants were recruited and 292 finished this survey. A total number of 254 participants identified as attending a religious campus and 63 participants identified as attending a secular campus. However, the one-way MANCOVA homogeneity of variances and co-variances identified 39 valid cases (19 religious; 20 non-religious) and 301 cases as missing. Using the 39 valid cases, a Mann-Whitney U Test was completed to verify the results of the one-way MANCOVA indicating that the null hypothesis is partially supported. However, SPSS indicated that Cronbach's alpha of all instruments was both valid and reliable, thus suggesting any errors in data input or analysis would be the researcher's error. Statistical analyses were run for all hypotheses that concluded a low statistical error rate.

The main limitation of this study was the use of an online platform to collect survey data that required participants to exit the Qualtrics site twice (MHS & Q-Global) during the survey, and another was used to recruit participants (mTurk). Both platforms included automatic BOT and non-human responses. Due to the additional requirement for participants to log into both MHS and Q-Global with specific codes to identify a secular or religious campus, errors may have been made where the student input the incorrect campus type into their survey response. However, Qualtrics and mTurk were able to identify users who may have been BOTs and removed their data from the analysis of the survey. Additionally, MHS and Q-Global websites had identifiers that were able to

identify participants who may have logged in multiple times to take the assessments, therefore creating reliable checks and balances of human participants, which aligns with the strengths and weaknesses of online surveys identified by Nayak and Narayan (2019). Even with the limitations, specific threats, and potential errors of this study, the data analysis suggests that university students and shareholders working within this population may find some helpful recommendations to improve student spirituality as a method to support this unique population, as well as some future directions for continued research to increase health and wellness. The power of the test was sufficient, and the reliability of the measures was adequate. The researcher had no bias towards any of the participants, the survey formats, or the manner in how data were collected other than which inclusion criteria would be appropriate for the participants to fully answer the RQs.

Recommendations

The four RQs in this study addressed whether if student spirituality has any effect on EI, PS, or LQ. Additional data were collected due to the nature of the surveys provided to the participants, but was not explored in this study suggesting gender, age, or type of religion might also influence LQ and EI. The additional data collected was outside the scope of the RQs in this study. However, the additional data lend support to the idea that future research would be beneficial to understand the effects of spirituality on gender, age, and type of religion. Data collection showed interesting information regarding the student's emphasis of study (major/minor), as well as if they were married, where they are housed, or if they attended an online or an in-person University. Exploratory research in these areas may find more information on how to improve the

mental health and physical well-being of University students. Within the course of the current study, it is recommended that shareholders at all types of institutions develop support systems or courses related to increasing the EI and spirituality of students.

Data analysis beyond the RQs indicates the future research should review if gender and age affect PS, LQ, and EI. (Ruthig et al., 2011) Results from the QOLI indicated that females were more likely to score average to high, where males were more likely to score very low, too low for ages 18-20. Females between ages 21-24, were more likely to score low to average, where males remain average. These results aligned with conclusions made by Ruthig et al. (2011) and Kyalo and Chumba (2011), indicating gender may affect PS, LQ, and EI. Since the age of the university student might affect the level of spirituality, researchers may want to explore whether interventions should or could be applied earlier in education (elementary, middle school, and/or high school) to increase EI and spirituality. Additional data results received from the MSCEIT indicated that there was minimal difference between campus types suggesting that increasing EI on all types of university campuses might be beneficial.

Although not reviewed in this study, the data in CBVS included the religious or non-religious affiliations of the participants. Future research may benefit from identifying if specific minority religions or non-religious students have any different results of PS, LQ, EI, and spirituality when they attend different campuses. Bowman and Small (2012), along with Rochenbach et al. (2015) and Astin et al. (2011) found that religious minorities or non-religious students attending a secular or religious university may have more or less stress (LQ, PS) depending upon their societal inclusion on the university

campus, but did not review if LQ, EI, or spirituality may improve PS regardless of campus type.

The CBVS also identified a participant's University course of study (Major/Minor) that could look into a student's course of study as a possible covariate in PS, LQ, EI, or spirituality levels. Hetland et al. (2012) found at overcommitted students and their personality can affect their mental health and well-being, that when combined with the students' course of study might provide additional data into specific interventions for a student's course of study. Researchers may want to review if a student's course of study is influenced by spirituality.

Research should also look at data regarding married versus non-married, as well as mandatory on or off-campus housing. This data was collected in the present survey, but not reviewed or analyzed. However, Conley et al. (2012) and Gan et al. (2011) identified that first-year college students had increased mental and physical health problems if they did not have an immediate support group (i.e. family, spouse). Researchers may want to review if societal inclusion among non-married students living in campus housing mimics the support system identified among married students attending university.

Identification of online versus physical attendance schools would have been useful to know to ensure that participants met the criteria for schools that were physically open (Brick & Mortar) and they had not attended an online school (outside of study parameters). Students attending an online or physical school could potentially be involved in social networking groups to support each other through their academic

journey. Conley et al. (2013) suggested that a positive social support group can increase a student's overall psychosocial adjustment at university, seconded by Kyalo and Chumba (2011) who believe normalizing the academic environment among peers increases success. Although neither Conley et al. (2013) or Kyalo and Chumba (2011) address online or physical group support, the idea of students learning to include a social support system as a stress-coping mechanism is a positive direction for this population.

Reducing the chronic stress of university students increases the likelihood University students will enter their first year and complete a 4-year degree with limited negative physical and mental health concerns (Hetland, et al., 2012; Gan et al, 2011; Martins et al., 2010). Students' can also be more successful post-grad as they enter the workforce as adults who are better equipped to handle the stressors of life that can affect individuals after graduation. Further review of this data may yield additional information to help shareholders develop future interventions for students so they can be a success from the start of university to the end of graduation and beyond into their choice of career. Additionally, a mixed-method study utilizing qualitative data of the lived experience of the population outside of a worldwide pandemic could enlighten researchers. Due to the limitations of the study, it is recommended that data be collected at individual universities via online or in-person collection to ensure that participants fit the inclusion criteria and are able to answer any questions about the nature of the survey they are taking. The survey might have better responses if participants did not need to visit external sites from the main survey page as that may have confounded some participants.

Implications

Implications from this study suggest that positive social change can be achieved by increasing EI among college students attending secular or religious universities. Due to the lower scores of EI and LQ, shareholders (organizations and families) working with students ages 18-20 should focus on increasing EI and LQ. Not only have higher levels of EI and spirituality been shown to increase a student's grade point average (Roshida et al., 2020), but spirituality and LQ provide a protective component as recently seen with the COVID-19 pandemic. Sari et al. (2019) found that University students used their spirituality to adapt more positively and keep their quality of life higher by adapting, accepting, and adjusting to a situation outside of their control. Positively affecting the quality of life among University students increase their influence on the surrounding communities as they leave their scholastic environment to pursue a career or return to family and friends.

Individuals are the separate components of a larger societal group. Mohmmadiani and Homaei (2018) found that increased EI, cultural intelligence and spiritual intelligence increased LQ by spreading their positive impact (attitude, feelings) among others. If individuals can identify and maintain the positive effects of increased EI by spreading it within society, overall relationships between groups of individuals could improve. Improved relationships between individuals are expanded by Kupcewicz et al. (2020) and Roshida et al. (2020) to include all types of environments like religious or non-religious/secular locations, where LQ and PS improve with increased levels of individual spirituality.

The methodological implications of this study were limited by the non-experimental, cross-sectional design. A longitudinal study with experimental interventions could identify if increasing student spirituality and EI has an effect on PS and LQ. Additionally, adding a separate qualitative component would add data about a student's perception of spirituality, EI, PS, and LQ. Theoretical implications of this study could include exploring if minority groups (religious or non-religious) on different campuses (religious or non-religious) show any differences in individual spirituality, EI, PS, or LQ. The theory of individual psychology could also be explored to verify if student spirituality effects whether or not they feel included in their college environment or social group.

This study supports recommendations that create an inclusive environment for university students where they are provided opportunities to increase their spirituality and EI to improve their PS and LQ (Kupcewicz et al., 2020; Rajeswari & Panneer Selvam, 2019; Roshida et al., 2020; Yavuz & Dilmac, 2020), and overall mental and physical well-being. Using the results from this study showing how spirituality affects EI, and that campus type is only a partial moderator, all campus types could adopt physical, mental, and social interventions where students can learn to increase their PS and LQ through methods other than spiritual identification. For example, providing courses focused on increasing EI, as well as being inclusive of a students' spiritual journey with campus support groups may increase a students' physical and mental well-being on campus. Further expansion from university campuses to community campuses or starting earlier in high school, may also provide interventions in those populations. z

Conclusion

Shareholders who work within the University environment should create programs to reinforce the spiritual and EI among students. Increasing levels of spirituality and EI may help students cope better with perceived stressors and increase LQ, as was demonstrated in the recent pandemic of COVID-19. Developing a supportive academic environment with smaller social groups could increase the social interaction of students while teaching them interpersonal skills they can use after university, where the students' positive influence can affect the larger society surrounding them.

Increasing a university student's level of spirituality could provide long-term success in their academic journey through increasing their mental and physical well-being, thus improving their LQ and reducing their PS. Students with increase EI and spirituality handle PS better, reducing the need to use sex, alcohol, or drugs as a method of self-medication. Instead, individuals understand their role in society and can adapt to the environment, physical, or mental stressors with more clarity.

This study expanded upon and added information relating to spirituality identifying that a student's spirituality is not affected by a religious or secular location, but that spirituality does affect EI. Spirituality was also identified as a non-religious, discovery of self where higher levels of spirituality positively affect EI. Creating programs that increase spirituality as a coping mechanism to reduce the effects of PS may increase a students' LQ whether they are in a religious or secular environment, which can then follow them past graduation into society at large.

Positive social change not only develops a supportive academic environment that is inclusive of individuals as a larger network but creates micro-groups to improve the connectivity of students who may be an outlier within the general population. Interpersonal skills of adaptation, growth, and LQ increase with spirituality and can lead to positive interactions between individuals that could have long-lasting effects. Working with students before they enter University may be the most effective way to increase the EI and spirituality of a student as they will enter University with a solid foundation of stress coping mechanisms and life skills that might reduce the stress they feel as they enter into young adulthood, the competitive academic environment, and their careers after graduation.

Overall, this study supported current research that demonstrates higher levels of student spirituality positively affects EI with a moderate influence found between religious and secular university campuses (Mohammadiani & Homaei, 2017; Rajeswari & Selvam, 2019; Yavuz & Dilmac, 2020). This study also added to the research on the effects of student spirituality while filling in a gap that addresses if student spirituality differs among university campuses. Finally, this study answered the question of student spirituality affects LQ and PS, with conflicting conclusions to current research, and encourages research to look at these areas more thoroughly to consider age, gender, and religious or non-religious minority influences. Continuing research to an understanding about the effect of student spirituality on PS, LQ, and EI among all types of University campuses is a positive move forward to increase student physical health and mental well-being while increasing positive societal influences.

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Appendix A: College Students' Beliefs and Values Survey

Note: Purposely left blank.

Appendix B: Perceived Stress Scale

PERCEIVED STRESS SCALE

by Sheldon Cohen

hosted by

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If you find the **Perceived Stress Scale** useful, you might be interested in these other great Mind Garden instruments.

State-Trait Anxiety Inventory – Adult (STAI-AD)

by Charles D. Spielberger

The definitive instrument for measuring anxiety in adults. It clearly differentiates between the temporary condition of "state anxiety" and the more general and long-standing quality of "trait anxiety". It helps professionals distinguish between a client's feelings of anxiety and depression. The inventory's simplicity makes it ideal for evaluating individuals with lower educational backgrounds.

Understanding and Managing Stress

by Robert Most and Theresa Muñoz

This forty-page workbook offers individuals a comprehensive approach to managing stress. The workbook includes basic strategies for: managing daily on-the-spot stress; problem and emotion focused coping skills; and improving personal and work lifestyle; as well as resources for further exploration.

Other instruments related to **Anxiety and Stress**

These instruments measure anxiety or stress in a variety of situations including test anxiety, school-related stress, and anxiety as a state-like and trait-like construct. Many of these instruments are complimented by reports or workbooks that provide tips and exercises to manage stress and anxiety.

We offer such instruments as **Hassles & Uplifts** and the **Psychological Distress Profile**.

PERCEIVED STRESS SCALE

by Sheldon Cohen

The *Perceived Stress Scale* (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. The PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. Moreover, the questions are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

Evidence for Validity: Higher PSS scores were associated with (for example):

- failure to quit smoking
- failure among diabetics to control blood sugar levels
- greater vulnerability to stressful life-event-elicited depressive symptoms
- more colds

Health status relationship to PSS: Cohen et al. (1988) show correlations with PSS and: Stress Measures, Self-Reported Health and Health Services Measures, Health Behavior Measures, Smoking Status, Help Seeking Behavior.

Temporal Nature: Because levels of appraised stress should be influenced by daily hassles, major events, and changes in coping resources, predictive validity of the PSS is expected to fall off rapidly after four to eight weeks.

Scoring: PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4 item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.

Norm Groups: L. Harris Poll gathered information on 2,387 respondents in the U.S.

Norm Table for the PSS 10 item inventory

Category	N	Mean	S.D.
Gender			
Male	**926**	**12.1**	**5.9**
Female	**1406**	**13.7**	**6.6**
Age			
18-29	**645**	**14.2**	**6.2**
30-44	**750**	**13.0**	**6.2**
45-54	**285**	**12.6**	**6.1**
55-64	**282**	**11.9**	**6.9**
65 & older	**296**	**12.0**	**6.3**
Race			
white	**1924**	**12.8**	**6.2**
Hispanic	**98**	**14.0**	**6.9**
black	**176**	**14.7**	**7.2**
other minority	**50**	**14.1**	**5.0**

Appendix C: Permission to Use College Students' Beliefs and Values Survey

> On Dec 11, 2018, at 4:44 PM, Janette Cooke <janette.cooke@waldenu.edu < Caution-mailto:janette.cooke@waldenu.edu > > wrote:
>
> Good evening Dr. Astin,
>
> I would like to utilize the CSBV test you developed for my upcoming data collection. Could you direct me to the appropriate office or person where I could get a copy for my proposal, provided I have your permission to use it.
>
> Thank you for your help.
>
> Sincerely,
> Janette Cooke
> PhD Student: Health Psychology

From: Alexander Astin <aastin@gseis.ucla.edu < Caution-mailto:aastin@gseis.ucla.edu > >
Sent: Tuesday, December 11, 2018 6:33 PM
To: Janette Cooke <janette.cooke@waldenu.edu < Caution-mailto:janette.cooke@waldenu.edu > >
Subject: Re: Request for use of CSBV Survey for Dissertation Project

You're certainly welcome to use the questions in that survey for research purposes. Keep in mind that it is not a
test." Rather, it is a compilation of diverse items or questions. Provided that you give full credit for the source in any publications or reports,probably your best approach would be to select the items you want to use. Also be sure to read our book, Cultivating the Spirit, as well as our article in the Journal of College Student Development.

Good luck in your research!

Alexander W. Astin
Allan M. Cartter Professor Emeritus &
Founding Director
Higher Education Research Institute
University of California, Los Angeles
aastin@gseis.ucla.edu < Caution-mailto:aastin@gseis.ucla.edu >

Appendix D: Permission to Use Mayer-Salovey-Caruso Emotional Intelligence Test

From: Betty Mangos Sent: Monday, July 8, 2019 8:38 AM To: Cooke, Janette S CTR (USA) Cc: Janette Cooke; [email address redacted] Subject: RE: Cooke,Janette - Permission for use of MSCEIT

To use the MSCEIT, you must purchase it. Since you using the MSCEIT for academic research, you will likely only need the Scored Data Set Reports. I have attached a sample.

Here is a description of the scored dataset to help you understand it: There are several tabs at the bottom of the excel file, each containing different data. The first tab contains the legend, which lists the variables included in the excel file. The next tab (MSCEIT scored item responses) contains the individual item scores. These are the scores you would use to run analyses at the item level (e.g., scale reliabilities). The third tab (MSCEIT Demographic and Scores) begins with the item responses as they were entered, and are not scored. Following the item responses in the same sheet, beginning in column ES, are the raw scale scores. If you extend each column you will see the full variable name. The task scores are Raw Score A through Raw Score H. The branch scores are B1 to B4. EXP is Area 1 (Experiential EIQ) and REA is Area 2 (Strategic EIQ - this one appears as Emotional Reasoning in the legend). TOT is the total raw score. Next are the adjusted scores, if you chose to use any corrections at the scoring stage (age, gender, or ethnicity), and then the percentiles are given for each scale. Following the percentiles are the Standard Scores for the tasks, branches, areas, and total score (all scores are standardized to a mean of 100 and standard deviation of 15).

The MSCEIT Scored Data Set Reports are available to researchers only. In order to use the MSCEIT Scored Data Reports, you must be approved for a research discount. The discounted price for the Scored Data Reports will be $6.00 EACH if you are approved for the research discount. You will need one Scored Data Set Report for each Participant. You are also required to purchase the MSCEIT Manual, if you do not already have this. The cost of the Manual is $75.00. If you are approved for the discount, you will receive 30% off the MSCEIT Manual, making this $52.50, plus shipping.

The MSCEIT is administered and Scored Online using the MHS Scoring Site. Your participants will take the MSCEIT online via a link that you will send to them. You will log into the site to score these after the administration has been completed. You will not be permitted to post this to Qualtrics, or any other survey site. I have attached the discount applications for you. You can also find these on the MHS website, under Professional Research Assistance Discount.

Caution-https://www.mhs.com/Support/research-training-discounts If you would like to apply for the discount, please return the complete forms to me –r&d1@mhs.com < Caution-mailto:r&d1@mhs.com > or to permissions@mhs.com < Caution-mailto:permissions@mhs.com >.

Thank you, Betty

Appendix E: Permission to Use the Perceived Stress Scale

From: **Mind Garden Inc** <info@mindgarden.com < Caution-mailto:info@mindgarden.com > >
Date: Tue, Oct 29, 2019, 20:58
Subject: Re: [Mind Garden] Message from contact form - General Questions
To: <email address redacted >

Hello Janette,

The author of the Perceived Stress Scale (PSS), Sheldon Cohen, is making the instrument available at no charge to researchers. While Mind Garden is not the publisher, you can download the instrument from our website.

For more info about the Perceived Stress Scale, please click here. < Caution-https://nam04.safelinks.protection.outlook.com/?url=http%3A%2F%2FCaution-www.mindgarden.com%2F132-perceived-stress-scale&data=02%7C01%7Cjanette.cooke%40waldenu.edu%7Cac4665866511469cb60e08d75ce553a1%7C7e53ec4ad32542289e0ea55a6b8892d5%7C0%7C0%7C637080012342096099&sdata=%2FkMtNgxE3JVV6GwHIYiP8bsrK7rQAfov2pDSek7Jicg%3D&reserved=0 >
< Caution-https://nam04.safelinks.protection.outlook.com/?url=http%3A%2F%2FCaution-www.mindgarden.com%2F132-perceived-stress-scale%23horizontalTab3&data=02%7C01%7Cjanette.cooke%40waldenu.edu%7Cac4665866511469cb60e08d75ce553a1%7C7e53ec4ad32542289e0ea55a6b8892d5%7C0%7C0%7C637080012342096099&sdata=hDGpD0EhBDvT8e7Z6nbc2wclZhaGKftf2cGCon%2FPFiM%3D&reserved=0 >
Download the PSS Form free of charge. < Caution-https://nam04.safelinks.protection.outlook.com/?url=http%3A%2F%2FCaution-www.mindgarden.com%2F132-perceived-stress-scale%23horizontalTab3&data=02%7C01%7Cjanette.cooke%40waldenu.edu%7Cac4665866511469cb60e08d75ce553a1%7C7e53ec4ad32542289e0ea55a6b8892d5%7C0%7C0%7C637080012342106094&sdata=d8%2FQ4fH70O5u0g%2BQqdtwEkRl6vDOBOJPw7g%2FIKkuVbA%3D&reserved=0 >

Many questions can be answered on Sheldon Cohen's personal website < Caution-https://nam04.safelinks.protection.outlook.com/?url=http:%2F%2FCaution-www.psy.cmu.edu%2F~scohen%2F&data=02%7C01%7Cjanette.cooke%40waldenu.edu%7Cac4665866511469cb60e08d75ce553a1%7C7e53ec4ad32542289e0ea55a6b8892d5%7C0%7C0%7C637080012342106094&sdata=%2BX2BNFmdLLcN%2BAqc9Y0YP1e%2F3OSWU2qrsf317PuVStl%3D&reserved=0 > and all questions should be addressed to scohen@cmu.edu < Caution-mailto:scohen@cmu.edu >

Best regards,

Katherine
Mind Garden, Inc.
650-322-6300

Appendix F: Permission to Use Quality of Life Inventory

Rights & Permissions
Care of Pearson South Africa
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South Africa
+27 (0)21 532 6000

July 10, 2019 Our ref: **PC534**

Janette Cooke
Walden University

Re: **Quality of Life Inventory (QOLI ®, the "Product")**

Dear Janette

Thank you for your correspondence requesting permission from Pearson to use questions from the Product for submission to your Institutional Review board (IRB) approval requirements (the "Purpose").

We have no objection to the use of the below mentioned material for the purpose as stated above, subject to the following Terms and Conditions:

1. You have Pearson permission to reproduce questions for review by your IRB.

2. The copy you submit should have a watermark stating "For IRB Review Only–Not for Administration". This permission expires July 2020.

3. Please ensure the following copyright and trademark notice(s) are present:

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Thank you for your interest in our materials.

Sincerely,

Gaynor Thomas
Global Permissions Granting Analyst
Global Innovation & Services
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Appendix G: mTurk Participant Recruitment Privacy Measures

Mechanical Turk (MTurk)

Purpose

The information in this guidance is for investigators conducting human subjects research using Amazon's Mechanical Turk (MTurk). The aim is to provide suggestions for addressing privacy and confidentiality concerns, along with other ethical considerations when conducting human subjects research using the MTurk platform.

This guidance is based on information available in May 2020 - investigators are advised to carefully review information posted through Amazon mturk.com, as their policies/terms and conditions may change.

In this document

What is MTurk?

Amazon's MTurk is a crowdsourced virtual labor market in which individual MTurk Workers complete online Human Intelligence Tasks (HITs) for pay. MTurk serves to match individual Workers with small "microtasks" and to provide a mechanism for compensating Workers. The platform appeals to human subjects researchers, as it facilitates access to a large population of motivated participants.

MTurk is a general-purpose and largely unregulated, crowdsourcing platform that is not expressly designed for the conduct of human subjects research. While MTurk's security, privacy, and confidentiality measures may be sufficient for many business or personal tasks, ethical research is held to a higher standard. In addition to data security considerations, investigators are reminded that collection of data through this platform is subject to Amazon Services Conditions of Use agreement.

MTurk's Acceptable Use Policy, Privacy Notice, Participation Agreement, and Amazon Services Conditions of Use Agreement should be reviewed in their entirety before initiating human subjects data collection plans using MTurk.

Definitions

Privacy and Confidentiality Definitions

Anonymous – Anonymous means that there is no possible way for *anyone* (not even the researcher) to identify or trace a subjects' identity from the data at any time.

Confidentiality – Confidentiality refers to the treatment of information that has been disclosed to a researcher in trust and with an expectation that it will not be shared in ways inconsistent with the original understanding or agreement.

Data Anonymization – Anonymization is the irreversible removal of any link(s) between an individual and his/her data to the degree that it would be virtually impossible to reestablish a link or identify an individual.

De-identification – Data management processes to separate, modify, and/or remove any personal identifying information from the data such that it would be difficult to re-establish a link

Identifiers / Personally Identifiable Information (PII)[1] – PII includes any information about an individual that can be used to distinguish or trace an individual's identity, either alone (i.e. directly) or when combined with other personal or identifying information that is linked or linkable to a specific individual (i.e. indirectly).

Privacy- An individual's ability to control the extent, timing, and circumstances of sharing oneself with others. This includes access to their personal information, as well as access to their body (i.e. collection of biological specimens or being photographed).

MTurk Definitions

Crowdsource – A means of obtaining information/input on a task/project by enlisting a large number of people over the internet.

Internet Protocol (IP) address - A numeric address assigned to every device that connects to the internet or a network. As related to human subjects research, IP addresses are generally considered as personally identifiable information (PII).

Human Intelligence Tasks (HITs) - Jobs posted in Amazon's MTurk labor market web site

> **Internal HITs** – Tasks that are completed using MTurk's internal *Survey Template* and run directly through Amazon.
>
> **External HITs**- Workers are recruited and paid through MTurk, but through the use of a *Survey Link* data is collected through an external survey site (e.g., Qualtrics).

Requester – An individual who is registered on MTurk to post Human Intelligence Tasks (HITs) (e.g., an investigator, PI, researcher)

Worker – An individual, registered with MTurk to complete Human Intelligence Tasks (HITs) for pay (e.g., a participant or subject).

Worker ID – A unique code assigned by Amazon to identify MTurk Workers. This code is linked to an individual's information on the Amazon platform (i.e. profile, purchasing history, reviews, views, lists, Prime account information, etc.).

Is MTurk Anonymous?

There are two primary methods for structuring data collection using MTurk:

Internal HITs or *External HITs*.

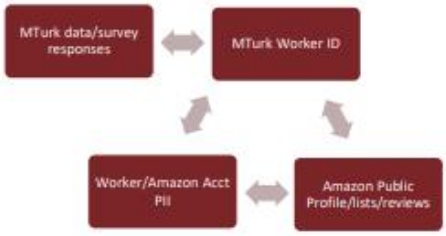
Internal HITs

Internal Human Intelligence Tasks (HITs) are those structured using MTurk's provided *Survey Template*, with the task/data collection occurring entirely within Amazon's platform. Data collected through an **Internal HITs are NOT anonymous** for a number of reasons.

- MTurk Worker IDs are automatically embedded with survey responses in Internal HITs. All payment transactions are done using an assigned a 14-character alphanumeric code (i.e., MTurk Worker ID) that is unique to each Worker. This code is linked to the survey data to allow Requesters to review/approve work and to issue payment.

- Amazon has access to Worker's personally identifiable information (PII) (e.g., name, email address, and physical address) through a Worker's Amazon account and profile. Amazon Worker accounts are linked to other Amazon accounts and services (e.g., Prime, Shopping, Music, lists, reviews) via their Worker ID.

- While Requesters do not have direct access to Workers' PII, researchers have demonstrated (Lease et al., 2013) that re-identification of Workers can occur indirectly through triangulation. As noted above, Amazon's MTurk Worker ID is a shared identifier across Amazon services. This ID number is embedded in the URL of users' Amazon Profile pages. Therefore, for MTurk respondents who also maintain a publicly-available Amazon Profile, it may be possible to identify individuals based on the amount and type of information shared on his/her/their public profile.



External HITs

External Human Intelligence Tasks (HITs) involve recruitment through the MTurk platform, but link participants to a separate survey posted on an external site (i.e. Qualtrics). Upon completion of the Qualtrics survey participants are given a code, which is then entered into the MTurk HIT to cue payment. When structured in this manner, survey data from External HITs is not available to Amazon MTurk.

In general, data collected through External HITs is considered **confidential.** After data collection is complete and compensation is awarded, researchers should de-identify the data.

Data collected through external hits *may* be considered **anonymous** (i.e. no identifiers linked to data either directly or indirectly via a coding system), ***if*** configured such that:

- Survey questions do not ask for PII (including email or Worker IDs)[1]
    - Note: this includes informed consent *"type name to agree"* if embedded in survey
- It is not possible to identify individuals based on their responses, or a combination of responses.
    - Note: specific demographic information such as exact dates of birth, zip codes, job titles, can all be PII depending on context and other data/information available.
- IP addresses are not collected by the external site (i.e. Qualtrics)
- Compensation codes in MTurk are configured such that they do not link individual MTurk Worker IDs to survey responses (i.e. each participant receives the same completion code rather than a unique code that can be linked to responses)

Note – The ability to verify/review and approve/reject individual Worker responses prior to awarding compensation is important to many investigators. For this reason, many elect to employ use of unique completion codes which allow a link between the survey data and the MTurk ID. In many instances having a temporary link is between the Worker ID and survey responses is acceptable. However, investigators are reminded that **whenever data are linked to identifiers (even temporarily) the data are NOT *anonymous***. Investigators must accurately reflect these plans in their IRB application for approval and in consent information shared with participants.

Recommendations:

- **The use of External HITs**
  Tasks should be configured as External HITs using **Qualtrics**. Qualtrics is the survey software approved and licensed for use at Iowa State University.
    - If a verification or review/approve process for Workers is needed, use unique completion codes to link survey data to Worker ID. The codes linking surveys and IDs should be deleted as soon as possible. While this method is NOT anonymous, for many studies this method provides sufficient confidentiality protection. Investigators are reminded to correctly report the collection of identifiers within their application for IRB approval.

[1] Collection of Worker PII by Requestors is a violation of MTurk's Participation Agreement.

- **IP Addresses**
  - Configure program settings such that IP addresses are not obtained if the aim is to collect data anonymously.
  - If IP addresses are needed for location or duplication reasons investigators should remove these identifiers as promptly as possible. If IP address are obtained, the study cannot be represented to the IRB or participants as "anonymous."
- **Informed Consent**
  - Do not have participants enter/type their names as a means of confirming agreement; rather use a "check box" or "by continuing you agree…"
  - Accurately inform participants about how Worker IDs will be used and kept confidential.
  - Do not represent the study as "anonymous" if it involves internal HITs or if any PII (including Worker ID or IP address) is connected to the data - even temporarily.
- **Minimize collection of PII** whenever possible. Consider how information collected might be combined to indirectly identify participants. Minimize collection of specific information if higher level/"zoomed out" information will answer the research question.
  For example:
  - Avoid collecting exact dates of birth (DOB) if an age or year of birth is sufficient.
  - Do not collect address information (i.e. street address, zip codes); if geographic location is necessary, collect at a larger level (e.g., state or county).
- **Delete Worker IDs once compensation is awarded.**
- **Respecting Participants/MTurk Workers.** The majority of MTurk Worker complaints received by the IRB relate to rejections, often resulting from unfair or poorly constructed attention checks.
  - **Attention check** questions can be a helpful tool to aid in identification of low-quality data from participants speeding through studies or from bots. Proper attention check questions should be straightforward and not ambiguous. These questions should not be designed to "trick" participants, but rather to ensure participants are human (not bots) and are putting forth reasonable efforts.
    - Configure attention check questions such that if failed, data collection will stop/exit to avoid further wasting the participant's time. It is best to include the checks early and at reasonable intervals such that the participant does not invest a significant amount of time only to be ejected at the end.
    - Inform participants if attention check questions will be used and consequences for failed attention checks.
  - **Implications of rejecting HITS.** Rejections remain with Workers forever, negatively impacting their ability to get future work on MTurk. Take care to avoid arbitrary rejections or rejecting work in error. If rejections are made in error, work with MTurk to promptly correct.

- **Clearly describe eligibility criteria for HITs**. Ask screening questions early to avoid participation by ineligible Workers.
  - Note: HIT descriptions/posting information and HIT instructions are considered recruitment material. For non-exempt studies, these materials require IRB review and approval. Please
  - submit this information with your IRB application.
- **Pay Workers promptly**.

Other MTurk Considerations

Payment by ISU

Prior to posting HITs, researchers should work with the appropriate departmental contacts for accounting and/or procurement to ensure that reimbursement plans are correctly configured and align with ISU procedures.

GDPR

MTurk Workers can be located anywhere on the globe with an internet connection. Unless a HIT explicitly restricts data collection to specific IP Address locations (e.g., only United States IP Addresses) it is assumed that data collection activities may be completed by participant Workers located in Europe for which additional privacy and confidentiality regulations may apply.

The General Data Protection Regulation (GDPR) is a European Union (EU) and European Economic Area (EEA) regulation on data protection and privacy that went into effect on May 25, 2018. GDPR applies to all individuals physically located in within the EU/EEA regardless of citizenship. Investigators collecting will collect or use Personal Data from research subjects located in the EU/EEA are required to comply with GDPR requirements.

GDPR uses the term "Personal Data" to refer to any information relating to an individual person who can be directly or indirectly identified. Examples of Personal Data include (but are not limited to):

- First and last name
- Email address
- ID number
- Location information such as home address or GPS coordinates
- Online identifiers such as **IP address**, browser or Internet cookies
- **Demographic, behavioral, or health-related information that could identify directly, or indirectly through a combination of data points person**

Whenever data will be collected from MTurk Workers located in the EU/EEA in a way that is not anonymous, GDPR requires that:

(a) specific information be provided to subjects regarding collection and use of their Personal Data, and

(b) for some types of information deemed especially sensitive, explicit consent from subjects be obtained.

Investigators are advised to include GDPR-mandated information in the informed consent form(s) to be presented to subjects.

Projects subject GDPR requirements are routed through Iowa State University Counsel and Information Technology Services to ensure that all GDPR mandates are met.

Additional Information:

Iowa State University Links:

GDPR General Data Protection Regulation
IT Security

GDPR: Compliance with the European Union General Data Protection Regulation
Iowa State University Policy Library

Research Participant Payment Process
Controllers Department

Use of Amazon Mechanical Turk
Office of the Vice President for Research

Amazon MTurk

Amazon Privacy Notice

MTurk Acceptable Use Policy

MTurk Participation Agreement

MTurk Privacy Notice

Citations:

Huichuan Xia, Yang Wang, Yun Huang, and Anuj Shah. "Our Privacy Needs to be Protected at All Costs: Crowd Workers' Privacy Experiences on Amazon Mechanical Turk." *Proc. ACM Human-Computer Interaction. 1*, 2, Article 113 (November 2017) https://doi.org/10.1145/3134748

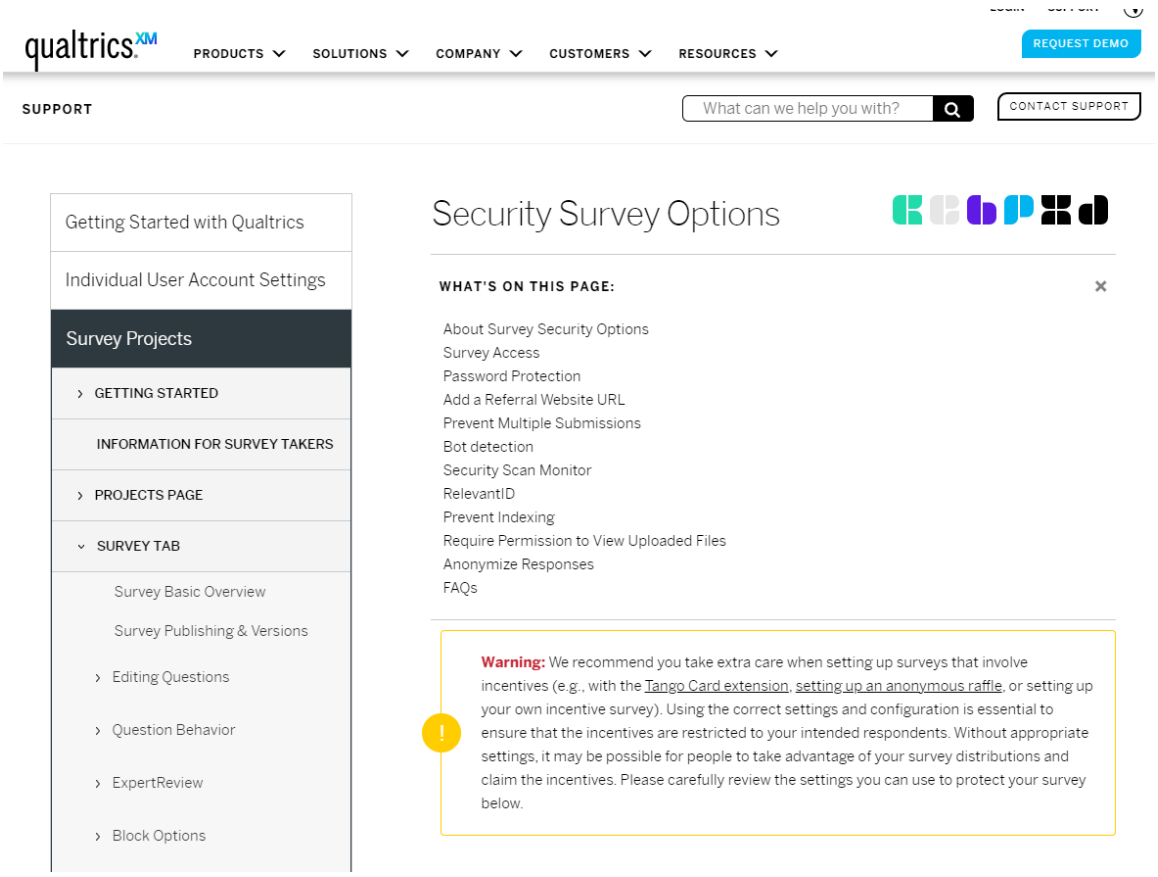
Lease, Matthew and Hullman, Jessica and Bigham, Jeffrey and Bernstein, Michael and Kim, Juho and Lasecki, Walter and Bakhshi, Saeideh and Mitra, Tanushree and Miller, Robert. 2013. "Mechanical Turk is Not Anonymous" SSRN http://dx.doi.org/10.2139/ssrn.2228728

U.S. Office of Manangement and Budget. 2016. "Managing Information as a Strategic Resource." *Federal Register*. July 28. Accessed April 29, 2020. https://www.federalregister.gov/d/2016-17872.

Document History

Created/Approved: 6/2/2020

Appendix H: Qualtrics Survey Security Measures



Appendix I: Q-Global Security Measures

Appendix J: MHS Security Measures