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Healthy Habits, Holy Habits: Spirituality's Relationship to College Students' Health

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HEALTHY HABITS, HOLY HABITS: SPIRITUALITY'S RELATIONSHIP TO COLLEGE STUDENTS' HEALTH

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CERTIFICATE OF APPROVAL

MASTER'S THESIS

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Abstract

The current study examined the relationship between spirituality and college students' health behaviors and beliefs. As participants, the researcher selected one thousand twenty undergraduate students who previously participated in Wave 3 of the National Study of Youth and Religion (NSYR) Wave 3. The researcher used the NSYR Wave 3 archival data to find descriptive statistics, as well as obtain students' level of spirituality and specific college student health behaviors and beliefs. The study supported and contradicted previous literature related to college students' spirituality and health behaviors and beliefs. The significance of the study helps higher education professionals understand the role of spirituality in the health of undergraduate students.

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Chapter 1

Introduction

For centuries, legends of the age-defying powers of the Fountain of Youth intrigued people groups, from Spanish explorers to Central American natives to Greek philosophers (Weintraub, 2010). Afraid of ageing's negative consequences on the human body, people became fascinated by the idea of a mystical spring of water that cures human illness and restores youth to those who drink of it. Today, people no longer believe the Fountain of Youth exists as an actual spring of curative water but rather as the miraculous work performed by science and modern medicine (Moberg, 1997).

However, one ignored "Fountain of Youth" present in society exists as the fountain of spirituality. Past research revealed spirituality's link to health as the life-enhancing "waters" of the modern-day "Fountain of Youth" (Moberg, 1997). Literature found spirituality's connection to health decreases the risk of adult morbidity and increases overall wellbeing. Additionally, researchers found morbidity prevention begins in young adult years, and spirituality discourages the formation of unhealthy habits. The present study sought to test if spirituality relates to the health behaviors and beliefs of college students in order to help prevent morbidity in future adulthood.

Definitions

With about 85% of Americans professing a belief in God or some divine power, religion and spirituality represent two of the most prevalent psychosocial variables in

American society (Gallup, 2000; Kosmin, Keysar, Cragun, & Navarro-Rivera, 2009; Nagel & Sgoutas-Emch, 2007). Although recognized as important and valid dimensions of optimal health, religion and spirituality embody two of the least obvious and most complex health components to define, measure, and validate (Eberst, 1984).

The complex conceptualization of religion and spirituality results from conflicting perspectives and assumptions underlying their true definitions. For instance, organized religions, with predefined beliefs and practices, interpret spirituality differently from people who see spirituality as an elusive, subjective human experience (Sawatzky, Ratner, & Chiu, 2005; Thoresen, 1999). The following definitions differentiate religion and spirituality and lead to a working definition of spirituality used in the present study.

Religion. Any attempt to define religion never fully succeeds because beliefs and practices significantly vary among religious traditions (Fontana, 2003). The word *religion* originated from the Latin word *religio*, commonly translated as "obligation" or "bond" (p. 6). The *Concise Oxford Dictionary of Current English* (Allen, Fowler, & Fowler, 1990) stated religion represents the human recognition of "superhuman controlling power, especially of a personal God or gods entitled to obedience and worship" (p. 1015). Unfortunately, these limited definitions only apply to people who identify with a theistic religion and do not include understanding of individuals who experience their spirituality in other forms. Religion represents just one avenue individuals take to experience their spirituality; it does not provide a full spectrum of spirituality's influence on individuals' lives.

Spirituality. Similarly to religion, various interpretations of spirituality make it difficult to define. Spirituality has become defined as an intrinsic belief that relies upon

personal values that guide day-to-day living (Mackey & Sparling, 2000). Sawatzky et al. (2005) further clarified spirituality's definition by offering several common defining characteristics. First, spirituality refers to the relationship between a human and something residing beyond the physical, psychological, or social dimensions of human life. Second, spirituality commonly correlates with an existential search for meaning and purpose. Third, spirituality includes peoples' subjective experiences inexpressible through predefined behaviors and practices. These defining characteristics provide a foundational understanding of the term *spirituality* utilized in the present study.

Health. Unlike religion and spirituality, health appears much easier to define. The Department of State (1946) described *health* as "a state of complete physical, mental and social wellbeing, and not merely the absence of disease" (p. 100). Health represents less of a passive state of being and more of a dynamic process in which one can achieve higher levels of wellness within physical, mental, spiritual, social, occupational, and intellectual dimensions through health behaviors and habits (Hettler, 1976; Perrin & McDermott, 1997).

Two prominent dimensions of health include physical health and mental health. *Physical health* refers to the "state of physical wellbeing in which an individual is mechanically fit to perform their daily activities and duties without any problem" (Cheshire East Council, 2015, para. 2). *Mental health* refers to the "state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (World Health Organization, 2014, para. 1).

Moreover, the term *health* refers to the combination of health beliefs and health

behaviors. *Health beliefs* internally motivate individuals to take positive health actions that avoid negative health consequences (World Health Organization, 2005), and individuals exhibit *health behaviors*, or actions taken "to maintain, attain, or regain good health and to prevent illness" ("Health behavior," 2012, para. 1). Health behaviors thus reflect individuals' health beliefs. These defining characteristics and definitions provide a foundational understanding of the term *health* utilized in the present study.

Theoretical Foundation

In 1976, Hettler introduced the Six Dimensions of Wellness Model, which addressed the health and wellness within one's physical, mental, social, occupational, spiritual, and intellectual behaviors. Chandler, Holden, and Kolander (1992) further developed Hettler's model to incorporate spirituality as central to health. According to Chandler et al. (1992), "Optimum wellness exists when each of [Hettler's]. . . dimensions has a balanced and developed potential in both the spiritual and personal realm" (p. 171).

The literature also revealed spiritual and religious beliefs and practices play a vital role in individuals' health and wellbeing (Larson & Larson, 2003). Individuals who acknowledge a concept known as "'the Divine within" trust in a relationship between physical health and spiritual attainment (Nelms, 2005). The "Divine within", a "'belief that an element or quality of the Supreme Being dwells inside every human'" (p. 3), encourages the need for human wellbeing. Research revealed that, by incorporating spirituality in one's life, people live longer, happier, and healthier lives (Hall, Meador, & Koenig, 2008). "Experts in the field of health promotion recognize that there must be a reconnection with values that add meaning and worth to one's life to combat health-related risk behaviors" (Nelms, 2005, p. 3-4).

College Students, Spirituality, and Health

According to researchers Larson and Larson (2003), "behaviors that can lead to increased risk of morbidity and addictions in adult years often begin in adolescence" (p. 47). Compared to non-religious and non-spiritual peers, spiritual youth and young adults less likely engage in behaviors that compromise their health, suggesting spiritual involvement and experiences potentially reduce the risk of morbidity and addictions in future adulthood. Furthermore, continued spiritual engagement shares a link with initiating and maintaining protective health behaviors beginning in the young adult years. Larson and Larson (2003) suggested understanding factors like spiritual involvement may help healthcare professionals curtail risky lifestyle choices in young adults' future lives.

In relation to the college student population, health problems often correlate with the college environment (Jackson & Weintein, 1997). Jackson and Weintein (1997) stressed that health cannot separate from physical, social, political, and cultural influences: "A healthy campus can be thought of as a community that embodies … principles of attention to individual, group, and ecological needs; flexibility; developmental growth; competence; and intellectual curiosity. Healthier learning environments help students feel better emotionally and physically" (p. 237). Ultimately, healthy campuses motivate students to learn, improve, and achieve, as well as feel more capable of taking on educational and personal challenges, coping with stress, and enhancing their development as they individualize, mature, and assume adult roles.

Nelms (2005) suggested, "Because college students are members of a special group [in which] society has invested heavily, there is a responsibility for these students to become leaders of thought in the process of preserving the conceptualization of family

and community health" (p. 4). With this frame of thought, higher education institutions begin to understand the importance of the relationship between students' spirituality and health as they continue to experience a rise in risky health behaviors, obesity, depression, and eating disorders.

Need for a Study

Researchers have called for a study investigating the relationship between spirituality and health in young adults (Adams, Bezner, Drabbs, Zambarano, & Steinhardt, 2000; Koenig, King, & Carson, 2012; Larson & Larson, 2003; Nelms, 2005). For instances, Nelms (2005) expressed a need for an examination of spirituality's significance in the lives of young adults ages 18 to 24 because this population lacks previous study and researchers have limited understanding of this age group.

Nagel and Sgoutas-Emch (2007) added the spirituality-health relationship "is especially important to investigate in young populations where health behaviors are just beginning to form a pattern and it may be still possible to alter the unhealthy behaviors before they negatively affect health and wellness" (p. 153). They argued, if spirituality can predict or positively influence health behaviors, it needs further examination to help prevent behaviorally-based diseases such as cardiovascular disease and cancer.

Young adults, specifically college students, reputedly participate in risky health behaviors: cigarette and marijuana use, alcohol consumption, and eating disorders. For instance, 21.3% of full-time college students smoke cigarettes, and 18.7% use marijuana (U.S. Department of Health and Human Services, 2013). Additionally, full-time college students prove more likely than their part-time peers to report current, binge, and heavy drinking.

Moreover, "overweight and obesity have reached epidemic proportions in all age groups in the United States and are major risk factors for premature mortality and morbidity" (Huang et al., 2003, p. 83). According to recent research, two thirds of U.S. adults have a body mass index greater than 25 kg/m^2 (McCarthy, 2014). McCarthy (2014) reported obesity rates of 17.7% amongst young adults between the ages of 18 to 29. Huang et al. (2003) found overweight rates of 21.6% and obesity rates of 4.9% amongst college students, thus making college students the fastest growing obese population. The same study found 96% of students eat 30% or more of energy from fat and 10% or more of energy from sugar per day. Due to low levels of physical activity and high levels of unhealthy diets in college student health behaviors, obesity has become a significant public health concern because obesity leads to higher rates of onset diabetes and hypertension (McCarthy, 2014).

Due to the increasing incidents of negative and risky health behaviors of college students, the inclusion of spirituality in health promotion research continues to gain wide acceptance by health care professionals (Doswell, Kouyate, & Taylor, 2003).

Purpose of Study

The present study investigated spirituality's impact on college students' health behaviors and beliefs. The study utilized the National Study of Youth and Religion-Wave 3 (NSYR) to identify practices in the religious, moral, and social formation of the lives of youth and young adults, in conjunction with measuring individuals' level of spirituality (Smith, 2008).

The present study offered higher education professionals with information that may contribute toward the development and distribution of health promotion and health

education to college students (Jackson & Weintein, 1997). The development and distribution of health promotion and health education to college students remains important because college students more likely achieve health when information proves accessible to them (Nelms, 2005). According to Nelms (2005), the collection and implementation of such knowledge by higher education administrators may facilitate proper training and broaden educational opportunities for college students so that young adults successfully accomplish their quest for optimal health and wellness.

Research Questions

From the literature studied, scholars revealed limited research on the relationship between health behaviors and beliefs of college students and their levels of spirituality (Nelms, 2005). The following research questions guided the study's purpose:

1. What is the relationship between college students' spirituality and health beliefs?
2. What is the relationship between college students' spirituality and health behaviors?
3. What is the relationship between college students' spirituality and physical health?
4. What is the relationship between college students' spirituality and mental health?

Conclusion

These research questions addressed gaps in previous research and provided guidance to higher education professionals seeking to better understand their student populations. Hopefully, through the present research, undergraduate health programs improve and better serve young adult populations and future generations.

Chapter 2

Literature Review

As empiricism and the scientific method gained popularity during the early modern and enlightenment eras, a supporting scientific philosophy created a divide between the relationship of physical and mental health (Rogers, Skidmore, Montgomery, Reidhead, & Reidhead 2012). This divide supported the philosophy that issues related to the mind and soul fell under the responsibility of the church, and, in contrast, issues related to the body and physical world became topics solely appropriate for scientific investigation (Plante & Sherman, 2001). However, this philosophy's popularity declined during the 20th century as researchers and psychologists investigated the effects of spirituality on physical and mental health.

Over the past four decades, research on the relationship between spirituality and health dramatically increased the scholarly debate regarding the influence of psychosocial factors on health and health behaviors and beliefs (Nagel & Sgoutas-Emch, 2007). A considerable amount of research indicated spiritual practices associate with healthier levels of physical and mental wellbeing (Gomez & Fisher, 2003; Hill & Butter, 1995; Koenig, McCullough, & Larson, 2001; McBride, Arthur, Brooks, & Pilkington, 1998; Powell, Shahabi, & Thoresen, 2003; Strawbridge, Shema, Cohen, & Kaplan, 2001). However, according to a significant number of mental health professionals, "it has been argued that [spirituality] has a neurotic influence that breeds mental inflexibility,

emotional instability, and unhealthy repression of natural instincts" (Koenig, 1997, p. 23). These studies provided a foundation for the basic understanding of how spirituality relates to individuals' health.

Spiritual Health

Spirituality functions as one health dimension that impacts a person's wellbeing. According to Reidhead and Reidhead (2001), spiritual integration acts as ''a way of understanding, behaving, and being that operates on a principle of integrated wholeness, in which the parts of one's life are unified into a common field of spiritual understanding and practice'' (p. 3-4). Therefore, individuals may consider their lives more organized, meaningful, and valuable when they consider and integrate spiritual dimensions into their lifestyles (Ellison, 1983).

Commonly, spiritual individuals agree on the existence of a spiritual component to their health. Banks (1980) posited *spiritual health* as "a unifying force within individuals which integrates all the other dimensions (physical, mental, emotional and social) and therefore, plays a vital role in determining the state of wellbeing of the individual" (as cited in Perrin & McDermott, 1997, p. 90). Overall, spirituality plays a major role in the beliefs, values, and practices of spiritual individuals.

Negative Views of Spirituality's Relationship to Health

Most physicians and psychologists see spirituality and religion as harmless but highly irrelevant to health and health care practices (Koenig, 1997). Spiritual and religious issues usually go unaddressed during medical visits unless they interfere with medical treatment (e.g., spiritual patients refusing blood transfusions). Nonetheless,

many leading experts express concern with spirituality's and religion's link to improved levels of health and wellbeing.

Sigmund Freud. Considered the father of modern psychiatry, Freud (1927/1962) argued spirituality and religion link to neurosis, a relatively mild mental illness involving symptoms of stress but not a radical loss of touch with reality. "Freud rationalized that religion was a neurotic vestige of the Oedipal complex and that therapy would reduce the need for religion and replace it with more conscious and emotionally healthy processes" (Koenig, 1997, p. 23). Freud (1927/1962) considered spirituality and religion the universal obsessional neurosis of humanity that rise out of the Oedipal complex with the father. Freud's leading message contended a belief in God serves no healthy purpose and could be disregarded because, with analysis of sexual anxieties and maturing of personality, people become unattached to spirituality and religion.

Albert Ellis. Founder of the Rational Emotive Therapy, Ellis (1980) connected spirituality and religion to emotional disturbance. He wrote, "People largely disturb themselves by believing strongly in absolutistic shoulds, oughts, and musts, and most people who dogmatically believe in some religion believe in these health-sabotaging absolutes" (p. 637).

Ellis (1980) saw an emotionally healthy individual as a flexible, open, tolerant, and changing person—all traits spiritual or religious persons do not possess, thus making spirituality equivalent to irrational thinking and emotional disturbance. Ellis (1988) identified various characteristics of spirituality that contradict sound mental health: discouragement of self-acceptance, self-interest, and self-directedness; promotion of intolerance of others; encouragement of a reliance on God; and promotion of fanatical

commitments (Koenig, 1997). He concluded an indisputable causal relationship exists between spirituality and emotional and mental instability.

Freud's and Ellis' views of spirituality as neurotic, maladaptive, and fostering the development of guilt, depression, and other mental disorders greatly influenced the mental health field and its attitudes toward spirituality (Koenig, 1997). Primary care physicians and psychologists remain skeptical of spirituality's influence on the delivery of good health care and depend more on scientific practices when caring for patients.

Positive Views of Spirituality's Relationship to Health

The question remains: Does spirituality foster mental illness, neurosis, and depression like Freud and Ellis argue? Freud's and Ellis' research largely came from clinical experiences and personal opinions (Koenig, 1997), yet claims held by spiritual leaders stem from clinical experiences and personal opinions as well. However, the use of the scientific method provides opportunities to challenge this dispute as "systematic scientific research allows [researchers] to move beyond the personal debate between religious and health professionals to a more objective realm…With systematic research, the findings speak for themselves" (Koenig, 1997, p. 49).

According to Koenig (1997), individuals claim spirituality and religion act as the two most important factors helping them cope with stress. Individuals who frequently attend spiritual services, pray, read scriptures, or report deeper commitment to their faith experience significant increases in health than those who are less spiritually involved. "This is true regardless of [an individual's] sex, age, race, physical health, financial status, or level of social support" (p. 54). Spiritual individuals have lower rates of depression, anxiety, and suicide, and prove 45% more likely to cope with depression.

Furthermore, as most spiritual beliefs discourage the consumption of alcohol and use of substances that harm the body, spiritual individuals experience lower rates of alcoholism.

Furthermore, Koenig (1997) noted three more factors contributing to spirituality's promotion of mental wellbeing: (1) a system of beliefs and mental attitudes provide hope and a sense of control over one's future; (2) an increased social support system promotes positive and encouraging interactions with others of the similar age and with common interests; and (3) spiritual doctrines promote healthy, balanced beliefs about individuals and the world around them.

Rather than striving for independence, self-sufficiency, and self-promotion, spiritual individuals seek to help or improve the circumstances of others. Many mental and emotional disorders result from individuals' focuses on or preoccupations with their own personal issues (Koenig, 1997). Typically, spirituality encourages "a cure for such narcissistic tendencies is to transcend the self, put trust in a power higher than the self, and be concerned with loving and helping others" (p. 70). These attitudes exist as the very factors that keep families, communities, and nations intact.

With this said, if individuals involved in spiritualty remain more satisfied with life and less depressed and anxious, do these positive effects on mental health also have positive impacts on physical health? Research revealed spiritually committed people experience overall lower rates of mortality, blood pressure, stroke, heart disease, and cancer (Koenig, 1997).

Altogether, spirituality impacts physical health through direct and indirect mechanisms. First, spirituality promotes early disease detection and assurance of suitable treatment (Koenig, 1997). Due to the emphasis on respecting one's body, spirituality

encourages individuals to pay closer attention to their physical health. Additionally, spiritual people more likely comply with medical procedures as well as gain positive support and encouragement from their social systems to seek treatment early in their illnesses. Secondly, spirituality might positively affect health by reducing and discouraging risky and adverse behaviors such as alcohol and drug use, smoking, and risky sexual behaviors.

Through the increased supportive relationships spiritual communities provide, individuals gain a sense of belonging and identity, which in return, gives them a reason to live (Koenig, 1997). Moreover, social behaviors and coherence may keep individuals accountable in their actions and behaviors. Secondly, due to lower rates of mental illness, spiritual individuals experience lower rates of mortality from suicides and fewer long-lasting effects of chronic stress and depression.

Overall, these research findings disputed Freud's and Ellis' claims that spirituality negatively or neurotically influences mental health (Koenig, 1997). Rather, spirituality seems to positively impact various dimensions of health, both physically and mentally. This influence does not mean spirituality assures people greater health or happiness but provides a substantial foundation for a relationship between the factors.

Holistic Wellness Model

The Holistic Wellness Model provides the theoretical foundation for the present study. This model explains the importance and interrelation of spirituality within an individual's health and wellbeing (Chandler et al., 1992). The framework of the Holistic Wellness Model builds off Hettler's (1976) Six Dimensions of Wellness model, which asserts that six dimensions of life impact an individual's health. According to Nelms

(2005), “By understanding Hettler’s six dimensions of health, the application of the Holistic Wellness Model by Chandler et al. is better understood” (p. 14).

The model by Hettler (1976) consists of the following six dimensions: social, occupational, spiritual, physical, mental, and intellectual. When combining the dimensions, Hettler’s model displays the interconnectedness of each dimension and describes how each dimension impacts health (Figure 1).

Figure 1. Hettler’s Six Dimension of Wellness Model.

The social dimension explains how people contribute to their environments and communities in order to build healthy social networks. The occupational dimension illustrates work’s impact on an individual’s life and interconnectedness to living and playing. The spiritual dimension encourages an individual’s development of worldviews, beliefs, and values. The physical dimension promotes the benefits of self-care, physical activity, and a healthy diet. The mental dimension teaches self-esteem, self-control, and determination as senses of direction. Lastly, the intellectual dimension encourages

creative and stimulating mental activities that allow individuals to share their skills and knowledge with others.

Chandler et al. (1992) supported the model by Hettler (1976) and believed all six dimensions play a vital role in health. The difference between Chandler's et al. model and Hettler's lies in the belief that the spiritual dimension operates as the nucleus of the multidimensional exchange and the remaining five dimensions actually contain a spiritual component in themselves (Figure 2) (Nelms, 2005). Chandler et al. (1992) wrote:

> We suggest that spiritual health not be conceptualized as just one of the six dimensions of wellness. Spiritual health should be considered as a component present, along with a personal component, within each of the interrelated and interactive dimensions of wellness (i.e., social, physical, emotional, intellectual, and occupational). . . . Optimum wellness exists when each of these five dimensions has a balanced and developed potential in both the spiritual and personal realm. Working to achieve high-level wellness necessitates the development of the spiritual component in each of the five dimensions of wellness. Without attention to spiritual health in each dimensions, the individual remain incomplete. (p. 171)

The premise of the Holistic Wellness Model states observable behavioral change will not occur if the spiritual component of each dimension goes unaddressed. Chandler et al. (1992) asserted the outward display of behavior change reveals personal change in an individual. However, when forgetting the importance of the spiritual component of the health dimension, an individual struggles to maintain his or her progress. For example, Chandler et al. believed an overweight individual who loses weight only to gain

it back again cannot achieve the goal until he or she internalizes the spiritual aspect of health. Chandler et al. suggested:

> Attention to spiritual health plays a major role in helping individuals maintain positive change. The dieter must internalize the new self as healthy and at the appropriate weight. . . . Spiritual health provides an avenue through which the individual can create the new and more complete self. Attending to both personal and spiritual modalities for transformation contributes to greater balance and will more likely lead to transformation of the self with its accompanying opportunity to achieve higher level wellness. (p. 171)

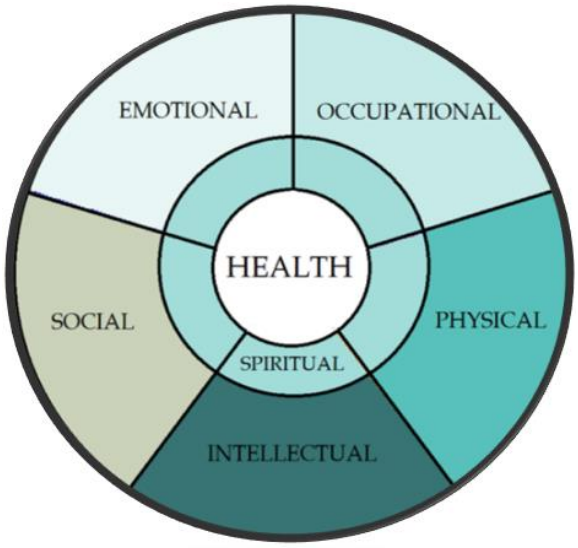

Figure 2. Holistic Wellness Model.

Chandler et al. (1992) believed people have the capacity to develop their spiritual and personal components from birth. Societies and cultures that encourage the development of the spiritual component in each of the five health dimensions early in childhood may raise fewer individuals who experience a spiritual crisis from sudden spiritual awakening. Furthermore, cultures that foster the development and partnership

between the spiritual and personal components in its members likely have more individuals achieve higher levels of wellness in the remaining five health dimensions. The Holistic Wellness Model illustrates how the five health dimensions established in the model by Hettler (1976) cannot achieve and preserve positive health outcomes without the spiritual component.

Health and College Students' Spirituality

As higher education institutions begin to address the importance of spirituality in the lives of college students, some scholars, like Jacobsen and Jacobsen (2004), actively debate secularization, ''recognizing . . . the continuing, and perhaps even increasing, strength of spirituality (if not always institutionalized religion) . . . on the nation's college campuses'' (p. 6). Once ignored on college campuses, the role of spiritual habits and attitudes now receive attention from academic leaders in an attempt to advance students' inner development and wellness in which spirituality resides (Coday, 2003). Young adults, ages 18 to 24, actively pursue a reason for existence and a search for God—a search not always fulfilled or met through traditionalized religion (Webber, 2002).

According to Nelms, Hutchins, Hutchins, and Pursely (2007), "The significance of spirituality, as it relates to college students in young adulthood, contributes to overall health and wellbeing of the individual, especially when observed within multidimensional domains" (p. 251). In 2004, Frankel and Hewitt conducted a study that supported a correlation between positive emotional health and religion. The study found individuals affiliated with campus' spiritual organizations reported more happiness and satisfaction with life than the nonaffiliated student individuals (Nelms et al., 2007).

Many studies support the correlation between college students' spirituality and health. The findings from these studies, such as Nelms et al., (2007), revealed that increases in students' spirituality relate to increased self-reported physical health as well as positive relationships to their affective, cognitive, interpersonal, and behavioral values, beliefs, and practices. For example, Nelms et al. (2007) found highly spiritual students participate more in physical activity (e.g., exercise) because they integrate a spiritual component within their pursuit of physical fitness. Furthermore, spiritual students more likely cope harmoniously with emotional challenges and utilize their spiritual beliefs during extreme cases of severe life stressors.

Rosmarin, Pargament, and Flannelly (2009) found spiritual beliefs and practices correlate to "decreased incidence[s] of physical disability, chronic pain, hypertension, mortality, and greater levels of social functioning and vitality. Spirituality . . . [is also] linked to decreased levels of anxiety and depression, and increased levels of happiness, life satisfaction, and wellbeing" (p. 244). Moreover, highly spiritual students partake less in tobacco, alcohol, and drug use and appear less likely to initiate or engage in premarital sexual activity or carry weapons on their beings (Larson & Larson, 2003).

Spiritual Struggles. Although spirituality appears helpful to college students' health behaviors and beliefs, research also suggests spirituality can become a source of struggle. Spiritual struggles typically reflect tensions and strains about spiritual issues found within an individual or an individual's relationships with friends, family, or deity (Pargament, Murray-Swank, Magyar, & Ano, 2005). Some research interpreted these struggles as "efforts to conserve or transform a spirituality that has been threatened or harmed" (p. 247).

Pargament et al. (2005) found three types of spiritual struggles college students experience: interpersonal, intrapersonal, and divine. Interpersonal spiritual struggles reflect religious and spiritual conflicts due to strains in relationships with others (e.g., disagreeing with fellow congregants). Intrapersonal spiritual struggles reflect questions and doubts individuals have about their spiritual values, beliefs, and practices. Lastly, divine spiritual struggles involve emotional conflicts in individuals' relationships with God. Examples of divine struggles include expressing anger toward God, arguing with God, or feeling punished by God.

Although spiritual struggles appear less common than positive interactions with spirituality, "spiritual struggles have been linked to lower levels of physical health, including increased physical symptoms, poorer recovery from illness, and greater risk of mortality after controlling for confounding factors" (Rosmarin et al., 2009, p. 245). For college students, spiritual struggles highly correlate to psychological difficulties, such as anxiety, negative affect, depression, suicide ideation, phobias, obsessive-compulsiveness, paranoia, and somatization (McConnell, Pargament, Ellison, & Flannelly, 2006; Ano & Vasconcelles, 2005; Exline, Yali, & Sanderson, 2000).

Conclusion

The literature associated to positive and negative symptoms of spiritual influences on physical and mental health related closely to the current study, which thus sought to answer the following research questions:

1. What is the relationship between college students' spirituality and health beliefs?

2. What is the relationship between college students' spirituality and health behaviors?
3. What is the relationship between college students' spirituality and physical health?
4. What is the relationship between college students' spirituality and mental health?

Answers to these research questions can help higher education professionals provide students with necessary resources in order for students to reach their optimal levels of holistic health and wellbeing.

Chapter 3

Methodology

The present study quantitatively analyzed archival data collected through the National Study of Youth and Religion (NSYR). The NSYR, a longitudinal study conducted by Smith (2008), examined the shape and influence of religion and spirituality in the lives of American youth and young adults. The NSYR progressed in three waves, and the present study utilized Wave 3 (2007-08).

Participants

For participants, the present study drew from among the self-proclaimed college students who participated in both Wave 1 and Wave 3 of the NSYR. During NSYR-Wave 3, Smith (2008) performed longitudinal research by re-interviewing as many original Wave 1 participants. "Students were contacted and obtained using a random-digit-dial (RDD) method, employing a sample of randomly generated telephone numbers representative of all household telephones in the 50 United States" (NSYR, 2008, p.1). By the end of the RDD method, 2,532 respondents, between the ages of 18 to 24, participated in the NSYR-Wave 3. For the purposes of the presented study, all participants who identified as self-proclaimed college students were studied. In total, of the 2,532 original participants from Wave 3, 1,020 individuals identified as college students. Overall, the study consisted of 464 (45.5%) male undergraduate students and 556 (54.5%) female undergraduate students.

Instrument and Procedures

The present study utilized the NSYR Wave 3 to obtain data regarding participants' spirituality and health behaviors; the researcher of the current study obtained permission for the data use. "The National Study of Youth and Religion, http://www.youthandreligion.org, whose data were used by permission here, was generously funded by Lilly Endowment Inc., under the direction of Christian Smith, of the Department of Sociology at the University of Notre Dame" (Smith, 2008, para. 15).

The NSYR utilized a longitudinal mixed methods design to examine the religious and spiritual lives of American youth from adolescence into young adulthood (Smith, 2008). Smith designed the NSYR, initiated in the fall of 2001, to

> . . . research the shape and influence of religion and spirituality in the lives of American youth; identify effective practices in the religious, moral, and social formation of the lives of youth; describe the extent and perceived effectiveness of the programs and opportunities that religious communities are offering to their youth; and foster an informed national discussion about the influence of religion in youth's lives to encourage sustained reflection about and rethinking of cultural and institutional practices with regard to youth and religion. (Smith, 2003, para. 1)

The NSYR conducted three waves of telephone surveys with a nationally representative sample of American youth, as well as three waves of in-person semi-structured interviews with a sub-sample from the original survey respondents (Smith, 2008). In Wave 3, researchers made every attempt to re-interview all English-speaking Wave 1 NSYR participants. The NSYR Wave 3 survey took place from September 2007 to April 2008 using Computer Assisted Telephone Interviewing (CATI) system and

Blaise software. The NSYR- Wave 3 instrument replicated many of the questions asked in Waves 1 and 2 with some changes made to better capture the respondents' maturation.

Variables

Given the investigative nature of the present study, the researcher grouped survey items collected in NSYR Wave 3 to create two measures: spirituality and health behaviors and beliefs.

Independent variable. Participants' spirituality functioned as the independent variable for the study. The researcher scored and determined spirituality in Wave 3 by combining the scores from 10 items found in the NSYR, which included "How important or unimportant is religious faith in shaping how you live your daily life?" and "How interested or not are you in learning more about your religion?" After totaling participants' scores from their responses to the 10 items, the researcher gave each participant a Spirituality Score (SS).

Factor analysis and reliability. Because the 10 items from NSYR-Wave 3 originally scaled differently, the researcher rescaled all items to a five-point Likert scale. The researcher then computed a reliability analysis using IBM SPSS Statistics 20 for Windows. Results for internal consistency reliability estimates for the SS yielded a Cronbach coefficient alpha of .906 (α=.906). Construct validity found support through the significant correlations between SS items. The high-item intercorrelations for item pairings ranged from $r=.067$; $p<.032$ to $r=.745$; $p<.00$. The correlations provide support that the items related to the same construct (Appendix A).

Dependent variables. The dependent variables consisted of college students' health behaviors and beliefs. Measures of health behaviors and beliefs included items

emphasizing physical and mental health, alcohol consumption, cigarette and marijuana use, and sexual activity. These items entailed questions such as "In general, how happy or unhappy are you with your body and physical appearance?" and "How often, if at all, do you drink alcohol, such as beer, wine or mixed drinks, not including at religious services?" (Appendix B).

Data Analysis

A correlational study determines whether, and to what degree, a relationship exists between two or more quantifiable variables (Gay, 1996). Moreover, "a correlational study is used when a need exists to study a problem requiring the identification of the direction and degree of association between two [or more] sets of scores" (Creswell, 2008, p. 370). Correlational studies identify types of associations, explain complex relationships between multiple factors, and predict an outcome from one or more predictors. The method of a correlational study aligned with the needs of the present study for the purposes of measuring the relationships between spirituality and health behaviors and beliefs of college students.

The researcher used one-way Analysis of Variances (ANOVA) and Spearman's rho rank correlations for the current study. A one-way Analysis of Variance (ANOVA) assessed the association between variables and determined "whether or not the group means were significantly different and rule out the possibility that the group differences were due to random error" (Nelms, 2005, p. 89). Spearman's rho rank correlations measured ordinal and non-normally distributed data and assessed the strength of relationship between variables. The researcher statistically analyzed the data through the use of the statistical software package SPSS 20.0.

Conclusion

The chapter above explained the methodology used to determine the relationship between spirituality and college students' health behaviors and beliefs. The intentional design of the research study provided the strongest quantitative data related to the needs of the study.

Chapter 4

Results

The chapter below investigates the relationship between college students' spirituality and health behaviors and beliefs through the statistical analysis of data collected by the NSYR Wave 3. Some participants did not respond to certain questions, thus, leaving some data as missing.

Demographic Descriptive Statistics

The study's undergraduate population included 1,020 college students, ages 18 to 24, who originally participated in the NSYR Wave 1. These students ranged in religious affiliation, body mass index, and perceived level of current health status (Appendix C).

Statistical Analysis of Research Questions

A one-way Analysis of Variance (ANOVA) assessed the association between variables. The ANOVA determined "whether or not the group means were significantly different and rule out the possibility that the group differences were due to random error" (Nelms, 2005, p. 89). Spearman rho rank correlations measured ordinal and non-normally distributed data and assessed the strength of relationship between variables. The following section provided an overview of the results from the analysis.

Spirituality Groups: High versus Low Spirituality Scores

The researcher made comparisons between participants who scored higher on the Spirituality Score (SS) versus those who scored lower on the SS. The researcher placed

each participant in a Spirituality Group (high, low, or average) depending on his or her SS. The researcher determined high, low, and average Spirituality Groups by taking the range of SS and calculating the upper and lower 30% of the overall population (N=1,020). The researcher labeled participants who scored in the upper 30% on the SS (SS>34) as the ‘‘high’’ Spirituality Group (N=196), while labeling the participants who scored in the lower 30% on the SS (SS<16) as the ‘‘low’’ Spirituality Group (N=23). The researcher labeled participants who did not score in either the higher 30% or lower 30% on the Spirituality Score as the “average” Spirituality Group (N=801).

To compare the high and low Spirituality Group means in relation to the participants’ health behaviors and beliefs, the researcher utilized a one-way ANOVA procedure (Table 1). The ANOVA revealed a statistically significant difference between the two group means in relation to the amount of alcoholic beverages consumed during the week (DRUNK), $F(9, 173)=2.082$, $p=.034$; the rates of condom use during sexual intercourse (CONDOM), $F(9, 141)=2.074$, $p=.036$; and the rates of believing it is sometimes okay to break personal moral rules if the action works to one’s advantage and if one can get away with the action (BRKMORAL), $F(9, 208)=1.884$, $p=.056$. Furthermore, the ANOVA revealed a weak significance in relation to participants’ willingness to touch or be touched in their private areas under their clothes (TOUCH), $F(7,63)=1.576$, $p=.159$; and levels of feeling alone and misunderstood (ALIENATE), $F(9,208)=1.265$, $p=.258$. The researcher found no other significant relationships.

Table 1

Comparison of Means and Standard Deviations of High versus Low Spirituality Groups

Variable	Mean	SD	F	Significance
BMI	24.260	4.796	.306	.972
BODY	3.68	1.142	.458	.901
SMOKE	6.03	1.942	.842	.578
POT	.014	.011	.595	.800
DRINK	4.18	1.810	.874	.549
DRUNK	1.90	0.867	2.082	.034**
BINGEDR	1.75	.860	1.507	.147
FIGHT	1.16	.460	.619	.781
TOUCH	.54	.502	1.576	.159*
CONDOM	.69	.465	2.074	.036**
BCLAST	.71	.455	.794	.622
SEXEVER	.61	.490	.291	.967
LIFEEXCL	2.29	.1.019	.382	.943
RISKS	2.64	1.180	.773	.642
HELPLESS	3.79	1.015	.465	.897
ALIENATE	3.17	.852	1.265	.258*
BRKMORAL	3.98	1.013	1.884	.056**

**Statistically significant (p<.05); *Weak statistical significance (p<.2)

Correlations and Regression

Spearman rho rank correlation coefficients showed the relationships between college students' spirituality and health behaviors and beliefs (Table 2). The researcher compared all health behaviors and beliefs to the participants' SS, in addition to the differences between Spirituality Groups.

Spearman rho rank correlation coefficients did not reveal any statistically significant correlations between participants' SS and health behaviors and beliefs (Appendix D). However, a Spearman's correlation analysis revealed a weak significant relationship between Spirituality Score and participants' beliefs on taking risks (RISKS) ($r=.054$, $p=.086$). Furthermore, a Spearman's correlation analysis revealed a significant relationship between Spirituality Group scores and their frequency of alcohol consumption (DRINK) ($r=.150$, $p=.045$) and amount of alcohol consumed (DRUNK) ($r=.150$, $p=.042$). Lastly, the researcher performed a regression analysis to examine if spirituality predicted better overall health; however, no significant results emerged.

Conclusion

Overall, the study did not find a direct correlation between spirituality and college students' health behaviors and beliefs. However, statistical analysis exposed differences between higher rates of spirituality and lower rates of spirituality within students' health behaviors and beliefs. The data revealed students with higher levels of spirituality as less likely agree it is okay to break personal moral rules, take risks, frequently drink alcohol, or feel alone and misunderstood and more likely to drink a large quantities of alcohol when they do drink, touch and be touched in the private areas, and use condoms during sexual intercourse. The following chapter further discusses these findings.

Table 2

Correlations between Spirituality and Health Behaviors and Beliefs

Variable	Spirituality Score	Spirituality Group (High vs. Low)
BMI	.019	-.067
BODY	-.060	-.066
SMOKE	.022	.019
POT	.014	.031
DRINK	.011	-.136**
DRUNK	.022	.150**
BINGEDR	.005	.128
FIGHT	-.003	.076
TOUCH	-.083	-.059
ABSTAIN	-.005	.023
BCLAST	.026	.007
SEXEVER	-.022	.089
LIFEEXCL	.031	.069
RISKS	.054*	-.006
HELPLESS	-.008	-.059
ALIENATE	.004	.020
BRKMORAL	-.003	-.040

**p<.05, *Weak statistical significance (p<.1)

Chapter 5

Discussion

Review of Study

The present study explored the relationship between college students' spirituality and health behaviors and beliefs. Th study specifically sought to address the following research questions:

1. What is the relationship between college students' spirituality and health beliefs?
2. What is the relationship between college students' spirituality and health behaviors?
3. What is the relationship between college students' spirituality and physical health?
4. What is the relationship between college students' spirituality and mental health?

The sample consisted of 464 (45.5%) male undergraduate students and 556 (54.5%) female undergraduate students. Appendices A and B define and present the variables. The statistical techniques chosen to answer the research questions in the study included a One-Way Analysis of Variance (ANOVA) and Spearman rho correlation analysis.

Discussion

The results of the current study supported a few findings in the literature regarding certain relationships between college students' spirituality and health behaviors and beliefs (Koenig, 1997; Larson & Larson, 2003; Nelms, 2005). However, the majority of the findings did not support the literature review (Frankel & Hewitt, 2004; Koenig, 1997; Larson & Larson, 2003; Nagel & Sgoutas-Emch, 2007; Nelms et al., 2007). Based upon the results found in the study, the following conclusions emerged.

Spirituality and health beliefs. The positive relationship between college students' spirituality and health beliefs provided evidence that college students who state a decreased likelihood to break personal moral rules and engage in risky behaviors integrate a spiritual component into their moral reasoning in relation to health. Overall, the findings revealed, as spirituality increases, college students become less likely to break personal moral rules and engage in risky behaviors. This information supported the claim by Nelms (2005) that spirituality provides a connection to values that add meaning and worth to one's life in order to combat health-related risk behaviors.

Spirituality and health behaviors. The positive relationship between college students' spirituality and alcohol consumption and premarital sexual activity provided evidence that college students integrate a spiritual component into their social and physical dimensions of health.

The data showed, as spirituality increases, college students become less likely to drink alcohol on a regular basis. Frequency of alcohol consumption may relate to students' desires to not break personal moral rules associated with spiritual beliefs. Furthermore, "college students, who abstain from drinking alcohol, are less likely to

partake in risky health behaviors that could negatively affect themselves and the community" (Nelms, 2005, p. 123). For example, negative health risk behaviors involving alcohol include driving under the influence and engaging in permissive sexual behavior.

However, the findings also revealed contradictory data stating higher levels of spirituality related to college students' increased likelihood to drink large quantities of alcohol in the same night. This finding may correlate to students' feelings of guilt for breaking personal moral rules and partaking in risky alcohol behaviors (Pargament et al., 2005). Due to their guilt, students may consume more alcohol after initial consumption in order to numb their shame. Additionally, spiritual college students may consume larger amounts of alcohol in one night due to potentially never receiving proper alcohol consumption education without alcohol consumption as part of their culture or childhood.

Furthermore, the data found, as spirituality increases, students more willingly touch others' private areas or allow others to touch their private areas under their clothes. This data related to work by Larson and Larson (2003) stating highly spiritual students partake less in premarital sexual intercourse. Because the sexual interaction does not entail genitalia-to-genitalia but hand-to-private area, spiritual students may feel less guilty about touching romantic partners' private areas before marriage.

Lastly, the data exposed, as spirituality increases, students increase their use of condoms during sexual intercourse. Increased condom use during sexual intercourse may relate to some spiritual students' oppositions to abortion for unwanted pregnancies (Piedmont, 2008). Moreover, students who get pregnant or get someone else pregnant may experience shame for breaking a spiritual moral rule by having premarital sex.

Overall, the data associated with college students' spirituality and health behaviors did not support the majority of the literature review. Data revealed college students with higher levels of spirituality just as likely smoked cigarettes, used marijuana, engaged in premarital sex, used various forms of birth control, and got into serious physical fights as less spiritual college students.

Spirituality and physical health. The lack of relationship between college students' spirituality and body mass index and satisfaction with body appearance provided evidence that more spiritual college students do not integrate a spiritual component into their physical health. This data did not support the claim by Koenig (1997) that spirituality impacts physical health through direct and indirect mechanisms. For example, Koenig (1997) stated spiritual individuals may pay closer attention to their physical health because they view their bodies as temples for their spirit or their deity's spirit, and they desire to keep their bodies as healthy as possible for those spirits. This data may result from equal engagement from all college students in risky health behaviors that negatively impact overall health, (e.g., smoking cigarettes, unhealthy body mass indexes, and unsafe alcohol consumption).

Spirituality and mental health. The lack of relationship between college students' spirituality and life satisfaction and feelings of helplessness provided evidence that college students who self-identify as more spiritual do not integrate a spiritual component into their mental health. This data did not support Rosmarin et al. (2009), who linked spirituality to decreased levels of helplessness, and increased levels of happiness and life satisfaction. However, the positive relationship between college students' spirituality and feelings of loneliness and misunderstanding provided evidence

that college students who self-identify as less likely to feel lonely and misunderstood integrate a spiritual component into their social health. Overall, the findings revealed, as spirituality increases, college students feel less lonely and more understood. This data supported Koenig's (1997) claims that spiritual communities promote positive and encouraging social interactions and attitudes.

The study's findings confirmed college students' spirituality correlates to their health, though not as strongly as the literature review suggested. There exist several possible explanations for the contradictory findings.

First, spiritual young adults may face peer-pressure to partake in risky health behaviors when entering college and may submit to peer-pressure in order to make friends and not become a social outcast. Second, spiritual college students do not consume alcohol as frequently as other college students, but when they do, they consume excessive amounts. The large consumption of alcohol may inhibit spiritual college students' critical thinking and influence them to engage in more risky behaviors. Third, when transitioning into college, young adults experiment with the world to see if their current beliefs and worldviews prove true or false. College students' experimentation with the world may encourage them to engage risky behaviors they previously believed immoral in order to solidify or transform their spiritual beliefs.

Recommendations for Practice

The current study highlighted inconsistent relationships between college students' spirituality and health. According to the literature, spiritual college students should engage less in risky health behaviors than their peers. However, spiritual college

students' health behaviors prove just as risky as their peers, and they seem just as likely to experience health consequences from risky health behaviors as their peers.

Higher education professionals need to address college students' risky health behaviors in order to combat college students' feelings of helplessness and alienation, as well as to help increase their life satisfaction and wellbeing. When college students feel healthier, they experience higher levels of success within and outside of the classroom, maintain retention rates, and create healthy friendships (New, 2015). With retention and student success as priorities for higher education institutions, higher education professionals must address issues related to college student health.

Higher education professionals may consider developing and distributing health promotion and creating health education programs to foster balanced and enhanced health for college students. "The procurement of such knowledge by higher education may facilitate proper training and broaden educational opportunities so that young adults are more successful in their quest for optimum health and wellness" (Nelms, 2005, p. 5).

Furthermore, "every attempt to help prevent behaviorally based diseases such as cardiovascular disease and cancer from affecting the lives of millions of people should be made" (Nagel & Sgoutas-Emch, 2007, p. 153). If spirituality can help positively predict or influence health behaviors and beliefs, it should receive further examination and, eventually, appropriate incorporation into more comprehensive healthcare programs for college students. Higher education professionals must learn more about spirituality's influence on college students' behaviors in order for college students to experience maximum wellbeing and life success. The relationship between spirituality and health proves especially important to investigate in young populations where health habits

continue to form and unhealthy health habits may still possibly shift before they negatively affect adult health and wellness.

Limitations

Several limitations to the present study need notification. First, despite the NSYR's statistical strength and soundness, Wave 3 did not ask many neutral spirituality variables; the majority of the NSYR questions addressed religiosity. The lack of neutral spirituality variables made the Spirituality Score slightly more biased for individuals who self-identify as religious or believe in God.

Second, the inability to control specific variables in the methodology resulted in the inability to ask specific questions about college students' health behaviors, e.g., exercise, diet, and sleep. Questions addressing these health variables remain important to study because diet, exercise, and sleep all greatly impact college students' physical and mental health, as well as academic success.

Third, the NSYR only asked the young adults if they currently attended college. The lack of further data regarding participants' class year and institution type limited the researcher's ability to compare groups and their levels of spirituality and health behaviors and beliefs. Data found between freshmen undergraduate students and senior undergraduate students would higher education professionals with descriptive information about how increased time spent within a college environment impacts the spirituality and health behaviors and beliefs of college students.

Fourth, the sample size utilized for the correlations between spirituality and health behaviors and beliefs for spirituality groups proved disproportional; high spirituality group had N=196, and low spirituality group had N=23. Due to the larger population

found in the high spirituality group, the results may prove biased toward the health behaviors and beliefs determined by the high spirituality group.

Future Research

Future research needs to determine more precisely the relationship between college students' spirituality and health behaviors and beliefs. Additional studies should attempt to (1) find a more comprehensive way to measure and differentiate between spirituality and religion in order to create a scale that perfectly measures each variable; (2) compare differences between college students who identify with different religious and spiritual groups (e.g., Christians and Muslims) and health behaviors and beliefs in order to distinguish differences in religious practices that influence the health behaviors and beliefs of religious students; (3) study the differences between spiritual college students attending a faith-based institution and college students attending a public institution in order to analyze the different ways college students internalize and experience spirituality within their varying environments; and (4) execute a qualitative study in order to gain information and insight inaccessible in quantitative research.

Conclusion

The greatest mysteries facing psychology and medicine rely on understanding human behavior and the consequences created through human behavior that effect human health and wellbeing (Fontana, 2003). Through countless attempts of unveiling the Fountain of Youth, researchers found clues to human health and flourishing by the means of spirituality.

On the basis of the literature and research summarized, spirituality evidently cannot explain away simple attempts to ward off the fear of mortality. However,

spirituality inspires the enhancement of wellbeing, both psychologically and physically, in individuals, more specifically in college students. Through belief and behaviors, spirituality potentially influences "self-concepts, moral values, human relationships, life-style, life goals, life philosophies, creative expression, and social affiliations and group membership" in college students (Fontana, 2003, p. 228).

The present study suggested—but does not prove beyond all doubt—that spirituality increases college students' health in some shape and form. Whether through health beliefs, health behaviors, physical health, or mental health, spirituality influences how college students internalize the way they utilize and treat their bodies. Whatever each individuals' views on a transcendent dimension of spirituality may be, college

> men and women appear to have an innate propensity to find in [the] experimental systems a meaning and purpose for their existence, and a code of beliefs and values that give psychological strength and that inform and guide their actions. (Fontana, 2003, p. 229).

Higher education professionals who wish to study the role of spirituality in students' health lives need to feel confident that the spirituality discussions and health care programs they host for their students highly influence students' wellbeing. Through a broader lens of understanding the student population, higher education professionals may encourage college students to partake in healthy habits and transform the future health of American society.

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Appendix A

Spirituality Score Questions

1) **FAITH1**: How important or unimportant is religious faith in shaping your daily life? (*Is it: Extremely important, Very important, Somewhat important, Not very important, Not important at all)*
2) **DEMONS**: Do you believe definitely, maybe, or not at all in the existence of demons or evil spirits? *(Definitely, Maybe, Not at all, Don't know)*
3) **MIRACLE**: Do you believe, definitely, maybe, or not at all in the possibility of divine miracles from God? (*Definitely, Maybe, Not at all, Don't know)*
4) **GOD**: Do you believe in God or not or are you unsure? (*Yes, No, Unsure/Don't know)*
5) **GODCLOSE**: [If yes or don't know to previous question] how distant or close to you feel to God most of the time? (*Extremely distant, Very distant, Somewhat close, Very close, Extremely close)*
6) **AFTRLIFE**: Do you believe, definitely, maybe, or not at all that there is life after death? (*Definitely, Maybe, Not at all, Don't know)*
7) **ANGELS**: Do you believe definitely, maybe, or not at all in the existence of angels? *(Definitely, Maybe, Not at all, Don't know)*
8) **LRNREL1**: How interested or not are you in learning more about your religion? (*Very interested, Somewhat, Not very, Not at all interested*)
9) **READBIBL**: How often, if ever, do you read from your scriptures to yourself alone? Is it: *(Never, Less than once a month, One to two times a month, About once a week, A few times a week, About once a day, Many times a day)*
10) **HOWDECID**: If you were unsure of what was right or wrong in a particular situation, how would you decide what to do? Would you most likely . . .(*Do what would make you feel happy, Do what would help you to get ahead, Follow the advice of a parent or teacher, or other adult you respect, Do what you think God or the scripture tells you is right*)

Appendix B

Health Behaviors and Beliefs Variables

1. **BMI:** Body Mass Index (NIH calculation)
2. **BODY:** In general, how happy or unhappy are you with your body and physical appearance? Are you: (*Very unhappy, Somewhat unhappy, Neither, Somewhat happy, Very happy)*
3. **SMOKE:** How often, if at all, do you smoke cigarettes? Is it: (*Once a day or more, A few times a week, About once a week, A few times a month, About once a month, A few times a year, Never*)
4. **POT:** How often, if ever, do you use marijuana? Is it: (*Once a day or more, A few times a week, About once a week, A few times a month, About once a month, A few times a year, Never*)
5. **DRINK:** How often, if at all, do you drink alcohol, such as beer, wine or mixed drinks, not including at religious services? Is it: (*Once a day or more, A few times a week, About once a week, A few times a month, About once a month, A few times a year, Never*)
6. **DRUNK:** How many times, if at all, over the past two weeks have you drunk alcohol at least in the same night? Is it: (*Once a day or more, A few times a week, About once a week, A few times a month, About once a month, A few times a year, Never*)
7. **BINGEDR:** How many times, if at all, over the past two weeks have you binge drank? *(Never, Once or twice, Three or four times, Five or more times)*
8. **FIGHT:** In the past two years, how often have been in a serious physical fight that involved someone getting hurt? Has it been: *(Never, Once or twice, Three or four times, Five or more times)*
9. **TOUCH:** Have you ever willingly touched another person's private areas or willingly been touched by another person in your private areas under your clothes, or not? *(No, Yes)*
10. **CONDOM:** The most recent time you and a partner of yours had sexual intercourse, did you use a condom? *(No, Yes)*
11. **BCLAST:** The most recent time that you and a partner of yours had sexual intercourse, did either of you use a form of birth control other than a condom? *(No, Yes)*
12. **SEXEVER:** Have you ever had sexual intercourse, or not? *(No, Yes)*

13. **LIFEEXCL:** The conditions of your life are excellent. (*Strongly Agree, Agree, Disagree, or Strongly Disagree*)
14. **RISKS:** You like to take risks. (*Strongly Agree, Agree, Disagree, or Strongly Disagree*)
15. **HELPLESS:** You often feel helpless in dealing with problems of life. (*Strongly Agree, Agree, Disagree, or Strongly Disagree*)
16. **ALIENATE:** In general, do you feel alone and misunderstood? (*A Lot, Some, A Little, None*)
17. **BRKMORAL:** Some people believe that it is sometimes okay to break moral rules if it works to your advantage and you can get away with it. (*Strongly Agree, Agree, Disagree, or Strongly Disagree*)

Appendix C

Participants' Demographics

Table 3.1

Participants' Ages

Age	Frequency	Percentage
18	141	13.8%
19	235	23.0%
20	249	24.4%
21	234	22.9%
22	147	14.4%
23	14	1.4%
Total	1020	100.0%

Table 3.2

Participants' Religious Affiliations

Religious Affiliation	Frequency	Percentage
Catholic	209	20.5
Christian/Another kind of Christian/Protestant	484	47.5
Jewish	69	6.8
Muslim/Islamic	2	.2
Another religion	22	2.2
Half one religion and half another	1	.1
Not religious	41	4.0
Don't know	2	.2
Refused	2	.2
Legitimate skip	188	18.4
Total	1020	100.0

Table 3.3

Participants' Body Mass Index (BMI) Categories

Body Mass Index Category	Frequency	Percentage
Underweight	37	3.6
Normal weight	642	62.9
Overweight	229	22.5
Obese	104	10.2
Don't know	2	.2
Refused	5	.5
Legitimate skip	1	.1
Total	1020	100.0

Table 3.4

Participants' Perceived Levels of Health

Religious Affiliation	Frequency	Percentage
Excellent	284	27.8
Very good	427	41.9
Good	238	23.3
Fair	63	6.2
Poor	7	.7
Legitimate skip	1	.1
Total	1020	100.0

Appendix D

Spearman Rho Rank Correlation Coefficients

Table 4

Spearman Rho Rank Correlation Coefficients for Spirituality Scores and Health

Variable	Correlation Coefficient	Significance (2-tailed)
BMI	-.067	.325
BODY	-.066	.333
SMOKE	.019	.775
POT	.031	.647
DRINK	-.136*	.045
DRUNK	.150*	.042
BINGEDR	.128	.059
FIGHT	.076	.264
TOUCH	-.059	.627
CONDOM	-.059	.468
BCLAST	.007	.928
SEXEVER	.089	.408
LIFEEXCL	.069	.310

Variable	Correlation Coefficient	Significance (2-tailed)
RISKS	-.006	.924
HELPLESS	-.059	.384
ALIENATE	.020	.769
BRKMORAL	-.040	.553

*Statistically significant ($p<.05$)