An Examination of the Relationship between Spirituality and Religion and Selected Risk-Taking Behaviors in College Underclassmen

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(Abstract)

Nearly one third of all Americans believe religion to be the most important part of their life. Nearly two thirds of Americans believe religion to be an important part of their life. The majority of Americans (94%) claim to have a belief in a supreme deity or God. The purpose of this study was to examine the relationship between spirituality and religion and selected risk taking behaviors in college underclassmen. Presently in the published literature, there are no studies that examined the relationship between levels of spirituality and religion and their interaction with select risk-taking behaviors, while delineating these variables to the college underclassmen. The risk-taking behaviors that were of interest to the researcher in this study were episodic and heavy drinking and sexual behaviors. This research effort employed a non-experimental, descriptive study design. The study population consisted of college underclassmen enrolled in an introductory wellness course in a teaching-intensive institution in the Mid-Atlantic United States. Results indicated a significant interaction between religion and all of the sexual risk behaviors under analysis. Results also indicated a significant interaction between spirituality and three of the four sexual risk behaviors under analysis. A significant interaction was found between frequency of church attendance and all of the sexual risk behaviors under analysis. Finally, when cross tabulated with all measures of spirituality and religion, risk behaviors related to alcohol usage reported statistically insignificant on all data indices.

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Chapter 1
Introduction

Research shows that nearly one third of all Americans believe religion to be the most important part of their life. Nearly two thirds of Americans believe religion to be an important part of their life. The majority of Americans (94%) claim to have a belief in a supreme deity or God (Townsend, Kladder, Ayele, Mulligan, 2002). Specific to the college underclassmen, it is common to hear the phrase, "I'm not religious, but I am spiritual" (Schwartz, 2001). This research effort considered this statement, when examining the constructs of religion and spirituality and their relationship with risk taking factors among college undergraduate students.

In their works on examining spirituality, Karren, Hafen, Smith, & Frandsen (2006) cited Albert Einstein as saying, "Everyone who is seriously involved in the pursuit of sciences becomes convinced that a Spirit is manifest in the Laws of the Universe …a Spirit vastly superior to that of man, and one in the face of which, we, with our modest powers, must feel humble" (p. 417).

In studying spiritual health, researchers have found that high levels of spirituality are associated with a number of positive outcomes. In studies that utilized adolescents, high levels of spiritual well being have been found to be negatively correlated with involvement in self-reported alcohol or other drug usage. Also, those adolescents who have been found to self-report as having a sense of spiritual connectedness have lower levels of voluntary sexual activity (Synovitz, et al., 2006; Stewart, 2001; Hammermeister, et al., 2001; Holder, et al., 2000).

In studying religion, researchers have found that high levels of religion or religiosity are associated with a number of positive outcomes including, but not limited to, less drug abuse, less alcohol abuse, lower levels of death anxiety, and better adjustments and coping skills (Campbell, 2002; Byrd & Swanson, 1998; Knox, Langehough, Walters Rowley, 1998). Religion has been found to be an important predictive factor for high risk behaviors in young adults. Specifically, high levels of religiosity have been found to be associated with lower levels of cocaine, marijuana, alcohol, and cigarette use among young adults (Dunn, 2005). Zaleski and Schiaffino (2000) postulate that, "Identification with one's religious group may therefore account for the presence of seemingly disparate populations of at-risk and cautious late adolescents" (p. 223). They continue by writing that, "Many adolescents may not engage in risk-related behaviors due to their religious beliefs and the proscriptions of their faith" (p. 223).

Statement of the Problem

For health researchers, several problems present themselves when studying religion and spirituality. The Fetzer Institute (2003) noted that few health researchers are aware of the long history of attempts to measure the multidimensionality of religiousness. The Fetzer report noted that, "It is becoming clear that religious/spiritual variables cannot simply be combined into a single scale that examines the effects of a single variable, 'religiosity'; rather, each relevant dimension of religiousness and spirituality should be examined separately for its effects on physical and mental health" (p. 2). It is important

to articulate the difference between religiousness and spirituality. Religiousness is seen as having, "…specific behavioral, social, doctrinal, and denominational characteristics because it involves a system of worship and doctrine that is shared within a group" (p. 2). Whereas religiousness is concerned with shared systems of worship and doctrine, spirituality is, "…concerned with the transcendent, addressing ultimate questions about life's meaning, with the assumption that there is more to life than what we see or fully understand" (p. 2).

When researching risk taking factors in young adult populations, Zaleski and Schiaffino noted that (2000), "Research on the prevalence of risk-related health behaviors in young adults has pointed to the need to identify protective factors" (p. 223). According to McGee, Nagel, & Moore (2003), "Although commonly asserted to be the core of health, spirituality is a relatively unexplored area" (p. 583). Erbe (2005) states that, "Spirituality is a dimension of health and wellness that has long been overlooked and misunderstood" (p. 12). This view builds upon the work of Hawks (1994) who suggested that spiritual health as a construct or dimension of health has not been explored, researched, grounded in theory, adequately defined, or integrated in the discipline of health education or health promotion. In discussing the difficulty of empirically studying spiritual health, Bensley (1991) writes that a major limitation is that there is no singularly recognized definition of spiritual health. This lack of one singularly recognized definition is a major limitation in studying the relationship between spiritual health and risk-taking factors in young adults.

In terms of health-related outcomes, another major limitation in the study of spirituality and religion is the "paucity" of validated instruments available to researchers (Daalemen & Frey, 2004). Idler, et al., write that, "Progress in studying the relationship between religion and health has been hampered by the absence of an adequate measure of religiousness and spirituality" (p. 327). Daalemen and Frey (2004) write that, "Although there is no shortage of instruments from the disciplines of sociology, psychology, and pastoral theology and chaplaincy, these measures frequently are not applicable or useful in studies of individual or population health" (p. 499). The Fetzer Institute (2003) issued a report on the measurement of spirituality and religiousness in health research in which they wrote, "…we currently have no widely used and validated set of standard measures for key religious/spiritual domains to recommend to interested health researchers" (p. 2).

Purpose of the Study

The purpose of this study was to examine the relationship between spirituality and religion, and selected risk taking factors in college underclassmen. While, "There is now a substantial literature that connects religion and spirituality to physical health" (Hill & Pargament, 2003; p. 64), there are no studies that have examined the relationship between spirituality and religion, and their perceived impact on risk-taking factors, while delineating these variables to the college underclassmen.

Research Question

Varying degrees of spirituality, independent of dogmatic/structured religion or organized religious practices, is at best an ambiguous concept that has no direct bearing on the involvement of college underclassmen in selected risk taking behaviors. Does the practice of an organized and structured religion, dependent on spirituality and level of commitment, have a direct bearing on the involvement of college undergraduates in selected risk taking behaviors? Specifically the risk behaviors that were under examination during this research effort were episodic and heavy drinking and sexual behaviors.

Significance of the Study

While, "There is now a substantial literature that connects religion and spirituality to physical health" (Hill & Pargament, 2003; p. 64), prior to this research effort, there were no studies that examined the relationship between levels spirituality, religiosity, and religion, and their perceived impact on risk taking factors, while delineating these variables to the college underclassmen. No studies that have examined the relationship between religious commitment, religious orientation, levels of spirituality, and their perceived impact on risk taking factors were discovered in the review of the literature, while delineating these variables to the college underclassmen. It is understood among researchers that, "when we turn to the research on religious belief and behavior…we find less unanimity of agreement" (Minton & Spilka, 1976, p. 261; Aday, 1984-85).

Definition of Terms

- College Underclassmen – selected college underclassmen enrolled in a four year institution of higher education.
- Religion – a structured faith system, followed by commitment and devotion (Aday, 1984-85).
- Religiosity - the combination of religion and spirituality into a single variable.
- Risk Taking Behavior – risk-taking behaviors were identified as episodic and heavy drinking and sexual behaviors and practices.
- Spirituality –is defined as having a sense or power of something greater than self.

Chapter 2
Review of the Related Literature

In their works examining spirituality, Karren, Hafen, Smith, & Frandsen (2006) cited Albert Einstein as saying, "Everyone who is seriously involved in the pursuit of sciences becomes convinced that a Spirit is manifest in the Laws of the Universe …a Spirit vastly superior to that of man, and one in the face of which, we, with our modest powers, must feel humble" (Karren, et al.; p. 417). Nearly one third of all Americans believe religion to be the most important part of their life. Nearly two thirds of Americans believe religion to be an important part of their life. The majority of Americans (94%) claim to have a belief in God (Townsend, Kladder, Ayele, Mulligan, 2002). Among college underclassmen, it is common to hear the phrase, "I'm not religious, but I am spiritual" (Schwartz, 2001).

Purpose of the Literature Review

This review of the literature examined the relationship between spirituality, religiosity, religion, and selected risk taking factors in young adults. For the purpose of this paper young adults were operationally defined as those individuals between the ages of eighteen (18) and twenty-four (24).

This paper will first present a brief overview of the literature concerning spirituality, religion, and risk taking behaviors. Following the introduction, there will be a discussion of the literature concerning limitations in the study of spirituality and religion. The review of the literature will also cover the leading causes of death in the United States and the leading causes of death among young adults in the United States.

Further emphasis will be given to describing and discussing young adults' involvement(s) in selected risk taking factors. The final piece of this paper will differentiate and operationally define spirituality and religion, discuss instrumentation in the study of spirituality and religion, and address what the literature covers concerning spirituality, religion, and religiosity as a construct for the health educator and health promotion specialists.

Brief Overview of the Literature

In studying spiritual health, researchers have found that high levels of spirituality are associated with a number of positive outcomes. In studies utilizing adolescents, high levels of spiritual well being have been found to be negatively correlated for involvement in self-reported alcohol or other drug usage. Also, those adolescents who have been found to self-report as having a sense of spiritual connectedness have lower levels of voluntary sexual activity (Synovitz, et al., 2006; Stewart, 2001; Hammermeister, et al., 2001; Holder, et al., 2000).

In studying religion, researchers have found that high levels of religion or religiosity are associated with a number of positive outcomes including, but not limited to, less drug abuse, less alcohol abuse, lower levels of death anxiety, protective factors in terms of sexual activity, and better adjustment and coping skills (Campbell, 2002; Zaleski & Shiaffino, 2000; Byrd & Swanson, 1998; Knox, Langehough, Walters Rowley, 1998). Religion has been found to be an important predictive factor for high risk behaviors in young adults. Specifically, high levels of religiosity have been found to be associated

with lower levels of cocaine, marijuana, alcohol, and cigarette use among young adults (Dunn, 2005). Zaleski and Schiaffino (2000) postulate that, "Identification with one's religious group may therefore account for the presence of seemingly disparate populations of at-risk and cautious late adolescents" (p. 223). They continue by writing that, "Many adolescents may not engage in risk-related behaviors due to their religious beliefs and the proscriptions of their faith" (p. 223).

No studies that have examined the relationship between levels of religion, levels of spirituality, religiosity, and their perceived impact on risk taking factors were discovered in this review, while delineating these variables to the college underclassmen.

Discussion of the Limitations in the Study of Spirituality and Religion

Several problems for health researchers present themselves when studying religion and spirituality. The Fetzer Institute (2003) noted that few health researchers are aware of the long history of attempts to measure the multidimensionality of religiousness. The Fetzer report noted that, "It is becoming clear that religious/spiritual variables cannot simply be combined into a single scale that examines the effects of a single variable, 'religiosity'; rather, each relevant dimension of religiousness and spirituality should be examined separately for its effects on physical and mental health" (p. 2).

The Fetzer Institute report noted the need for clearly defined empirical research in studying the effects of spiritual and religious constructs on health related outcomes. "Empirical studies have identified significant links between religion and spirituality, the reasons for these associations, however, are unclear" (Hill & Pargament, 2003; p. 64). In

the documented literature there were no studies found that have examined the relationship between levels spirituality, religiosity, religion, and their perceived impact on risk-taking factors, while delineating these variables to the college underclassmen. According to McGee, Nagel, & Moore (2003), "Although commonly asserted to be the core of health, spirituality is a relatively unexplored area" (p. 583). Erbe (2005) states that, "Spirituality is a dimension of health and wellness that has long been overlooked and misunderstood" (p. 12). This view builds upon the work of Hawks (1994) who suggested that spiritual health as a construct or dimension of health has not been explored, researched, grounded in theory, adequately defined, or integrated in the discipline of health education or health promotion. In discussing the difficulty of empirically studying spiritual health, Bensley (1991) writes that a major limitation is that there is no singularly recognized definition of spiritual health. This lack of one singularly recognized definition is the greatest limitation in studying the relationship between spiritual health and risk taking factors in young adults.

Karren, et al. (2006) writes that, "Religion, basically, is a science in how to know God…" (p. 437). Creating a distinction between spirituality and religion at best can be vague and abstract. For example, Karren, et al. (2006) cite Koenig, Kvale, and Ferrel (1988) in defining religion as, "…the personal beliefs, values, and activities pertinent to that which is supernatural, mysterious, and awesome, which transcends immediate situations, and which pertains to questions of final causes and ultimate ends of man and the universe" (Karren, 2006; p. 437). They (Karren, et al.) then proceed to write that a basic tenet of religion is the belonging to an institutional belief system. These

researchers have also conceptualized religion as belief in a particular theological doctrine or active membership with a particular denomination (Karren, et al., 2006).

There are serious methodological conflictions within the literature that define and attempt to operationalize the concept of religion. From the published literature we can generalize spirituality as an intrapersonal experience. Furthermore, from the published literature we can suggest that the practice of structured religion to be a more dogmatic, theologically grounded, denominational, and/or a ritualistic system.

Leading Causes of Death in the United States

The number one cause of death in the United States is diseases of the heart (685,089 reported cases in 2003; 28% of total deaths) (CDC, 2006). Risk factors for heart disease include, but are not limited to, exercise, cholesterol, diet, stress, high blood pressure, and tobacco use. The second leading cause of death in the United States is malignant neoplasm (556,902 reported cases in 2003; 22.7% of the total deaths). Within the entire United States population, cerebrovascular disease is the third leading killer (157,689; 6.4% of total deaths), followed by chronic lower respiratory diseases (126,382; 5.2% of total deaths). Within the entire United States population accidents or unintentional injuries (109,277; 4.5% of total deaths) are the fourth leading cause of death, followed by diabetes mellitus (74,219; 3.0% of total deaths). Influenza and pneumonia (65,163; 2.7% of total deaths) are the seventh leading cause of death among all age groups, followed by Alzheimer's disease (63,457; 2.6% of total deaths). The ninth and tenth leading causes of death among all age groups are nephritis, nephritic

syndrome and nephrosis (42, 453; 1.7% of total deaths), and septicemia (34,069; 1.4% of total deaths) (CDC, 2006).

Leading Causes of Death among Young Adults in the United States

According to the most current data published by the Centers for Disease Control and Prevention (2003), fatality among young adults is a relatively rare occurrence (aged 15-19, 66.4/100,000 and aged 20-24, 96.4/100,000) (CDC, 2006). For those aged 15 to 19 years the four leading causes of death are: unintentional injury (6,755 reported cases), homicide (1,938), suicide (1,487), and malignant neoplasm (690). For those aged 20 to 24 the four leading causes of death are: unintentional injury (8,517), homicide (3,430), suicide (2,501), and malignant neoplasm (961). All causes of death among all races and both sexes among 15-19 year olds was 13, 595 in the year 2003. All causes of death among all races and both sexes among 20-24 year olds was 19,973 in the year 2003 (CDC, 2006). It has been suggested that some risk taking factors that would increase the likelihood of death among this age group would include: carrying a loaded weapon, riding with someone who is under the influence or driving a vehicle while under the influence of alcohol, and not using safety belts (Campbell, 2002; CDC, 2006).

Descriptive data of Young Adults involvement in selected Risk Taking Behaviors

Young adulthood is generally characterized by growth in intellect and philosophical maturity. Young adulthood is also recognized as a time of experimentation, autonomy development, and high risk-taking behaviors. Ward (1996)

suggests that the lack of cognitive appraisal is a reason for young adults' participation in behaviors of such high risk. Others have noted that, "Research on the prevalence of risk-related health behaviors in young adults has pointed to the need to identify protective factors that prevent repeated exposure to risk" (Zaleski & Shiaffino, 2000; p. 223).

In their works on researching risk factors, Simons-Morton, Greene, and Gottlieb (1995) identified risk factors as, "…the variables you seek to reduce…if health is to be improved" (p. 123). However, they qualified this statement by writing that, "…it is not always clear which of these factors are more important, how they interact with one another, or if they can be changed" (p. 123).

Within the published literature, the National College Health Risk Behavior Survey (NCHRBS) is widely considered as the preeminent descriptive study concerning priority health risk behavior(s) that contribute to the leading causes of death and illness among college age underclassmen in the United States. The NCHRBS operationally defined college underclassmen as those students between the ages of 18 and 24 and enrolled as either a part-time or full-time student within a university or college setting. Before the NCHRBS was conducted in 1995, little was known about the prevalence of health risk behaviors among college underclassmen. The NCHRBS examined behaviors that contribute to unintentional and intentional injury, characteristics of tobacco use, alcohol and other drug use, sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases (STD), including human immunodeficiency virus (HIV) infection, unhealthy dietary behaviors, and physical inactivity (CDC, 2006).

Data results of the NCHRBS study showed that college underclassmen place themselves at risk for serious health problems because of their high rates of involvement in risky behaviors. Findings from the NCHRBS (1995) showed almost a third or twenty nine percent (29.0%) of college underclassmen were currently cigarette smokers. Thirty four point five percent (34.5%) reported having been heavy episodic drinkers in the past thirty days. Twenty seven point four percent (27.4%) reported drinking alcohol and having driven a motor vehicle within the previous thirty days. Of the college undergraduates who reported having sex in the past three months, only twenty nine point six percent (29.6%) reported using a condom. Only thirty five point five percent (35.5%) reported having used birth control pills. Twenty point four percent (20.4%) of female college underclassmen reported being forced to have sexual intercourse in their lifetime. According to the findings of the NCHRBS, one fifth or twenty point five percent (20.5%) of college underclassmen are overweight. Only nineteen point five percent (19.5%) participate in the recommended amount of daily physical activity (CDC, 2006).

Specific to high risk sexual behaviors, results from other studies have shown similar findings to those of the NCHRBS. Zaleski and Shiaffino (2000) wrote that over seventy five percent (75%) of African American and Caucasian students were found to be sexually active before the age of twenty (20). A minority of college students were found to use protective factors, such as condom usage or abstinence, on a regular basis. They also suggested that, "…many late adolescents continue to engage in anonymous sex, sex without a condom, sex with multiple partners: all potentially compounding their risk for disease" (p. 223)

Discussion of Young Adults' involvement in Selected Risk Taking Behaviors

Perceptions of death are undoubtedly influenced by the nature of the circumstances creating the death. The number one cause of death among young adults in the United States is unintentional injuries (15,272 reported cases in 2003; aged 15-24). Many of these unintentional injuries can be attributed to risk taking behaviors such as riding with someone under the influence of alcohol and/or carrying a loaded weapon. A firearm causes one in every four deaths among young adults, with injury increasing seventy-seven percent (77%) since 1985. However, the largest portions of young adult injuries are due to motor vehicle crashes.

Researchers who have studied risk-taking factors in college underclassmen have found that risk-taking is significantly greater among males (Ward, 1996; Kastenbaum & Briscoe, 1975). Researchers who have examined risk-taking factors in college undergraduate students have postulated that young adults most actively engage in risk-taking via such behaviors as unprotected sexual intercourse, cigarette smoking, and binge drinking (Campbell & Felts, 2004; Noppe & Noppe, 1997). Conrad and Glass (1991) attempted to explain this phenomenon of risk-taking in young adults by suggesting most young adults think that their own death "…is far into the distance" (p. 140). Thorson & Powell (1990) attempted to explain risk behaviors by writing "…these brave and crazy acts represent forms of denial or repression that express the same motivation to laugh in the face of death" (p. 237). Ward (1996) theorized that, "it is possible that willingness to cognitively engage with death distinguishes youths who forgo risks, from those who take

them" (p. 136). Ward's work suggests that young adults, who more cognitively appraise their actions, are less likely to take part in risky behaviors.

Other thanatology (death-related research) has suggested a more discrete, contributing factor to young adult risk-taking, such as desensitization through the media (e.g., movies, television, music lyrics, and video games) (Morin & Welsh, 1996). Other factors such as poverty, lack of family support, and education levels are also thought to be contributing to young adult risk-taking (Furby & Beyth-Marom, 1992). According to Matter & Matter (1982), this might be an explanation for the risk taking behaviors that have become associated with young adults. Through the findings of these researchers we can create plausible explanations for the risk taking factors that are commonly associated with young adults aged 18 to 24.

Differentiation and the operational definitions of Spirituality and Religion

Karren, Hafen, Smith, & Frandsen (2006) identify the word religion as originating from the Latin *religio*. In the original context the concept of religion was seen as a connection between man and some greater force. In more modern times it has been suggested that religion is a fixed system of beliefs. Religion can be conceptualized as belief in a particular theological doctrine or active membership with a particular denomination (Karren, et al., 2006). Religiousness has also been defined as having, "…specific behavioral, social, doctrinal, and denominational characteristics because it involves a system of worship and doctrine that is shared within a group" (Fetzer Institute, 2003; p. 2). Hill and Pargament (2003), citing the work of Wulf, suggested that, "The

term *religion* is becoming reified into a fixed system of ideas or ideological commitments that "fail to represent the dynamic personal element of human piety" (p. 64).

Within the published literature there are several contrastingly different definitions of religion. In their work studying the impact of religiosity on the sexual behaviors of college students, Penhollow, Young, and Denny (2005) defined religion as, "…a conservative force based upon a set of beliefs concerning the cause, nature, and purpose of the universe" (p. 75). According to other definitions of religion within the published literature, the Penhollow, et al. definition would more appropriately define spirituality. Koenig, Parkerson, and Meador (1997) have factored religion or religiosity into three dimensions: organizational, non-organizational, and intrinsic.

According to Koenig, et al. (1997), weekly attendance at a religious service would be seen as organizational religiosity. Time spent in private prayer, thought, meditation, and reflection would be seen as non-organizational religiosity. And the integration of religious orientation into one's own life would be seen as intrinsic religiosity (Storch, Storch, Welsh, & Okun, 2002). Other researchers have created a more simplistic definition of religion by identifying it as belief in a particular theological doctrine or active membership with a particular denomination (Karren, et al., 2006).

Whereas religiousness is concerned with shared systems of worship and doctrine, spirituality is, "…concerned with the transcendent, addressing ultimate questions about life's meaning, with the assumption that there is more to life than what we see or fully understand" (Fetzer Institute, 2003; p. 2). Karren, et al. (2006), identified the word spirituality as originating from the Latin *spiritus.* In the original context the concept of

spirituality was seen as having life beyond life, or meaning of life (Karren, et al., 2006). Hawks, Hull, Thalman, and Richins (1995) defined spiritual health as something that is made up of various components such as purpose of life, meaning of life, connectedness of self, other, and a larger reality. In expanding on the works of Russell (1979), Erbe (2005) defined spirituality, "… as a person's internal sense of purpose, meaning, and future" (p. 12). Others have defined spirituality as the individual's existential relationship with a higher authority, a perceived transcendence, or God (Hodge, 2005).

Still, others have simply identified and defined spirituality as the subjective and personal side of the religious experience (Hill & Pargament, 2003). Bensley (1991) wrote that a major limitation is that there is no singularly recognized definition of spiritual health. It is fair to suggest that this statement is true of the published literature to date.

Many authors and researchers have postulated that the practice of an organized religion could qualify someone as a spiritually healthy person (Donatelle, 2004; Fahey, Insel, & Roth, 2005; Hales, 2005). Karren, et al., (2006) created a moderately clear distinction between religion/religiosity and spirituality when they wrote, "…religion usually is associated with the institutional and ritual-practice elements, while spirituality refers more to personal experience with the transcendent" (Karren, et al.; p. 421). Dennis, Muller, Miller, and Banjeree (2004) differentiated between religion and spirituality by writing that, "Religion can be defined as an organized belief system with specific rituals and practices, which can be learned in places of worship, whereas spirituality is a way of being, which can be learned anywhere, and predetermines how

people respond to life experiences" (p. 220). In conceptualizing and identifying the relationship between spirituality and religion, Schwartz (2001) writes that, "Without engaging in practice one's spiritual life becomes ossified, static, and frozen" (p. 35).

While spirituality is a key construct for organized religion, it is feasible to be "spiritual" without the confinements and restrictions of an organized religion. Karren, et al., (2006) wrote, "…we need to realize that spirituality and spiritual health are a process or a journey, not an end point" (p. 425). According to Schwartz (2001) spirituality and spiritual practice is the rudder for spiritual growth. It is plausible and more likely appropriate to suggest that spirituality and organized religion are not mutually exclusive variables. A person cannot be religious without being spiritual, but one could be considered spiritual without being religious (Adams, Bezner, Drabbs, Zambarano, & Steinhart, 2000). However, it could also be argued that a religious construct, such as weekly church attendance, takes place because of habits developed early in life or a form of positive social edification.

In encapsulating the discussion and defining of religion and spirituality, perhaps it is best to write that, "…one is witnessing, particularly in the United States, a polarization of religiousness and spirituality, with the former representing an institutional, formal, outward, doctrinal, authoritarian, inhibiting expression and the latter representing an individual, subjective, emotional, inward, unsystematic, freeing expression" (Hill & Pargament, 2003; p. 64; Koening, et al., 2001). Perhaps, it is best to simplify by writing that, "…spirituality and religion are overlapping but distinct constructs" (Hodge, 2005; p. 315).

Instrumentation in Studying Religion and Spirituality

In terms of health related outcomes, a major limitation in the study of spirituality and religion is the "paucity" of validated instruments available to researchers (Daalemen & Frey, 2004). Hill & Pargament (2003) write that, "Typically, religion and spirituality have been measured by global indices (e.g. frequency of church attendance, self-rated religiousness and spirituality) that do not specify how or why religion and spirituality affect health" (p. 64).

Idler, et al. (2003), write that, "Progress in studying the relationship between religion and health has been hampered by the absence of an adequate measure of religiousness and spirituality" (p. 327). Daalemen and Frey (2004) write that, "Although there is no shortage of instruments from the disciplines of sociology, psychology, and pastoral theology and chaplaincy, these measures frequently are not applicable or useful in studies of individual or population health" (p. 499).

The Fetzer Institute (2003) issued a report on the measurement of spirituality and religiousness in health research in which they wrote, "…we currently have no widely used and validated set of standard measures for key religious/spiritual domains to recommend to interested health researchers" (p. 2). The Fetzer Institute financed project intended, "…to bring together experts interested in addressing measurement issues around religiousness/spirituality and health from a multidimensional perspective (p. ii). A subsequent booklet was published to encourage the study of religion/spirituality and health with regards to the sensitivity, depth, and complexity of the subject.

To address the limited number of validated instruments in health-related quality of life research Daalemen and Frey (2004) created the Spirituality Index of Well-Being (SIWB). The SIWB is a twelve (12) item self-reported Likert scale questionnaire containing six (6) questions from a self-efficacy domain and six (6) questions from a life scheme domain. Daalemen and Frey identified the purpose of the SIWB scale as a measure intended to examine the effect of spirituality on subjective well-being. They wrote, "First, we recognized that no global, yet parsimonious, instrument captures the complexity and depth of spirituality in any context, health care or otherwise" (p. 499).

Study subjects included those adults aged eighteen (18) years and older at outpatient care facilities in a large urban area in the Midwest United States. Sampling methodology for the development of the SIWB included a multi-site, cross-sectional survey of adult outpatients at the primary care clinics. Systematic sampling procedures were used at the primary care clinics to recruit and enroll study subjects. Ten total sites were included in the study, with each site having a standardized number of study subjects (n = 55; N = 550).

Survey instruments were administered at each site by a single trained research assistant, either directly before or directly after the patients' scheduled appointment. Every tenth (10^{th}) study subject underwent a five-minute debriefing session, with the research assistant before leaving their scheduled appointment. Every fifth (5^{th}) patient was contacted by telephone within two (2) weeks. A follow-up administration of the SIWB was conducted with every fifth (5^{th}) study subject.

A total of five hundred and nine (N = 509) subjects fully participated in the study. The average age of study subjects was 46.8 years (SD = 17.1, median = 45.0 years). Study subjects were predominately white, female, while approximately half of the study subjects were married. The majority of study subjects completed at least a high school education, had private health insurance, and had at least a seven (7) year relationship with their primary physician.

All inferential and descriptive statistical analyses were performed with the Statistical Package for the Social Sciences (SPSS) version 10.0. The SIWB was found to have high internal consistency (r = 0.91). Ninety three (n = 93) study subjects completed the SIWB during the two week follow-up administration. The test-retest for the SIWB showed a strong correlation (r = 0.79).

The SIWB has been found to have a significant correlation with other quality of life measures (Spiritual Well-Being scale (SWB) (r =.62, P < .001); General Well-Being Scale (r = .64, P < .001); Zung Depression Scale (r = 0-.42, P < .001). Data results lead Daalemen and Frey to consider spirituality to be a psychological domain and subsequently view the SIWB as a valid and reliable measure for health-related quality of life research.

Spirituality and Religion as a construct for the Health Educator and Health Promotion Specialist (HEHP)

The idea that spirituality, and to a lesser degree religion and religiosity, are key constructs for the health educator and/or health promotion specialists (HEHP) has caused

a highly subjective and speculative debate within the published literature. According to Hawks (2004), HEHP have been seen as a "stepchild" of the public health and medical professions. Hawks continues by writing that the HEHP "…have inherited a preoccupation with physical health as the most worthy outcome measure for most of our program participants" (p. 11). In terms of assessment, physical health is seen as an objective variable that is tangible, measurable, and understandable. According to Hawks, because of this measurability, physical health has become a relatively easy and well funded target.

In examining spirituality and religiosity as a construct for the HEHP, many contradictory and diverse ideas have been postulated. However, most agree that spirituality has a "role" in one's health. Synovitz, Gillian, Wood, Martin-Nordess, and Kelly (2006) wrote that, "Spiritual health/spirituality has long been considered an important component of holistic health and wellness" (p. 88). In supporting the work of Kelly, research reflects that the multidimensionality or dimensions of health and wellness include spirituality or spiritual health as a key construct of holistic health (Donatelle, 2004; Fahey, Insel, & Roth, 2005; Hales, 2005).

The idea of the multidimensionality of health was first popularized by the World Health Organization (WHO). The WHO originally conceptualized health as, "A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1958).

In his philosophical analysis on the meaning of health, Balog (2005) argues that this "holistic view" of health is inappropriate and confusing. He writes that HEHP need

to recognize the differences between those variables that can affect health and the act of defining one's health. Balog writes that people, "confuse what is desired and valued as a good life to mean what is good health" (p. 266). Balog continues with this idea by identifying spiritual beliefs as something that can cause or affect a physiological reaction in the body, but not a variable in and of itself that defines one's health. Balog suggests that if health is multifaceted and contains dimensions such as spiritual health, then, "…where does health reside? Does health reside within a person, among persons, or outside of a person's body somewhere located in a spiritual universe" (p. 267)? Balog continues to suggest that if the idea of health being multidimensional is true, then the only way that this can be seriously considered is to evaluate outside of the individual, which in all practicality is a fruitless endeavor.

This view is reflective of the paradigm for the HEHP that "…implies the belief that if we simply take care of physical health, the apparently lesser dimensions will fall into place of their own accord" (Hawks, 2004; p. 13). In his works on the meaning of health, Balog "…argues that health is a state of complete physical well-being or physical fitness that is defined by how well the body is functioning in accordance with its natural design and how this natural design affords individuals the ability to achieve essential functional objectives of humans on a biological and "person" level" (p. 266).

Most of the published literature contradicts the philosophical opining of Balog. In their writings, many have postulated the exact opposite of Balog by suggesting that spirituality is at the very core of health and that the recognition of spirituality as a central variable of health is imperative for the HEHP (Erbe, 2005; McGee, et al., 2003; Hawks,

Hull, Thalman, Richins, 1995). Erbe (2005) went so far as to suggest that when we consider spirituality, "Its importance is clear: Spirituality is viewed by many as the dimension of health and wellness which influences all the others" (p. 12). It is important to clarify that within the published literature, levels of religiosity or the practice of an organized religion is seen as an example of one's spirituality (Adams, et al., 2000; Donatelle, 2004; Fahey, Insel, & Roth, 2005; Hales, 2005). This is an important point for the HEHP to consider in the application of spiritual principles and religious orientation to the program planning and health behavior change process.

Within the published literature there is documentation of HEHP using the practice of organized religion or churches as vehicles for change or change agents. In their assessment of African-American churches capacity to promote health prevention strategies, Torrence, Phillips, and Guidry (2005) noted that the church has a history of health promotional activities. Torrence, et al. note that churches, specific to this assessment African-American church, provide a natural infrastructure for social support, apply cultural appropriateness, and allow HEHP to reach underserved populations. These researchers noted that, "Few institutions have the level of potential to reach a greater percentage of the populations than faith based establishments. Thus, public health practitioners… remain cognizant of this fact and are increasingly utilizing the church to access…health improvement efforts" (p. 161).

Conclusion

In their works examining spirituality, Karren, Hafen, Smith, & Frandsen (2006) cited Albert Einstein as saying, "Everyone who is seriously involved in the pursuit of sciences becomes convinced that a Spirit is manifest in the Laws of the Universe …a Spirit vastly superior to that of man, and one in the face of which, we, with our modest powers, must feel humble" (Karren, et al.; p. 417).

In summation, this paper first presented a brief overview of the literature concerning spirituality, religion, and risk taking behaviors. Following the introduction, there was a discussion of the literature concerning the limitations in the study of spirituality and religion. This review of the literature then addressed the leading causes of death in the United States and the leading causes of death among young adults in the United States. Further emphasis was given to describing and discussing the young adult's involvement(s) in selected risk taking factors. The final piece of the paper differentiated and operationally defined spirituality and religion, discussed instrumentation in the study of spirituality and religion, and addressed what the literature says about spirituality and religiosity as a construct for the health educator and health promotion specialists.

Chapter 3
Methodology

Study Design

This research effort employed a non-experimental – descriptive study design to determine whether levels of spirituality and religion affected selected risk taking factors among college underclassmen. The risk taking variables of interest are episodic and heavy drinking and sexual behaviors.

Subjects

The study population was comprised of college underclassmen enrolled in an introductory wellness course, in a teaching-intensive institution in the Mid-Atlantic United States. The population only consisted of those college underclassmen that self identified to be at least eighteen (18) years of age. Any possible study subjects under the age of eighteen (18) were asked to leave the room(s) in which instrument administration was taking place.

Sampling Procedure

A convenience sample of twenty sections of an introductory wellness course was included in this research effort. Each section of the introductory wellness course had an enrollment of approximately 30 students. Eleven (11) sections were purposely sampled so as give the study exactly three hundred and thirty five (335) research subjects.

Instrumentation

The completed study instrument consisted of five (5) demographic questions created by the researcher, five (5) researcher created questions related to spiritual and religious well-being, and seven (7) questions purposefully selected from the Youth Risk Behavior Surveillance System (YRBSS) (CDC, 2007) (Appendix A).

The constructed questionnaire went through a pilot testing process the academic semester proceeding targeted administration. Flaws were identified at this time and subsequent corrections made. The pilot testing population consisted of those students enrolled in an introductory wellness course. A convenience sample of three (3) sections of an introductory wellness courses were selected for the pilot testing process. Each section of the introductory wellness course had an enrollment of approximately 25 students.

Pilot testing participants were asked to complete the questionnaire then provide critical analysis of the instrument. Critical analysis of the instrument was provided in both verbal and written form.

The YRBSS was developed in an effort by the Center for Disease Control and Prevention (CDC) to monitor the six identified categories of health risk behaviors among school aged children. These health risk behaviors have been shown to, "…contribute markedly to the leading causes of death, disability, and social problems among youth and adults in the United States" (Brener, et al.; p. 1).

In terms of health related outcomes, a major limitation in the study of spirituality and religion is the "paucity" of validated instruments available to researchers (Daalemen

& Frey, 2004). Hill & Pargament (2003) write that, "Typically, religion and spirituality have been measured by global indices (e.g. frequency of church attendance, self-rated religiousness and spirituality) that do not specify how or why religion and spirituality affect health" (p. 64).

Idler, et al. (2003), wrote that, "Progress in studying the relationship between religion and health has been hampered by the absence of an adequate measure of religiousness and spirituality" (p. 327). Daalemen and Frey (2004) write that, "Although there is no shortage of instruments from the disciplines of sociology, psychology, and pastoral theology and chaplaincy, these measures frequently are not applicable or useful in studies of individual or population health" (p. 499).

The Fetzer Institute (2003) issued a report on the measurement of spirituality and religiousness in health research in which they wrote, "…we currently have no widely used and validated set of standard measures for key religious/spiritual domains to recommend to interested health researchers" (p. 2). The Fetzer Institute financed project intended, "…to bring together experts interested in addressing measurement issues around religiousness/spirituality and health from a multidimensional perspective (p. ii). A subsequent booklet was published to encourage the study of religion/spirituality and health with regards to the sensitivity, depth, and complexity of the subject.

To address the limited number of validated instruments in health-related quality of life research Daalemen and Frey (2004) created the Spirituality Index of Well-Being (SIWB). The SIWB is a twelve (12) item self-reported Likert scale questionnaire containing six (6) questions from a self-efficacy domain and six (6) questions from a life

scheme domain. Daalemen and Frey identified the purpose of the SIWB scale as a measure intended to examine the effect of spirituality on subjective well-being. They wrote, "First, we recognized that no global, yet parsimonious, instrument captures the complexity and depth of spirituality in any context, health care or otherwise" (p. 499).

Study subjects included those adults aged eighteen (18) years and older at outpatient care facilities in a large urban area in the Midwest United States. Sampling methodology for the development of the SIWB included a multi-site, cross-sectional survey of adult outpatients at the primary care clinics. Systematic sampling procedures were used at the primary care clinics to recruit and enroll study subjects. Ten total sites were included in the study, with each site having a standardized number of study subjects (n = 55, N = 550).

Survey instruments were administered at each site by a single trained research assistant, either directly before or directly after the patient's scheduled appointment. Every tenth (10^{th}) study subject underwent a five-minute debriefing session, with the research assistant before leaving their scheduled appointment. Every fifth (5^{th}) patient was contacted by telephone within two (2) weeks. A follow-up administration of the SIWB was administered with every fifth (5^{th}) study subject.

A total of five hundred and nine (N = 509) subjects fully participated in the study. The average age of study subjects was 46.8 years (SD = 17.1, median = 45.0 years). Study subjects were predominately white, female, while approximately half of the study subjects were married. The majority of study subjects completed at least a high school

education, had private health insurance, and had at least a seven (7) year relationship with their primary physician.

All inferential and descriptive statistical analyses were performed with the Statistical Package for the Social Sciences (SPSS) version 10.0. The SIWB was found to have high internal consistency ($r = 0.91$). Ninety three ($n = 93$) study subjects completed the SIWB during the two week follow-up administration. The test-retest for the SIWB showed a strong correlation ($r = 0.79$).

The SIWB has been found to have a significant correlation with other quality of life measures (Spiritual Well-Being scale (SWB) ($r = .62$, $P < .001$); General Well-Being Scale ($r = .64$, $P < .001$); Zung Depression Scale ($r = 0\text{-}.42$, $P < .001$). Data results led Daalemen and Frey to consider spirituality to be a psychological domain and subsequently view the SIWB as a valid and reliable measure for health-related quality of life research.

The study instrument included the administration of five (5) demographic questions created by the researcher. Five (5) researcher created questions dealing with the operational definition of spirituality and religion and concepts of spiritual and religious well being were also included. Finally, questions pertaining to episodic and heavy drinking and sexual risk taking behaviors were purposefully selected from the Youth Risk Behavior Surveillance System (YRBSS) (CDC, 2007) for inclusion into the study instrument (Appendix A).

Data Analysis

All data analysis was conducted with Statistical Package for the Social Sciences (SPSS) (15.0). The research questions were addressed using cross tabulations and chi-square test of independence that calculated comparing frequencies. Significance level for all statistical procedures was set at the alpha = .05 level.

Chapter 4
Findings

The purpose of this study was to examine the relationship between spirituality and religion, and selected risk-taking factors in college underclassmen. The demographic variables of interest were: gender, race, age, marital status, and university classification. The risk behaviors that were under examination during this research effort were episodic and heavy drinking and sexual behaviors. The complete questionnaire consisted of five (5) demographic questions created by the researcher, five (5) questions related to spiritual and religious well-being, and seven (7) questions purposefully selected from the Youth Risk Behavior Surveillance System (YRBSS) (CDC, 2007). While, "There is now a substantial literature that connects religion and spirituality to physical health" (Hill & Pargament, 2003; p. 64), prior to this research effort, there were no studies that examined the relationship between levels spirituality and religion, and their perceived interaction with risk taking factors, while delineating these variables to the college underclassmen.

This chapter on data analysis and discussion of findings was organized into the following sections: distribution and return of the questionnaire, sample characteristics, analysis of study purpose and results.

Distribution and Return of the Questionnaire

A convenience sample of twenty-five sections of an introductory wellness course was included in this research effort. Each section of the introductory wellness course had an enrollment of approximately 30 students. Eleven (11) sections were purposely

sampled so as give the study exactly three hundred and thirty five (335) research subjects. Each section contained around 35 students, the majority of whom were traditional college freshman. The study questionnaire (Appendix A) was distributed to the instructors of the selected sections along with detailed instructions for administration and informed consent notification (Appendix B). Virtually all students in each selected section completed the questionnaire in its entirety. Only those college underclassmen that completed the entire questionnaire and were above the age of eighteen (18) were included in the study population. After the filtering process the sample consisted of three hundred and thirty five (N = 335) research subjects.

Sample characteristics

Of the 335 subjects who participated in the study the majority of the respondents self identified to be between the ages of 18-19 (n = 253, 75.5%) and a college freshman (n = 219, 65.4%). A larger portion of the sample was female (n = 174, 51.9%), with males being the smaller portion (n = 161, 48.1%). Eighty five point one percent (85.1%) of the sample self-reported as being white – not Hispanic (n = 285). Eight point seven percent (8.7%) self reported as black – not Hispanic (n = 29). Hispanic or Latino (n = 8), Asian or Pacific Islander (n = 8) and other (n = 5) had too few respondents to be of any practical significance. Three hundred eighteen (n = 318, 94.9%) of the three hundred and thirty five (N = 335) study subjects reported not being married.

Table 1 summarizes the sample characteristics for each of the following demographic variables: gender, race, age, marital status, and university classification.

Table 1

Summary of Sample Characteristics - Demographics

Variable	Number of Subjects	Percent
Total …….	335	100
Gender		
Male ……	161	48.1
Female ……...	174	51.9
Race		
White ……	285	85.1
Black ……	29	8.7
Hispanic or Latino ……	8	2.4
Asian or Pacific Islander …...	8	2.4
Other ……	5	1.5
Age		
18-19 ……..	253	75.5
20-21 ……..	51	15.2
22-24 ……..	21	6.3
25 or older ……. .	10	3.0
Marital Status		
Yes ……..	17	5.1
No ……..	318	94.9
University Classification		

Freshman	……..	219	65.4
Sophomore	……..	53	15.8
Junior	……..	32	9.6
Senior	…….	30	9.0
Other	……. .	1	.3

N/Categorical Percentage

When surveyed whether they would consider themselves spiritual, when spirituality was defined as having a sense or power of something greater than self, exactly forty point three percent (40.3%, n = 135) classified themselves as moderately spiritual. Twenty eight point four percent (28.4%, n = 95) self identified as being very spiritual. Five point four percent (5.4%, n = 18) were undecided about their spirituality and three point six (3.6%, n = 12) self identified to be not at all spiritual. When surveyed whether they believed that some greater power had a purpose for their life, one hundred and sixty (n = 160, 47.8%) strongly agreed. One hundred and ten (n = 110, 32.8%) subjects agreed, forty eight (n = 48, 14.3%) neither agreed nor disagreed. Eight subjects (n = 8 or 2.4%) disagreed and nine (n = 9, 2.7%) strongly disagreed. When subjects were questioned if they understood the meaning of their life, based upon their belief in a greater power, the majority of respondents agreed they did (n = 130, 33.8%). Seventy five (n = 75, 22.4%) strongly agreed, ninety nine (n = 99, 29.6%) neither agreed nor disagreed. Twenty (n = 20, 6.0%) disagreed that they understood the meaning of their life based upon a belief in a greater power, and eleven (n = 11, 3.3%) strongly disagreed. When asked to rate their level of religious commitment, based upon the definition of religion being, a structured faith system, followed by commitment and devotion; fifty six percent (n = 56, 16.7%) identified themselves to be very religious. Forty three point six (43.6% or n = 146) said they were moderately religious, with twenty (n = 20, 6.0%) undecided about religion and twenty four (n = 24, 7.2%) self reporting as being not at all religious. Twenty nine (n = 29, 8.7%) of study subjects reported attending religious services several times per week. Seventy eight (n = 78, 23.3%) reported that they very

rarely or never attend a religious service. Ninety nine (n = 99, 29.6%) said they attended a religious service nearly every week, with eighty two (n = 82, 24.5%) attending about once or twice a month, and forty seven (n = 47, 14.0%) about once or twice a year.

Table 2 summarizes the sample characteristics for the variables dealing with religion and spirituality.

Table 2

Summary of Sample Characteristics – Religion and Spirituality

Variable		Number of Subjects	Percent
Total	…….	335	100
Spirituality			
If spirituality is defined as having a sense or power of something greater than self, which of the following would best describe you:			
Very spiritual	……..	95	28.4
Moderately spiritual	……..	135	40.3
A little bit spiritual	……..	75	22.4
Undecided about my spirituality	…….	18	5.4
Not at all spiritual	……..	12	3.6
I believe that some greater power has a purpose for my life:			
Strongly Agree	……..	160	47.8
Agree	……..	110	32.8
Neither Agree nor Disagree	……..	48	14.3
Disagree	……..	8	2.4
Strongly Disagree	……..	9	2.7
Based upon my belief in a greater power, I understand the meaning of my life:			
Strongly Agree	……..	75	22.4
Agree	……..	130	38.8
Neither Agree nor Disagree	……..	99	29.6
Disagree	……..	20	6.0
Strongly Disagree	……..	11	3.3

Religion

If religion is defined as a structured faith system, followed by commitment and devotion, which of the following would best describe you:

Very religious	……..	56	16.7
Moderately religious	……..	146	43.6
A little bit religious	……..	89	26.6
Undecided about religion	……..	20	6.0
Not at all religious	……..	24	7.2

How frequently do you attend religious services:

Several times per week	……..	29	8.7
Nearly every week	……..	99	29.6
Once or twice a month	……..	82	24.5
About once or twice a year	……..	47	14.0
Very rarely or never	……..	78	23.3

N/Categorical Percentage

When surveyed on whether in the past thirty (30) days they have had at least one drink of alcohol, fifty one point nine percent (51.9%, n = 174) of the study subjects reported that they had not consumed alcohol in the past 30 days. Twenty two point four percent (22.4%, n = 75) had consumed alcohol on one or two days, while nineteen point four percent (19.4%, n = 65) had consumed alcohol on three to nine days. Two point seven percent (2.7%, n = 9) had consumed alcohol on twenty or more days. A small portion of study subjects had also had five or more drinks of alcohol in a row, that is within a couple of hours (i.e. binge drinking), in the past thirty days (1.5%, n = 5). Two hundred and twenty five (n = 225, 67.2%) had not binge drank within the past thirty days. The majority of study subjects had not driven a car or other vehicle when they had been drinking alcohol, within the past thirty days (n = 305, 91.0%). When surveyed on whether they have had sexual intercourse outside of the confines of marriage, two hundred and forty six (n = 246, 73.4%) responded yes. Eighty five (n = 85, 25.4%) self reported as never having sexual intercourse. Eight point four percent (8.4%, n = 28) reported to have sex on or before the age of fourteen. With forty six point nine percent (46.9%, n = 157) having sex for the first time between the ages of fifteen (15) and seventeen (17) and eighteen point eight percent (18.8%, n = 63) having intercourse for the first time between the ages of eighteen (18) and twenty one (21). Within the past three months, twelve point eight percent (12.8%, n = 43) self reported as not having sex. One hundred and fifty six study subjects (n = 156, 46.6%) reported as having only one sexual partner, with four point five (4.5%, n = 15) of subjects self reporting to have had sexual intercourse with four (4) or more people in the past three months. One hundred

and sixty one (n = 161, 48.1%) subjects reported using a condom the last time they had sexual intercourse, while eighty nine (n = 89, 26.6%) reported no condom usage during the last time of sexual intercourse.

Table 3 summarizes the sample characteristics for the variables dealing episodic and heavy drinking and sexual behaviors.

Table 3

Summary of Sample Characteristics – Episodic and Heavy Drinking and Sexual Behaviors

Variable		Number of Subjects	Percent
Total	…….	335	100
Episodic and Heavy Drinking			
During the past 30 days, on how many days did you have at least one drink of alcohol?			
0 days	……..	174	51.9
1 or 2 days	……..	75	22.4
3 to 9 days	……..	65	19.4
10 to 19 days	……..	12	3.6
20 or more days	……..	9	2.7
During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is within a couple of hours?			
0 days	……..	225	67.2
1 or 2 days	……..	64	19.1
3 to 9 days	……..	33	9.9
10 to 19 days	……..	8	2.4
20 or more days	……..	5	1.5
During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?			
0	……..	305	91.0
1 time	……..	12	3.6
2 or 3 times	……..	16	4.8
4 or 5 times	……..	2	.6
6 or more times	……..	0	.0

Sexual Behaviors

Outside the confines of marriage, have you ever had sexual intercourse?

yes	……..	246	73.4
no	……..	89	26.6

How old were you when you had sexual intercourse for the first time?

I have never had sexual intercourse	……..	85	25.4
14 years or younger	……..	28	8.4
15 to 17 years old	……..	157	46.9
18-21 years old	……..	63	18.8
22 years or older	……..	2	.6

During the past 3 months, with how many people have you had sexual intercourse?

I have never had sexual intercourse	……..	85	25.4
I have had sex, but not during the past 3 months …		43	12.8
1 person	……..	156	46.6
2 to 3 people	……..	36	10.7
4 or more people	……..	15	4.5

The last time you had sexual intercourse; did you or your partner use a condom?

I have never had sexual intercourse	……..	85	25.4
yes	……..	161	48.1
no	……..	89	26.6

N/Categorical Percentage

Analysis of Study Purpose

The purpose of this study was to examine the relationship between spirituality and religion, and selected risk-taking factors in college underclassmen. All data analysis was conducted with Statistical Package for the Social Sciences (SPSS) (15.0). The research questions were addressed using cross tabulations and chi-square test of independence that calculated comparing frequencies. Significance level for all statistical procedures was set at the alpha = .05 level. Only those results that yielded statistically significant findings were addressed in chapter four of this research effort.

Results

A significant relationship was found between the definition of religion and definition of spirituality. A chi-square test was calculated comparing level of spirituality and the level of religion within the study population. A significant interaction was found ($\chi 2$ (16) = 238.295, $p < .01$). A statistically significant interaction was found between religion and spirituality at the alpha = .01 level ($p < .001$). Eighty seven point four percent (87.4%, n = 83) of respondents who were very spiritual also reported as being very or moderately religious. Sixty percent (60.0%, n = 81) of moderately spiritual subjects also reported to be moderately religious. Fifty seven point three (57.3%, n = 43) of subjects who reported to be a little bit religious also reported to be a little bit spiritual. Only a total of five respondents (n = 5) who reported to be very spiritual identified themselves as either not at all religious, or undecided about religion.

A chi-square test was calculated comparing level of spirituality and sexual intercourse outside the confines of marriage. A significant interaction was found ($\chi 2$ (4)

= 10.399, $p < .05$). Sixty four point two percent (64.2%, n = 61) of respondents who reported to be very spiritual also reported as having had sex outside the confines of marriage. Seventy one point nine percent (71.9%, n = 97) of respondents who reported to be moderately spiritual also reported as having had sex outside the confines of marriage. Eighty two point seven percent (82.7%, n = 62) of respondents who reported to be a little bit spiritual also reported as having had sex outside the confines of marriage. Subjects who reported to be very spiritual had the highest percentage (35.8%, n = 34) of not having sexual intercourse before marriage. A significant interaction was found at the alpha = .05 level ($p = .034$) between spirituality and sexual intercourse outside the confines of marriage.

Table 4 is a cross tabulation of the operational definition of spirituality and sexual intercourse outside the confines of marriage

Table 4

Cross tabulation of the operational definition of spirituality and sexual intercourse outside the confines of marriage.

Level of Spirituality	Yes – Sex Before Marriage	No - Sex Before Marriage	Chi-Square	DF	P
Very	61 / 64.2%	34 / 35.8%	10.399	4	.034
Moderately	97 / 71.9%	38 / 28.1%			
A little bit	62 / 82.7%	13 / 17.3%			
Undecided	16 / 88.9%	2 / 11.1%			
Not at all	10 / 83.3%	2 / 16.7%			

N/Categorical Percentage

A chi-square test was calculated comparing level of spirituality and the total number of sexual partners in the last three months. A significant interaction was found ($\chi 2$ (16) = 26.820, $p < .05$). Over fifty percent of subjects who reported a very high level of spirituality either reported as never having sex (35.8%, n = 34) or not having sex in the past thirty days (20.0%, n = 19). Of the subjects who reported being very spiritual, thirty one point six percent (31.6%, n = 30) reported having one sexual partner in the past three months as compared to fifty point four percent (50.4%, n = 68) of the subjects who reported to be moderately spiritual. A significant interaction was found at the alpha = .05 level ($p = .044$) between spirituality and the total number of sexual partners in the past three months.

Table 5 is a cross tabulation of the operational definition of spirituality and the number of sexual partners in the past three months.

Table 5

Cross tabulation of the operational definition of spirituality and the number of sexual partners in the last three months.

Level of Spirituality	Never Had Sex	Yes, But not in the past 30 days	1	2 – 3	≥4
Very	34/35.8%	19/20.0%	30/31.6%	8/8.4%	4/4.2%
Moderately	35/25.9%	13/9.6%	68/50.4%	13/9.6%	6/4.4%
A little bit	13/17.3%	8/10.7%	38/50.7%	12/16.0%	4/4.2%
Undecided	1/5.6%	2/11.1%	13/72.2%	1/5.6%	1/5.6%
Not at all	2/16.7%	1/8.3%	7/58.3%	2/16.7%	0/0%

N/Categorical Percentage

Table 5 Continued

Cross tabulation of the operational definition of spirituality and the number of sexual partners in the last three months.

Level of Spirituality X Recent Sexual Partners	Chi-Square	DF	P
	26.820	16	.044

A chi-square test was calculated comparing level of spirituality and condom usage during the last time of sexual intercourse. A significant interaction was found ($\chi 2$ (8) = 16.186, $p < .05$). Subjects who were very spiritual were either more likely to not have sex (35.8%, n = 34) or use a condom (38.9%, n = 37) as opposed to not using a condom during their last time of sexual intercourse (25.3%, n = 24). Fifty four point seven percent (54.7% or n = 41) of those subjects who identified as being a little bit spiritual reported using a condom the last time they had sexual intercourse. Fifty percent (50%, n = 9) of those who were undecided about their spirituality reported as not using a condom the last time they had sexual intercourse. A significant interaction was found at the alpha = .05 level ($p = .040$) between spirituality and condom usage during the last time of sexual intercourse.

Table 6 is a cross tabulation of the operational definition of spirituality and condom usage during the last time of sexual intercourse.

Table 6

Cross tabulation of the operational definition of spirituality and condom usage

Level of Spirituality	Never Had Sex	Yes Condom	No Condom	Chi-Square	DF	P
Very	34 / 35.8%	37 / 38.9%	24 / 25.3%	16.186	8	.040
Moderately	35 / 25.9%	68 / 50.4%	32 / 23.7%			
A little bit	13 / 17.3%	41 / 54.7%	21 / 28.0%			
Undecided	1 / 5.6%	8 / 44.4%	9 / 50.0%			
Not at all	2 / 16.7%	7 / 58.3%	3 / 25.0%			

N/Categorical Percentage

A chi-square test was calculated comparing level of religion and sexual intercourse outside the confines of marriage. A significant interaction was found ($\chi 2$ (4) = 20.875, $p < .01$). Those subjects who self indentified to be very religious were almost as likely to *not* have sex outside of the confines of marriage (n = 27, 48.2%) as they were to have sex outside of the confines of marriage (n = 29, 51.8%). Seventy two point six percent (72.6%, n = 106) of subjects who identified to be moderately religious have had sexual intercourse outside the confines of marriage. Approximately a fourth of those who reported to be moderately religious (n = 40, 27.4%) have *not* had sex outside the confines of marriage. Eighty five point four percent (85.4%, n = 76) of subjects who identified themselves as a little bit religious reported as having participated in sexual intercourse outside of the confines of marriage. A significant interaction was found at the alpha = .01 level ($p < .001$) between religion and sexual intercourse outside of the confines of marriage.

Table 7 is a cross tabulation of the operational definition of religion and sexual intercourse outside of the confines of marriage.

Table 7

Cross tabulation of the operational definition of religion and sexual intercourse outside the confines of marriage

Level of Religion	Yes – Sex Before Marriage	No - Sex Before Marriage	Chi-Square	DF	P
Very	29 / 51.8%	27 / 48.2%	20.875	4	<.001
Moderately	106 / 72.6%	40 / 27.4%			
A little bit	76 / 85.4%	13 / 14.6%			
Undecided	16 / 80.0%	4 / 20.0%			
Not at all	19 / 79.2%	5 / 20.8%			

N/Categorical Percentage

A chi-square test was calculated comparing level of religion and the age of sexual intercourse for the first time. A significant interaction was found ($\chi 2$ (16) = 26.667, $p < .05$). Forty eight point two percent (n = 27, 48.2%) of those subjects who reported to be very religious, have never had sexual intercourse. Twenty five point three percent (n = 37, 25.3%) of those subjects who reported to be moderately religious, have never had sexual intercourse. The majority of respondents who identified to be both very religious and as having sexual intercourse, were between the ages of fifteen and seventeen (30.4%, n = 17). The majority of respondents who identified to be both moderately religious and as having sexual intercourse, were between the ages of fifteen and seventeen (44.5%, n = 65). Overall, regardless of level of religion, the majority of respondents had sexual intercourse for the first time between the ages of fifteen and seventeen (n = 157, 46.9%). A significant interaction was found at the alpha = .05 level (p = .026) between religion and age of sexual intercourse for the first time.

Table 8 is a cross tabulation of the operational definition of religion and the age of sexual intercourse for the first time.

Table 8

Cross tabulation of the operational definition of religion and the age of sexual intercourse for the first time.

Level of Religion	Never Had Sex	14 years or younger	15 – 17	18 – 21	22 years or older
Very	27/48.2%	3.5/4%	17/30.4%	9/16.1%	0/0%
Moderately	37/25.3%	12/8.2%	65/44.5%	31/21.2%	1/.7%
A little bit	13/14.6%	9/10.1%	54/60.7%	12/13.5%	1/1.1%
Undecided	3/15.0%	2/10.0%	10/50.0%	5/25.0%	0/0%
Not at all	5/20.8%	2/8.3%	11/45.8%	6/25.0%	0/0%

N/Categorical Percentage

Table 8 Continued

Cross tabulation of the operational definition of spirituality and the age of sexual intercourse for the first time.

Level of Religion X Age of First Intercourse	Chi-Square	DF	P
	26.667	16	.026

A chi-square test was calculated comparing level of religion and the total number of sexual partners in the past three months. A significant interaction was found ($\chi 2$ (16) = 38.973, $p < .01$). Forty eight point two percent (48.2%, n = 27) of those subjects who reported to be very religious, have never had sexual intercourse. Twenty five point three percent (n = 37, 25.3%) of those subjects who reported to be moderately religious, have never had sexual intercourse. Of the subjects who reported to have sex in the past three months and identified themselves as very religious, the majority had only one partner (n = 19, 33.9%). Of the subjects who reported to have sex in the past three months and identified themselves as moderately religious, overwhelmingly the majority had only one partner (n = 65, 44.5%). Overall, regardless of level of religion, the majority of respondents had only one sexual partner in the past three months (n = 156, 46.6%). Seven point five percent (7.5%, n =11) of those subjects who identified as being moderately religious had four or more ($4 \leq$) sexual partners in the past three months. A significant interaction was found at the alpha = .01 level ($p < .001$) between religion and total number of sexual partners in the past three months.

Table 9 is a cross tabulation of the operational definition of religion and the number of sexual partners in the past three months.

Table 9

Cross tabulation of the operational definition of religion and the number of sexual partners in the last three months.

Level of Religion	Never Had Sex	Yes, But not in the past 30 days	1	2 – 3	≥4
Very	27/48.2%	8/14.3%	19/33.9%	2/3.6%	0/0%
Moderately	37/25.3%	20/13.7%	65/44.5%	13/8.9%	11/7.5%
A little bit	13/14.6%	10/11.2%	48/53.9%	16/18.0%	2/2.2%
Undecided	3/15.0%	3/15.0%	11/55.0%	1/5.0%	2/10.0%
Not at all	5/20.8%	2/8.3%	13/54.2%	4/16.7%	0/0%

N/Categorical Percentage

Table 9 Continued

Cross tabulation of the operational definition of religion and the number of sexual partners in the last three months.

Level of Religion X Recent Sexual Partners	Chi-Square	DF	P
	38.973	16	.001

A chi-square test was calculated comparing level of religion and condom usage during the last time of sexual intercourse. A significant interaction was found ($\chi 2$ (8) = 25.860, $p < .01$). Forty eight point two percent (n = 27, 48.2%) of those subjects who reported to be very religious, have never had sexual intercourse. Twenty five point three percent (n = 37, 25.3%) of those subjects who reported to be moderately religious, have never had sexual intercourse. Thirty nine point three percent (39.3%, n = 22) of subjects who identified to be very religious used a condom the last time they had sexual intercourse, as opposed to twelve point five percent (12.5%, n = 7) who reported no condom usage during the last time of sexual intercourse. A similar difference in frequency distribution was found in those subjects who reported to be moderately religious and a little bit religious. Forty nine point three percent (49.3%, n = 72) of subjects who identified to be moderately religious used a condom the last time they had sexual intercourse, as opposed to twenty five point three percent (25.3%, n = 37) who reported no condom usage during the last time of sexual intercourse. Forty nine point four percent (49.4%, n = 44) of subjects who identified to be a little bit religious used a condom the last time they had sexual intercourse, as opposed to thirty six percent (36.0%, n = 32) who reported no condom usage during the last time of sexual intercourse. A significant interaction was found at the alpha = .01 level ($p < .001$) between religion and condom usage during the time of last sexual intercourse.

Table 10 is a cross tabulation of the operational definition of religion and condom usage during the time of last sexual intercourse.

Table 10

Cross tabulation of the operational definition of religion and condom usage

Level of Spirituality	Never Had Sex	Yes Condom	No Condom	Chi-Square	DF	P
Very	27 / 48.2%	22 / 39.3%	7 / 12.5%	25.860	8	.001
Moderately	37 / 25.3%	72 / 49.3%	37 / 25.3%			
A little bit	13 / 14.6%	44 / 49.4%	32 / 36.0%			
Undecided	3 / 15.0%	12 / 60.0%	5 / 25.0%			
Not at all	5 / 20.8%	11 / 45.8%	8 / 33.3%			

N/Categorical Percentage

A chi-square test was calculated comparing attendance at religious services and sexual intercourse outside the confines of marriage. A significant interaction was found ($\chi 2$ (4) = 18.075, $p < .01$). Subjects who very rarely or never attended a religious service showed the highest frequency of sexual intercourse outside of the confines of marriage (n = 64, 82.1%). Subjects who attended a religious service several times per week showed the lowest frequency of sexual intercourse outside of the confines of marriage (n = 13, 44.8)%. A significant interaction was found at the alpha = .01 level ($p < .001$) between attendance at religious services and sexual intercourse outside the confines of marriage.

Table 11 is a cross tabulation of attendance at religious services and sexual intercourse outside the confines of marriage.

Table 11

Cross tabulation of frequency of attendance at religious services and sexual intercourse outside the confines of marriage

Frequency of Attendance	Yes – Sex Before Marriage	No - Sex Before Marriage	Chi-Square	DF	P
Several Times Per Week	13/44.8%	16/55.2%	18.075	4	.001
Nearly Every Week	69/69.7%	30/30.3%			
Once or Twice a Month	61/74.4%	21/25.6%			
About Once or Twice a Year	39/83.0%	8/17.0%			
Very Rarely or Never	64/82.1%	14/17.9%			

N/Categorical Percentage

A chi-square test was calculated comparing attendance at religious services and the age of sexual intercourse for the first time. A significant interaction was found ($\chi 2$ (16) = 34.872, $p < .01$). Fifty five point two percent (55.2%, n = 16) of subjects who attend a religious service several times per week have not had sexual intercourse. Approximately seventeen percent (17.2%, n = 5) of subjects who have had sex and attend a religious service several times per week, had intercourse for the first time between the ages of eighteen (18) and twenty one (21). Twenty nine point three percent (29.3%, n = 29) of subjects who attend a religious service nearly every week have not had sexual intercourse. Approximately fifty percent (50.5%, n = 50) of subjects who have had sex and attend a religious service nearly every week, had intercourse for the first time between the ages of fifteen (15) and seventeen (17). Twenty four point four percent (24.4%, n = 20) of subjects who attend a religious service once or twice a month have not had sexual intercourse. The highest frequency of sexual intercourse at an early age (14 ≤) occurred in those subjects who attended religious services about once or twice a year (14.9%, n = 7). A significant interaction was found at the alpha = .01 level ($p = .004$) between frequency of attendance at religious services and the age of sexual intercourse for the first time.

Table 12 is a cross tabulation of attendance at religious services and the age of sexual intercourse for the first time.

Table 12

Cross tabulation of frequency of attendance at religious services and the age of sexual intercourse for the first time

Frequency of Attendance	Never Had Sex	14 years or younger	15 – 17	18 – 21	22 years or older
Several Times Per Week	16/55.2%	1/3.4%	7/24.1%	5/17.2%	0/0%
Nearly Every Week	29/29.3%	6/6.1%	50/50.5%	13/13.1%	1/1.0%
Once or Twice a Month	20/24.4%	6/7.3%	38/46.3%	18/22.0%	0/0%
About Once or Twice a Year	7/14.9%	7/14.9%	27/57.4%	5/10.6%	1/2.1%
Very Rarely or Never	13/16.7%	8/10.3%	35/44.9%	22/28.2%	0/0%

N/Categorical Percentage

Table 12 Continued

Cross tabulation of frequency of attendance at religious services and the age of sexual intercourse for the first time

Level of Religion X Age of First Intercourse	Chi-Square	DF	P
	34.872	16	.004

A chi-square test was calculated comparing attendance at religious services and the total number of sexual partners in the past three months. A significant interaction was found ($\chi 2$ (16) = 37.971, $p < .01$). Over seventy five percent (75+%) of subjects who reported attending a religious service several times per week either reported never having sexual intercourse (55.2%, n = 16) or not having sexual intercourse in the past three months (24.1% or n = 7). Forty five point five percent (45.5%, n = 45) of respondents who attended a religious service nearly every week reported as having only one sexual partner in the past three months. This frequency count of having one sexual partner in the past three months was relatively stable, with those who attended a religious service once or twice a month (48.8%, n = 40) reporting approximately the same as those attending a service once or twice a year (48.9%, n = 23) or those attending a service very rarely or never (56.4%, n = 44). A significant interaction was found at the alpha = .01 level ($p = .002$) between frequency of attendance at religious services and the total number of sexual partners in the past three months.

Table 13 is a cross tabulation of attendance at religious services and the number of sexual partners in the past three months.

Table 13

Cross tabulation of frequency of attendance at religious services and the number of sexual partners in the last three months.

Frequency of Attendance	Never Had Sex	Yes, But not in the past 30 days	1	2 – 3	≥4
Several Times Per Week	16/55.2%	7/24.1%	4/13.8%	1/3.4%	1/3.4%
Nearly Every Week	29/29.3%	12/12.1%	45/45.5%	7/7.1%	6/6.1%
Once or Twice a Month	20/24.4%	7/8.5%	40/48.8%	11/13.4%	4/4.9%
About Once or Twice a Year	7/14.9%	6/12.8%	23/48.9%	7/14.9%	4/8.5%
Very Rarely or Never	13/16.7%	11/14.1%	44/56.4%	10/12.8%	0/0%

N/Categorical Percentage

Table 13 Continued

Cross tabulation of frequency of attendance at religious services and the number of sexual partners in the last three months.

Level of Religion X Recent Sexual Partners	Chi-Square	DF	P
	37.971	16	.002

A chi-square test was calculated comparing attendance at religious services and condom usage during the last time of sexual intercourse. A significant interaction was found ($\chi 2$ (8) = 29.905, $p < .01$). Fifty five point two percent (55.2%, n = 16) of subjects who attend a religious service several times per week have not had sexual intercourse. Of the subjects who had sex and attend a religious service several times per week, twenty seven point six percent (27.6%, n = 8) used a condom the last time they had sex, while seventeen point two percent (17.2%, n = 5) did not use a condom the last time they had sex. Sixteen point seven percent (16.7%, n = 13) of subjects who reported to very rarely or never attend a religious service have not had sexual intercourse. Of the subjects reported to very rarely or never attend a religious service, forty eight point seven percent (48.7%, n = 38) used a condom the last time they had sex, while thirty four point six percent (34.6%, n = 27) did not use a condom the last time they had sex. A significant interaction was found at the alpha = .01 level ($p < .001$) between frequency of attendance at religious services and condom usage during the last time of sexual intercourse.

Table 14 is a cross tabulation of attendance at religious services and condom usage during the last time of sexual intercourse.

Table 14

Cross tabulation of frequency of attendance at religious services and condom usage

Frequency of Attendance	Never Had Sex	Yes Condom	No Condom	Chi-Square	DF	P
Several Times Per Week	16/55.2%	8/27.6%	5/17.2%	29.905	8	<.001
Nearly Every Week	29/29.3%	47/47.5%	23/23.2%			
Once or Twice a Month	20/24.4%	35/42.7%	27/32.9%			
About Once or Twice a Year	7/14.9%	33/70.2%	7/14.9%			
Very Rarely or Never	13/16.7%	38/48.7%	27/34.6%			

N/Categorical Percentage

Summary

Of the 335 (N = 335) subjects who participated in the study the majority of the respondents self identified to be between the ages of 18-19 (n = 253, 75.5%) and a college freshman (n = 219, 65.4%). A larger portion of the sample was female (n = 174, 51.9%), with males being the smaller portion (n = 161, 48.1%). Eighty five point one percent (85.1%) of the sample self-reported as being white – not Hispanic (n = 285). Eight point seven percent (8.7%) self reported as black – not Hispanic (n = 29).

When surveyed whether they would consider themselves spiritual, when spirituality was defined as having a sense or power of something greater than self, exactly forty point three percent (40.3%, n = 135) classified themselves as moderately spiritual. Twenty eight point four percent (28.4%, n = 95) self identified as being very spiritual. Five point four percent (5.4%, n = 18) were undecided about their spirituality. When surveyed whether they believed that some greater power had a purpose for their life, one hundred and sixty (n = 160, 47.8%) strongly agreed. One hundred and ten (n = 110, 32.8%) subjects agreed, forty eight (n = 48, 14.3%) neither agreed nor disagreed. Eight subjects (n = 8, 2.4%) disagreed and nine (n = 9, 2.7%) strongly disagreed. When subjects were questioned if they understood the meaning of their life, based upon their belief in a greater power, the majority of respondents agreed they did (n = 130, 33.8%). Seventy five (n = 75, 22.4%) strongly agreed and ninety nine (n = 99, 29.6%) neither agreed nor disagreed. When asked to rate their level of religious commitment, based upon the definition of religion being, a structured faith system, followed by commitment and devotion, fifty six (n = 56, 16.7%) identified themselves to be very religious. Forty

three point six (43.6%, n = 146) said they were moderately religious, with twenty (n = 20, 6.0%) undecided about religion. Twenty nine percent (n = 29, 8.7%) of the study subjects reported attending religious services several times per week. Seventy eight (n = 78, 23.3%) reported that they very rarely or never attended a religious service. Ninety nine (n = 99, 29.6%) said they attended a religious service nearly every week, with eighty two (n = 82, 24.5%) attending a religious service about once or twice a month.

When surveyed on whether in the past thirty (30) days they have had at least one drink of alcohol, fifty one point nine percent (51.9%, n = 174) reported that they had not consumed any alcohol in the past 30 days. A small portion of study subjects had also had five or more drinks of alcohol in a row, that is within a couple of hours in the past thirty days (1.5%, n = 5). The majority of study subjects had not driven a car or other vehicle when they had been drinking alcohol, within the past thirty days (n = 305, 91.0%).

When surveyed on whether they have had sexual intercourse outside of the confines of marriage, two hundred and forty six (n = 246, 73.4%) responded yes. Eighty five (n = 85, 25.4%) self reported as never having sexual intercourse. Eight point four percent (8.4%, n = 28) reported to have sex on or before the age of fourteen. With forty six point nine percent (46.9%, n = 157) having sex for the first time between the ages of fifteen (15) and seventeen (17) and eighteen point eight (18.8%, n = 63) having intercourse for the first time between the ages of eighteen (18) and twenty one (21). Within the past three months, twelve point eight percent (12.8%, n = 43) self reported as not having sex. One hundred and fifty six study subjects (n = 156, 46.6%) reported as having only one sexual partner with four point five (4.5%, n = 15) of subjects self reporting to have had

sexual intercourse with four (4) or more people in the past three months. One hundred and sixty one (n = 161, 48.1%) subjects reported using a condom the last time they had sexual intercourse.

Chapter 5
Summary, Discussion of Findings, and Implications

The purpose of this study was to examine the relationship between spirituality and religion, and selected risk-taking factors in college underclassmen. The risk behaviors that were under examination during this research effort were episodic and heavy drinking and sexual behaviors. The demographic variables of interest were: gender, race, age, marital status, and university classification. The study questionnaire consisted of five (5) demographic questions created by the researcher, five (5) researcher created questions related to spiritual and religious well-being, and seven (7) questions purposefully selected from the Youth Risk Behavior Surveillance System (YRBSS) (CDC, 2007). Prior to this research effort, there were no studies that examined the relationship between levels spirituality, religiosity, and religion, and their perceived impact on risk taking factors, while delineating these variables to the college underclassmen.

Discussion of Findings

Analysis of the data revealed the following major findings regarding the relationship between religion and spirituality, and risk taking factors in college underclassmen. A significant interaction was found between the operational definition of spirituality and the operational definition of religion. Significant interactions were found between all of the selected sexual risk taking behaviors and both measures of religion (i.e. operational definition and frequency of church attendance). No significant interaction was found between the operational definition of spirituality and age of sexual intercourse for the

first time. Significant interactions were found between sex outside the confines of marriage, total number of sexual partners in the past three months, sex and condom usage, and the operational definition of spirituality. No significant interactions were found between any form of alcohol usage and any of the measures of spirituality or religion.

1. While, "Empirical studies have identified significant links between religion and spirituality, the reasons for these associations, however, are unclear" (Hill & Pargament, 2003; p. 64). In this study it could be postulated that this strong relationship between religion and spirituality is due to the geographic location in which the study instrument was administered. The geographic region in which the instrument was administered is frequently referred to as the "Bible belt." We can generalize that a majority of study subjects come from rural, traditional familial units, have Judeo-Christian values, and conservative cultural backgrounds. The findings of the relationship between spirituality and religious orientation would suggest these study subjects view spirituality and religion as variables that are dependent on one another. It is important to clarify that within the published literature, levels of religion or the practice of an organized religion is seen as an example of one's spirituality, subsequently we can surmise that among this population there is a strong relationship between spirituality and religion (Adams, et al., 2000; Donatelle, 2004; Fahey, Insel, & Roth, 2005; Hales, 2005). However, it is important to note, "…that religious/spiritual variables cannot simply be combined into a single scale that examines the effects of a single

variable, ‘religiosity’; rather each relevant dimension of religiousness and spirituality should be examined separately for its effects on physical and mental health” (Fetzer Institute, 2003; p. 2).

2. The findings of this study appear to be contradictory to other studies that have shown higher rates of alcohol use on college campuses nationwide (CDC, 2007). However, findings from this study appear to be approximately normative to state wide data (West Virginia), in regards to alcohol use while operating a motor vehicle and binge drinking (CDC, 2007). This phenomenon could suggest that levels of alcohol use on college campuses are overinflated nationwide or that the sampled participants of this study population are not representative of other university students, from a nationwide sample. An assumption would also need to be made that subjects were honest in all of their responses. Response frequencies were skewed among the study population, with low levels of alcohol usage reported among all alcohol related indices. When cross tabulated with all measures of spirituality and religion, risk behaviors related to alcohol reported statistically insignificant on all data indices. Another point for consideration is the relatively young age of the college undergraduates sampled, where seventy five point percent (75.5%) of respondents were between the ages of eighteen (18) and nineteen (19) and sixty five point five percent (65.5%) were college freshman. It could be postulated that chronologically older college undergraduates abuse alcohol with higher frequencies then younger college undergraduates.

3. Results from this study showed no significant interaction between the definition of spirituality or other study measures of spirituality and any form of risk behavior related to alcohol usage. In studies utilizing adolescents, high levels of spiritual well being have been found to be negatively correlated for involvement in self-reported alcohol or other drug usage (Synovitz, et al., 2006; Stewart, 2001; Hammermeister, et al., 2001; Holder, et al., 2000). No such relationship could be established from the self reported data in this study.
4. Results from this study showed no significant relationship between the definition of religion or other study measures of religion and any form of risk behavior related to alcohol usage. In studying religion, researchers have found that high levels of religion are associated with a number of positive outcomes including, but not limited to, less drug abuse and alcohol abuse (Byrd & Swanson, 1998; Knox, Langehough, Walters Rowley, 1998). Other studies have shown that religion has been found to be an important predictive factor for high risk behaviors in young adults. Specifically, high levels of religion have been found to be associated with lower levels of cocaine, marijuana, alcohol, and cigarette use among young adults (Dunn, 2005). However, in regards to the findings from this study, a caveat should be considered here because of the disproportionate number of respondents who reported very low levels of alcohol usage, as compared with longitudinal national data. Further research must be undertaken with a more representative sample to definitively address the relationship between

levels of religious orientation and alcohol use among college undergraduate students.

5. Significant interactions were found between all of the selected sexual risk taking behaviors and both measures of religion. A relationship was found between level of religious orientation, frequency of church attendance, and the sexual risk taking behaviors addressed in this study. Individuals who identified themselves as highly religious were less likely to participate in selected sexual risk behaviors. Individuals who more frequently attended a religious service were more likely to not engage in selected sexual risk behaviors. College undergraduates who regularly attend a religious service and have high levels of religious orientation are less likely to engage in selected sexual risk taking behaviors. These findings support the work of Zaleski and Schiaffino (2000) who wrote, "Many adolescents may not engage in risk-related behaviors due to their religious beliefs and proscriptions of their faith" (p. 223).
6. Those measures of spirituality that addressed meaning of life and purpose of life based upon influence by a greater power, showed no significant interaction with any of the selected risk taking behaviors. These findings would neither support nor directly contradict the findings from other studies that have demonstrated that those adolescents who have been found to self-report as having a sense of spiritual connectedness have lower levels of voluntary sexual activity (Synovitz, et al., 2006; Stewart, 2001; Hammermeister, et al., 2001; Holder, et al., 2000). These findings could lead to question whether the college undergraduates in this

study cognitively engage in self-appraisal of meaning or purpose of one's life. A further study limitation could be whether or not the items on the study instrument served as accurate measures for meaning or purpose in life, for this population.

7. No significant interaction was found for the definition of spirituality and age of sexual intercourse for the first time ($\chi 2$ (16) = 19.041, $p > .05$) ($p = .267$). Significant interactions were found between all other measures of sex related risk behaviors and the operational definition of spirituality. Independent of spiritual orientation, the majority of respondents who have had sex, did so for the first time between the ages of fifteen (15) and seventeen (17) (n = 157, 46.9%). Eighty five subjects (n = 85, 25.4%) regardless of spiritual orientation have never had sex. With twenty eight (n = 28, 8.4%) having sex for the first time before the age of fourteen and sixty three subjects (n = 63, 18.8%) having sex for the first time between the ages of eighteen (18) and twenty one (21). It could be postulated that this lack of significance is due to the time frame of reference in which the question was posed. Other study questions related to sexual behaviors were phrased, "within the last three months." It is feasible that researchers must consider the relationship between spirituality and risk taking behaviors in terms of time and references of times. The implications and functioning of one's spirituality is obviously very fluid.
8. Significant interactions were found between sex outside the confines of marriage, total number of sexual partners in the past three months, sex and condom usage, and the definition of spirituality. With all of the before mentioned sexual risk

taking behaviors, level of spiritual orientation appeared to serve as a predictor. This is, as the frequencies of spiritual orientation decreased (e.g. very, moderate, a little bit, undecided, not at all) the frequencies of involvement in selected sexual risk taking behaviors increased.

9. Within this study population, religion, religious commitment and spirituality influenced the involvement of selected college underclassmen and their involvement in sexual risk taking behaviors. Those who self reported to be both highly spiritual and highly religious were less likely to engage in sexual risk taking behaviors. Those who more frequently attended a religious service were less likely to engage in sexual risk taking behaviors.

Implications for Further Research

The following are implications for the health educator:

It could be suggested that spiritual health as a construct or dimension of health has not been explored, researched, grounded in theory, adequately defined, or integrated in the discipline of health education or health promotion (Hawks, 1994). In examining spirituality as a construct for the health educator, many contradictory and diverse ideas have been postulated. However, most agree that spirituality has a "role" in one's health. Synovitz, Gillian, Wood, Martin-Nordess, and Kelly (2006) wrote that, "Spiritual health/spirituality has long been considered an important component of holistic health and wellness" (p. 88). In supporting the work of Synovitz, et al., research reflects that the multidimensionality or dimensions of health and wellness include spirituality or spiritual

health as a key construct of holistic health (Donatelle, 2004; Fahey, Insel, & Roth, 2005; Hales, 2005). For health educators to more acutely use spirituality related concepts, some important research must first be undertaken.

Researchers and practitioners must consider the relationship between spirituality and risk taking behaviors in terms of time and references of times. The implications and functioning of one's spirituality is obviously very fluid. Further consideration should be giving to the fluid nature of spirituality and the affect of one's spirituality on their religious practices at given points or references in time.

Hill & Pargament (2003) write that, "Typically, religion and spirituality have been measured by global indices (e.g. frequency of church attendance, self-rated religiousness and spirituality) that do not specify how or why religion and spirituality affect health" (p. 64). In discussing the difficulty of empirically studying spiritual health, Bensley (1991) writes that a major limitation is that there is no singularly recognized definition of spiritual health. This lack of one singularly recognized definition is a major limitation in studying the relationship between spiritual health and risk taking factors in college undergraduates. For further empirical study of spirituality to take place, a more universally recognized definition of spirituality must be accepted. The lack of a singularly recognized definition has caused spirituality related research to be seen as a very vague and nebulous concept. Furthermore, a major limitation in spirituality related research is the lack of a study instrument that addresses the multidimensional nature of spirituality.

Further research needs to be undertaken in populations where a more clear distinction can be made between spirituality and religion. Among this study population little variation occurred between frequencies in religious and spiritual orientation. A highly significant interaction was found in this study between these two variables ($p < .001$).

Larger more cross sectional samples are needed that are more representative of college undergraduates as a whole. This sample consisted primarily of white – non Hispanics (85.1%), eighteen (18) to nineteen (19) year olds (75.5%), and college freshman (65.5%).

Another future research objective would be to examine the relationship between spirituality and religion and a broader category of risk taking behaviors. Specifically those risk taking behaviors that carry more immediate risks or are of greater salience. Research also needs to be undertaken that identifies the role of spirituality as a protective factor among college undergraduate students and how or if the health educator can use this in academic settings.

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Appendix A

Instrument

Directions: Mark your response on the answer form that best describes you.

The first set of questions deal with demographic information:

1. My gender is:
a.) Female
b.) Male

2. My race is:
classification is:
a.) Black – not Hispanic
b.) White – not Hispanic
c.) Hispanic or Latino
d.) Asian or Pacific Islander
e.) Other

3. My age is:
a.) 17 or younger
b.) 18-19
c.) 20-21
d.) 22-24
e.) 25 or older

4. Are you currently married?
a.) Yes
b.) No

5. My Concord University

a.) Freshman
b.) Sophomore
c.) Junior
d.) Senior
e.) Other

The next set of questions deal with spiritual and religious orientation:

6. If spirituality is defined as having a sense or power of something greater than self, which of the following would best describe you?
a.) Very spiritual
b.) Moderately spiritual
c.) A little bit spiritual
d). Undecided about my spirituality
e.) Not at all spiritual

7. I believe that some greater power has a purpose for my life:
a.) Strongly Agree
b.) Agree
c.) Neither Agree or Disagree
d.) Disagree
e.) Strongly Disagree

8. Based upon my belief in a greater power, I understand the meaning of my life:
a.) Strongly Agree
b.) Agree
c.) Neither Agree or Disagree
d.) Disagree
e.) Strongly Disagree

9. If religion is defined as a structured faith system, followed by commitment and devotion, which of the following would best describe you:
a.) Very religious
b.) Moderately religious
c.) A little bit religious
d). Undecided about religion
e.) Not at all religious

10. How frequently do you attend religious services?
a.) Several times per week
b.) Nearly every week
c.) Once or twice a month
d.) About once or twice a year
e.) Very rarely or never

The next set of questions deal with personal behaviors.
11. During the past 30 days, on how many days did you have at least one drink of alcohol?
a.) 0 days
b.) 1 or 2 days
c.) 3 to 9 days
d.) 10 to 19 days
e.) 20 or more days

12. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is within a couple of hours?
a.) 0 days
b.) 1 or 2 days
c.) 3 to 9 days
d.) 10 to 19 days
e.) 20 or more days

13. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?
a.) 0
b.) 1 time
c.) 2 or 3 times
d.) 4 or 5 times
e.) 6 or more times

14. Outside the confines of marriage, have you ever had sexual intercourse?
a.) yes
b.) no

15. How old were you when you had sexual intercourse for the first time?
a.) I have never had sexual intercourse
b.) 14 years or younger
c.) 15 to 17 years old
d.) 18-21 years old
e.) 22 years or older

16. During the past 3 months, with how many people have you had sexual intercourse?
a.) I have never had sexual intercourse
b.) I have had sexual intercourse, but not during the past 3 months
c.) 1 person
d.) 2 to 3 people
e.) 4 or more people

17. The last time you had sexual intercourse; did you or your partner use a condom?
a.) I have never had sexual intercourse
b.) yes
c.) no

Thank you for your responses!

Appendix B

Informed Consent

Questionnaire Instructions

Instructors:

Thank you for your assistance in this research study. The duration time for this survey procedure is approximately 8 to 10 minutes. Please administer the survey at the beginning of the class period so as to assure accurate results from the participants. Also, please remind each student that s/he should use a **pencil** to mark their responses on the answer sheet. Enclosed in the envelope, you will find a questionnaire and answer sheet for each student in your class that agrees to voluntarily participate. Once the student completes the questionnaire, s/he should return the completed answer sheet and survey to the white envelope. After the administration of the survey, so as to ensure confidentiality, please promptly return the envelopes to the marked box in Anita's office (Carter Center). Thank you again for your willingness to help.
This survey is intended only for those students over the age of 18. Please ask those students under the age of 18 to excuse themselves during the administration of the survey

Please read to Students:

You are being asked to voluntarily participate in a research study being conducted by the Department of Education and Human Performance. This research study is designed to investigate undergraduate university student's perceptions about spirituality, religion, and select risk taking behaviors. The investigator will survey undergraduate students in purposefully sampled courses. All volunteers will be asked to respond to a 17-item questionnaire. Please make all marks on the provided answer sheet.

You may benefit in the participation of this study by increasing your awareness of your spirituality, religion, and involvement in selected risky behaviors. There are no more than minimal risks associated with the completion of this survey.

In regards to confidentiality, your anonymity will be protected because you will not indicate any identifying information about yourself, **including your name,** on the questionnaire associated with the study (Please DO NOT write your name). Your participation in this study is strictly voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. Furthermore, you may stop participating at any time you choose without penalty.

If you have any questions you may contact:

Professor David Campbell at ext. 5331 or via e-mail at dcampbell@concord.edu

Thank you again for your participation in this research effort.

Appendix C

Institutional Review Board Consent

VirginiaTech

Office of Research Compliance
1880 Pratt Drive (0497)
Blacksburg, Virginia 24061
540/231-4358 Fax: 540/231-0959
E-mail: ctgreen@vt.edu
www.irb.vt.edu
FWA00000572(expires 1/20/2010)
IRB# is IRB00000657

DATE: April 27, 2007

MEMORANDUM

TO: Kerry J. Redican
H. David Campbell

FROM: Carmen Green

SUBJECT: **IRB Exempt Approval:** "The Association Among Spirituality, Religion, and Risk-Taking Factors in College Underclassmen" , IRB # 07-243

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of April 27, 2007.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.

2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

cc: File

Hugh David Campbell, PhD

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Athens, WV 24712
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Education:

Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA
Ph.D., Curriculum and Instruction
Dissertation Title: An Examination of the Relationship between Spirituality and Religion and Selected Risk-Taking Behaviors in College Underclassmen
Major Advisor: Kerry Redican, Ph.D., MPH, CHES
GPA: 4.0/4.0

Morehead State University – Morehead, KY
Post-Graduate Studies – sports nutrition, program/curriculum design, development, and evaluation, educational technology, and wellness promotion
GPA: 4.0/4.0

East Carolina University, Greenville, NC
M.A., Health Education and Promotion
Thesis Title: The Association among Selected Factors and Death Anxiety in College Underclassmen.
Major Advisor: W. Michael Felts, Ph.D.
GPA: 3.5/4.0

Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA
B.S., Health and Physical Education
Teaching Endorsement P-12th Grade
GPA: 3.2/4.0

Experience in Higher Education:

Assistant Professor of Health and Physical Education, Division of Education and Human Performance
Concord University, Athens, WV August 2005-present

Assistant Professor of Health and Physical Education, Division of Education
Pikeville College, Pikeville KY August 2002 – July 2005

Department of Health Education and Promotion Graduate Teaching Assistant
East Carolina University, Greenville, NC August 2000 – May 2002

College of Health and Human Performance Researcher
East Carolina University, Greenville**,** NC August 2000 – July 2002

Professional Presentations:

National Presentations:

Campbell, H. D. (2008, April). *Spirituality, Religion, and Risk Taking Factors in College Underclassmen.* Symposium conducted at the National Conference of the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD), Fort Worth, TX.

Campbell, H. D., Campbell, H. A., & Pauley, F. S. (2004, March). *Instructional Methods and Strategies for Incorporating Health Content into a Multidisciplinary Unit.* Symposium conducted at the National Conference of the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD), New Orleans, LA.

Campbell, H. D. (2002, December). *A Comparison of Death Anxiety in College Students before and After 9-11*. Symposium conducted at the Joint Conference of the Association for the Advancement of Educational Research (AAER) and the National Academy for Educational Research (NAER), Ponte Vidra Beach, FL.

State/Regional Presentations:

Campbell, H. D. (2007, October) *Using STRESS as an Instructional Advantage.* Symposium conducted at the State Conference for The West Virginia

Association of Health, Physical Education, Recreation, and Dance (WVAHPERD), Charleston WV.

Campbell, H.D. (2006, October). *The conceptual design and implementation of power based strength and conditioning programs.* Symposium conducted at the State Conference for The West Virginia Association of Health, Physical Education, Recreation, and Dance (WVAHPERD), Huntington WV.

Campbell, H.D. (2006, October). *Using community activation to address school health needs.* Symposium conducted at the State Conference for The West Virginia Association of Health, Physical Education, Recreation, and Dance (WVAHPERD), Huntington WV.

Campbell, H.D. (2006, March). *The role of peer education and peer mediation in preventing alcohol abuse on high school and college campuses*. Workshop Presenter for the 5th Annual WVAEOPP/MEAEOPP Student Leadership Conference, Pipestem WV.

Campbell, H.D. (2005, October). *The Benefits of Community Partnerships in Addressing School Health and Safety Concerns.* Symposium conducted at "Running the Race" the State Conference for The Kentucky Association of Health, Physical Education, Recreation, and Dance (KAHPERD), Louisville, KY.

Huddy, C.D., Leroy, P.C., & Campbell, H. D. (2005, October). *The West Virginia Obesity Epidemic: What Can We Do About It?* Symposium conducted at the State Conference for The West Virginia Association of Health, Physical Education, Recreation, and Dance (WVAHPERD), Flatwoods, WV.

Campbell, H, D. (2004, September). *School Safety: Changing Pre-Service Teacher Curriculum.* Symposium conducted at the 10th Annual Safe Schools, Successful Students Conference. Conference hosted by the Kentucky Center for School Safety (KCSS) and the Kentucky School Board Association (KSBA).

Campbell, H. D., Hall, J. A., Taylor, S.B., & Westray, T. M. (2004, September). *Integrating Themes of Health and Safety into the Pre-Service Teacher Curriculum.* Workshop conducted at the 10th Annual Safe Schools, Successful Students Conference. Conference hosted by the Kentucky Center for School Safety (KCSS), the KCSS Post-Secondary Task-Force, and the Kentucky School Board Association (KSBA).

Campbell, H. D. (2004, October). *No Teacher is an Island*. Paper presented at the "Imagine the Possibilities: Create a Change" Conference hosted

by The Kentucky Association of Health, Physical Education, Recreation, and Dance (KAHPERD), Fort Mitchell, KY.

Nelson, J. P., & Campbell, H. D. (2003, September). *How do Students Receive and Process Information Differently: A Learning Styles Inventory.* "Investigating the Middle" Symposium conducted at the State Conference for the Kentucky Middle Schools Association (KMSA), Lexington, KY.

Publications:

Campbell, H. D., & Felts, W. M. (2004). *A Comparison of Death Anxiety in College Underclassmen before and After the Catastrophic National Event of September 11th, 2001.* Psychological Reports, 2004, 95, 1055-1058.

Campbell, H. D. (2002). *The Association among Selected Factors and Death Anxiety in College Underclassmen*. Unpublished master's thesis, East Carolina University, Greenville, North Carolina.

Professional Associations and Certifications:

- American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD)
- West Virginia Alliance for Health Physical Education Recreation and Dance (WVAHPERD)
- American Association for Health Education (AAHE)
- Certified Teacher Educator – Kentucky Teacher Internship Program (KTIP)
- Eta Sigma Gamma, Health Honorary - Vice President Beta Theta Chapter (2000-2002)
- Omicron Delta Kappa, Professional Honorary Society