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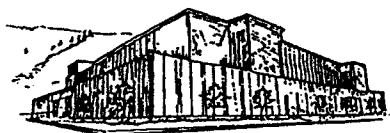
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Spirituality In Sport: A Preliminary Investigation

by

Jed Fiebelkorn

B.A. University of Minnesota, 1996

Presented in partial fulfillment of the requirements

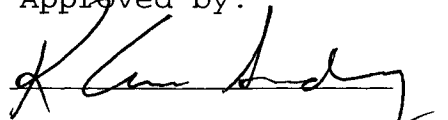

For the degree of

Master of Science

The University of Montana

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Chairperson  


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Spirituality in Sport

Chairperson: Dr. Sondag ~~XAS~~

Abstract

Spirituality has long eluded a single definition that satisfies all. It has been described as the best that which is human, a quest for existential meaning, and as the transcendent human dimensions. For the sake of this study spirituality is defined as “a search for the sacred” on an individual level with institutionalized religion being a subset of this overall definition. Pathways to discovering the sacred may include traditional religious institutions, or may consist of nontraditional paths. This study examined spirituality in sport. Anecdotal evidence suggests that athletes may be more spiritual than non-athletes. Also, because of conceptual consistencies, the idea that an individual high in spirituality would also be high in hope and flow was investigated. The results show no significant difference in the spirituality of NCAA Division I college students and that of physically active college students. However, factoring on the spirituality scale and subscale revealed a nine-factor structure inconsistent with previous three-factor findings. Therefore, research conclusions based on the three subscales are suspect and may be invalid. Similarly, no differences were found between samples in flow, although, consistent with previous findings there was a significant difference between athlete and non-athlete student samples in hope. No significant correlations were found between spirituality and flow. However, significant correlations were found in the relationship of spirituality and hope, as well as between hope and flow. Lastly, few conclusions can be forwarded about the role of spirituality in sport from this study due to the possible validity problems with the present scale. Since hope is a proven predictor of sport achievement, and there appears to be a significant relationship between hope and overall spirituality, the one notable finding may be that spirituality in sport is worthy of future research with proper and valid instrumentation.

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## Spirituality in Sport

A resurgence of literature on spirituality and religion demonstrates important implications of spirituality on healthy human functioning. Spirituality impacts not only physical and mental health (George, Ellison, & Larson, 2002; Keonig, McCullough, & Larson, 2001; Koenig, 1998; Larson, Swyers, & McCullough, 1998), but is linked to mortality as well (Oman, D., Kurata, J. H., Strawbridge, W.J., Cohen, R.D., 2002). Other studies associate spirituality with differences in alcohol use (Benson, 1992), marital functioning (Maloney, Pargament, Jewell, Swank, Scott, Emery & Rye, 1999), parenting (Ellison & Sherkat, 1993), and the outcomes of stressful life experiences (Pargament, 1997). Although the relationships are evident, the rationale for the effects of spirituality in these areas is not always clear. Some social scientists hypothesize we may be born with an innate genetic foundation for spirituality (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990). Others look to the importance of the social context in forming the child's understanding of God (Kaufman, 1981), and yet some claim that spirituality grows from critical life events and obstacles that challenge us as humans (Pargament 1997). No

matter the cause or origin of people's spirituality, most Americans can be considered spiritual in that 95% believe in God, and 86% believe that God can be reached through prayer (Gallup, 1995; Hodge, 1996). Further, there are indications that interest in spirituality is on the rise. In 1998, 60% of Americans reported religion to be very important in their lives (a 7% increase from ten years earlier) (Gallup & Lindsay, 1999) and from 1994 to 1998 there was a 24% increase of people who acknowledged a personal need for spiritual growth (Gallup & Jones, 2000)

### Defining Spirituality

Because of the complex and often puzzling nature of spirituality, it has long eluded a single definition that satisfies all. Yinger (1967) claimed spirituality is much like religion in that any definition used to describe it is in all probability completely satisfactory only to its author. Definitions such as the transcendent human dimensions (Mauritzen, 1988), the best that which is human (Twerski, 1998) and a quest for existential meaning (Doyle, 1992) have been used to describe spirituality. Based on these attempts by researchers to define spirituality, it may be concluded that spirituality is a very subjective construct that may be viewed and perceived differently from individual to individual.

In order to conceptualize a working definition of spirituality, it may be helpful to look at the historical relationship between religion and spirituality. Traditionally, psychologists did not distinguish between religion and spirituality (Wulff, 1998), whereas the term religion has been both an individual and an institutional construct (Hill & Pargament, 2003). For example, William James (1902) described an institutional religion (essentially concerned with procedures for working on the dispositions of the deity, theology and ceremony) and a personal religion (focused on the inner dispositions of man himself) as both falling under the scope of religion. However, in recent literature there is a trend towards contrasting or separating definitions for spirituality and religion. There seems to be a polarization of religiousness and spirituality, with religion representing an institutional, formal, outward, doctrinal, authoritarian concept that inhibits expression and spirituality representing an individual, subjective, emotional, inward, unsystematic idea that promotes free expression (Hill & Pargament, 2003; Keonig, McCollough & Larson, 2001). For the sake of this research, spirituality is defined as "a search for the sacred" (Pargament 1999, p.12) at an individual level with institutionalized religion being a

subset of this overall definition. In this process individuals may choose one of an unlimited number of pathways in their attempt to discover and conserve the sacred. The pathways to discovery may include traditional religious institutions such as reading the bible, going to church or praying to God, or may consist of nontraditional paths such as meditation, yoga, music, art, nature, or finding existential meaningfulness through life events.

### **Measures of Spirituality**

Due to the lack of consensus on its definition, some researchers claim spirituality is a difficult, maybe even impossible concept to measure (Booth, 1995). Adding to that is the fact spirituality and the so-called spiritual journey is often a highly personal and intimate experience and therefore often hard to characterize. With spirituality and religion being viewed as a singular construct, initial research reflected this with predominant measures being global indices of religious involvement such as frequency of church service attendance and denomination affiliation (Colantonio, Kasl & Ostfeld, 1992; Larson, Pattison, Blazer, Omran & Kaplan, 1986). In a review of 101 studies examining the relationship between religion/spirituality and mortality, close to half (n=47) used religious affiliation to measure religiousness and spirituality.

Another 43 studies used other general measures such as church attendance or membership, membership in a clergy, and other similar measures (Keonig et al., 2001). Although inherently unreliable, due to how spirituality and religiousness are now defined, these early measures demonstrated religion and spirituality as surprisingly powerful predictors in health related effects (McCullough, Hoyt, Larson, Keoig & Thoresen, 2000). More recently, researchers are making progress in the measurement of religiousness and spirituality, recognizing that each are complex concepts involving what can be differing cognitive, emotional, behavioral, interpersonal, and physiological dimensions (Hill and Hood, 1999). Gorsuch and Miller (1999) argued, "spirituality, if the term has interpersonal meaning and therefore communicates, poses no greater (or lesser) challenges than those inherent in measuring other latent constructs such as personality, health, intelligence, or love" (p. 47). Recent attempts at assessing spirituality can be divided into two categories: (1) clinical interviewing, with the researcher being the measurement instrument, and (2) self-report instruments, where individuals respond to items devised to measure one or more of three domains related to spirituality: beliefs, practices and experience (Gorsuch and Miller, 1999).

Attempts at developing a reliable and valid measure of self reporting started with a scale which sought to distinguish between intrinsic and extrinsic motivations for engaging in religion (Allport 1950), but were later found to address orientation rather than motivation (Gorsuch and Miller, 1999). An effort was made to improve upon this scale by developing and norming a 14-item scale that again attempted to measure intrinsic versus extrinsic motivation for engaging in religion (Gorsuch and McPherson, 1989). Shortly thereafter a widely used scale was developed by Batson and Schoenrade (1991a, 1991b) to measure spiritual "questing". In this study questing was described as seeking answers to questions regarding death and other existential issues. Later a trend towards measuring the extent to which an individual has profound experiences with a transcendent dimension was made by Hood, Morris & Watson, (1993). Several other measures of spirituality have been developed for use specifically with Alcoholics Anonymous (Tonigan, Connors & Miller, 1996; Brown & Peterson, 1990; Kingree, 1997; and Gilbert, 1991). More recently Chapel (1999) developed a self-report instrument to measure spiritual health. Originally an 18-item test, it was later expanded to 28 items utilizing a five-point Likert scale. The 28 items have proven to successfully measure three

important dimensions of spiritual health: (1) spiritual experience (2) spiritual locus of control and (3) spiritual well-being (Korinek & Arredondo, 2004)

### Spirituality and Sport

Although no previous data exists that deals directly with spirituality and those individuals involved in sport, anecdotal evidence suggests that spirituality may be related to differences in overall performance of high level athletes as well as differences in spirituality levels between high level athletes and non-athletes. For example, one may speculate that athletes who cope better with stressful situations often are more successful in their sport. Balague (1999) suggested:

In my experience, spirituality or religion is often a big part of many athletes' lives. The central issue for many religious athletes is trying to find meaning in their lives and their achievements in relationship to God and their religious convictions... [T]he religious and personal meaning of physical performance can be closely tied to motivation... It is important for athletes to feel that their athletic performance fits within the big picture of life. (p.92)

Certain researchers suggest the idea of spiritual strivings, implying that people are empowered and more

likely to persevere in the pursuit of transcendent goals (Emmons, 2000).

Spiritual strivings are even more powerful than regular goals, they give people a sense of an ultimate purpose and meaning, especially during some of life's more trying times (Orlick, 1999; Rotella, 1990). If an athlete believes the path they are on to excellence in sport is one in the same with their search for the sacred, research suggests they will be much more likely to persevere when faced with obstacles. In fact, Mahoney et al, (1999) reported that people who view their lives as sacred experience less conflict, derive greater satisfaction and meaning, and invest more time, care, and energy into those aspects of their lives.

Based upon these reports, one possible path of investigation could be if people who view themselves as highly spiritual would also be more likely to enter a psychological process consistent with excelled performance in sport labeled as flow (Jackson & Marsh, 1998). Flow can be described as when a sport performer is totally connected to the performance in a way similar to how spiritual people connect to a higher level of meaningfulness and fulfillment in their search for the sacred. Specifically, "flow can thus be seen to involve particular characteristics creating



a very positive state of consciousness and leading to an enjoyable, intrinsically rewarding experience" (Jackson, 1994). All individuals experience flow (Csikszentmihalyi, 1990), but the flow experience is especially predominate in how elite athletes describe excelled performance in sport (see Jackson & C..., 1999, for review). Just as spirituality in sport is empirically unexplored, the relationship of spirituality and flow among non-athlete and athlete populations is unknown, but the similarity in conceptual foundations suggests the need for the suggested research contained herein.

Equally, the construct of individual differences in hope shares similar conceptual consistencies to both spirituality and flow. Snyder et al. (1991, p. 571) defined hope as a "cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals." Based on replicated studies on hope in athlete and non-athlete populations, hope appears to be a consistent predictor of individual success in pursuit of life's goals (see Snyder, Rand, & Sigmon, for review). Curry and Snyder concluded (1997, p. 1264):

Considering these findings with a sample of athletes in the larger context of goal-pursuit activities more

generally, there are potentially important implications for the underlying mechanisms that fuel feelings of self-worth. These findings, along with a previous series of studies in our research program [on hope], build upon the theory and research of others who have reasoned that the pursuit of meaningful goals plays a key role in the development and maintenance of well-being and that the perceived progress toward important goals is the cause of well-being rather than the opposite.

It would appear that underlying mechanisms of spirituality, flow, and hope have unknown but conceptually similar qualities contributing in some way to well-being, achievement, enjoyment, positiveness, meaningfulness, and fulfillment in life as well as sport.

While scant research exists to hypothesize if or how measures of spirituality, flow, and hope are related in non-athlete and athlete populations, preliminary study of potential differences and relationships of these theoretical concepts using valid and reliable measures of each is warranted. Therefore, the purpose of this study is two-fold: (1) to determine spirituality differences between physically active college students and NCAA Division I student athletes; and (2) to determine the relationship

among hope, flow, and spirituality in athletes and non-athlete samples.

## Method

### *Participants*

Participants for this study came from two student populations. First, NCAA sponsored sport student athletes (Division I) were surveyed at this University. The second population consisted of active university students in activity classes at this university.

### *Measures*

*The Spiritual Health Inventory (SHI) (Chapel, 1999)* is a self-report paper and pencil measure developed to assess spiritual health. The SHI originally consisted of only 18 items, but was later expanded to 32. The first 30 items on the instrument utilize a five point Likert type scale, with the remaining two items on a ten-point Likert scale. An assessment of the recent version revealed three underlying factors labeled "Spiritual Experience," "Spiritual Locus of Control," and "Spiritual Well-being." Tests indicated good reliability for the scale as a whole and for subscales. (Korinek & Arredondo, 2004).

*The Trait Flow Scale (TFS) - (Jackson & Marsh, 1998)* is an instrument designed to measure the frequency at which dispositional flow is experienced by an individual in a sport setting. The experience of flow is highly desirable by elite athletes. In a state of flow, movements become

effortless and the performer becomes totally connected with the activity. It is an optimal psychological state broken down into nine dimensions. The nine dimensions are described as: challenge-skill balance, action awareness merging, clear goals, unambiguous feedback, concentration on the task at hand, sense of control, loss of self-consciousness, transformation of time, and autotelic experience. Initial research on 385 athletes to validate the TFS, reported alphas in the range of .70 to .88 (Jackson, Kimiecik, Ford & Marsh 1998). a factor analysis confirmed support for construct validity of trait flow responses (Marsh & Jackson, 1999).

*The Hope Scale* (Snyder et al., 1996) measures both agency (one's determination to set goals), and pathways (ability to create a successful scheme to achieve one's goals). Based on correlations with related measures the Hope Scale has shown ample internal and test-retest reliabilities and concurrent construct validity. Furthermore, the hope scale possesses discriminate utility in the prediction of goal-related outcomes beyond variances attributable to other measures (Curry, Snyder, et al., 1997; Curry & Snyder, 2000; Snyder 1994). The scale has established adequate internal reliability as a whole (.74 to .84) and split into subscales (.71 to .76 for agency and

.63 to .80 for pathways, n=955). Test-retest reliability consisted of .85 (n=115, Haarney, 1989), .76 (n=205, Gibb, 1990) and .82 (n=133, Yoshinobu, 1989).

#### *Procedure*

Head coaches for each sport were asked to set up a team meeting at a convenient time for their athletes. Also, instructors for activity classes were contacted ahead of time to set up meetings with classes on a suitable day. Meetings took place in a variety of settings, with each location having ample room to provide privacy for each student/student-athlete. The questionnaires, which consisted of the Spiritual Health Inventory, the Trait Flow Scale and the Hope Scale, along with the informed consent form took approximately 15 minutes to complete. Upon completion, students placed questionnaires in a covered cardboard box.

#### *Data Analysis*

Specific to the purpose of this study, data analysis consists of thorough examination of descriptive data and inferential statistics. Validation and reliability of each of the measures were tested for consistency with previously reported findings. To measure differences in non-athlete and athlete samples, a series of a priori-planned comparisons were conducted specific to each measure (alpha

adjusted as needed to the .05 level of significance). Correlation tables were used to determine relationships among spirituality, hope, and flow with non-athlete and athlete samples. Significance was set at .05, with analysis including commentary on the practical significance of possible relationships consistent to Cohen's (1999) interpretation of meaningfulness as to the strength of significant relationships.

## Results

The final sample consisted of 253 total subjects from The University of Montana. Eighty-two of the subjects were student athletes (26% freshmen, 35% sophomores, 22% juniors, 17% seniors; average age = 20.19). One-hundred-seventy-one were active non-athlete students (35% freshmen, 34% sophomores, 15% juniors, 16% seniors; average age = 20.00).

### *Reliability and Validity*

Table one illustrates means and standard deviations for the Hope Scale as well as its two subscales (Snyder, 1991), The Trait Flow Scale (Jackson, 1996) and the Spirituality Scale and Subscales (Chapel 1999). Means and standard deviations are consistent with prior research findings. Internal consistency was sufficient for all scales and subscales.

However, factoring on the Spirituality Scale and Subscales revealed a nine-factor structure inconsistent with previous three-factor findings (all nine Eigen values > 1.0). Further factor analyses were conducted to determine possible spirituality subscales consistent to these data. As noted in Figure Two, a three-factor design revealed itself (again, all three Eigen values > 1.0; no other



factors > .50). Labels for these three subscales were assigned based on the content of the questions consistent within each factor (see Figure One for original non-valid three factors). Due to the suspect results of the original three subscales, and the preliminary nature of what may become new subscale components of spirituality with further testing, all results specific to spirituality subscale findings must be reviewed cautiously.

#### *Correlation Results Among Student-Athletes*

In looking at correlations specific to the eighty-one athletes and their coinciding data in this study (Table Two), hope was significantly correlated with flow ( $\underline{r} = .58$ ,  $\underline{p} < .001$ ) and overall spirituality ( $\underline{r} = .25$ ,  $\underline{p} < .05$ ). The subscales spiritual well-being ( $\underline{r} = .40$ ,  $\underline{p} < .001$ ) and spiritual locus of control ( $\underline{r} = .22$ ,  $\underline{p} < .05$ ) were also found to be significantly correlated to hope. The adjusted spirituality score also had a significant correlation with hope ( $\underline{r} = .26$ ,  $\underline{p} < .05$ ), as did the subscale non-sensing spirituality ( $\underline{r} = .49$ ,  $\underline{p} < .001$ ).

In the athlete student sample, hope's sub-scale agency, was significantly correlated to the other hope factor, pathways ( $\underline{r} = .39$ ,  $\underline{p} < .001$ ) as well as flow ( $\underline{r} = .52$ ,  $\underline{p} < .001$ ), the subscale spiritual well-being ( $\underline{r} = .26$ ,

$p < .05$ ) and the subscale of the adjusted Spirituality Scale, non-sensing spirituality ( $r = .35, p < .001$ ).

Pathways, the second subscale of hope, was significantly correlated with flow ( $r = .33, p < .001$ ), spiritual well-being ( $r = .29, p < .05$ ) and the adjusted Spirituality Scale's subscale, non-sensing spirituality ( $r = .26, p < .001$ ). Flow was found to be significantly correlated to the subscale spiritual well-being ( $r = .19, p < .05$ ), as well as the subscale non-sensing spirituality ( $r = .20, p < .001$ ). The other significant correlations among athletes were found between the original spirituality subscales: spiritual well-being and spiritual experience ( $r = .45, p < .001$ ), spiritual well-being and spiritual locus of control ( $r = .33, p < .001$ ), spiritual experience and spiritual locus of control ( $r = .40, p < .001$ ), and the adjusted spirituality subscales: religion based spirituality and non-religious spirituality ( $r = .76, p < .001$ ), religion-based spirituality and non-sensing spirituality ( $r = .39, p < .001$ ) as well as between non-religious spirituality and non-sensing spirituality ( $r = .50, p < .001$ ).

#### *Correlation Results for Non-Athletes*

Table 3 depicts the significant correlations in 172 non-athletes. Significant correlations were found between

hope and the following other variables: flow ( $\underline{r} = .42, \underline{p} < .001$ ), spirituality ( $\underline{r} = .17, \underline{p} < .05$ ), spiritual well-being ( $\underline{r} = .32, \underline{p} < .001$ ), the adjusted spirituality ( $\underline{r} = .19, \underline{p} < .05$ ) and non-sensing spirituality ( $\underline{r} = .36, \underline{p} < .001$ ).

Hope's subscale, agency was significantly correlated to: pathways ( $\underline{r} = .50, \underline{p} < .001$ ), flow ( $\underline{r} = .40, \underline{p} < .001$ ), spiritual well-being ( $\underline{r} = .26, \underline{p} < .05$ ) and non-sensing spirituality ( $\underline{r} = .37, \underline{p} < .001$ ).

Hope's other subscale, pathways, had significant correlations with: flow ( $\underline{r} = .33, \underline{p} < .001$ ), spiritual well-being ( $\underline{r} = .29, \underline{p} < .001$ ) and non-sensing spirituality ( $\underline{r} = .26, \underline{p} < .001$ ). Flow was also significantly correlated to spiritual well-being ( $\underline{r} = .19, \underline{p} < .05$ ) and non-sensing spirituality ( $\underline{r} = .20, \underline{p} < .001$ ).

As with the athlete population, the non-athletes also had significant correlations between the subscales of the original spirituality scale: spiritual well-being and spiritual experience ( $\underline{r} = .48, \underline{p} < .001$ ), spiritual well-being and spiritual locus of control ( $\underline{r} = .43, \underline{p} < .001$ ) and between spiritual experience and spiritual locus of control ( $\underline{r} = .62, \underline{p} < .001$ ), as well as the subscales of the adjusted Spirituality Scale: religion-based spirituality and non-religious spirituality ( $\underline{r} = .71, \underline{p} <$

.001), religion-based spirituality and non-sensing spirituality ( $r = .42$ ,  $p < .001$ ) and between non-religious spirituality and non-sensing spirituality ( $r = .57$ ,  $p < .001$ ).

#### *Student Athlete Differences from Non-Athlete Students*

In a series of a priori planned comparisons, the following results were noted (Bonferroni adjusted alpha = .05; total planned comparisons fewer than total number in need of adjustment). No significant differences were noted between athlete and non-athlete student samples in spirituality and all subscales (all  $t_s < \pm 1.0$ , all  $p_s > .34$ , all NS). Differences between athlete and non-athlete student samples in flow approached significance ( $t = 1.62$ ,  $p = .11$ ), and consistent with previous findings, a significant difference was found between athlete and non-athletes student samples in hope ( $t = 2.08$ ,  $p = .04$ )

#### Discussion

The purpose of this study was two-fold: (1) to determine spirituality differences between physically active college students and NCAA Division I student athletes; and (2) to determine the relationship among hope, flow, and spirituality in athletes and non-athlete samples. The Hope Scale (Snyder et al., 1996) displayed sufficient internal consistency (.81), as did its subscales (.77 for

agency and .74 for pathways). The Trait Flow Scale (TFS) - (Jackson and Marsh, 1998) had an internal consistency of .95. The spiritual Health Inventory (Chapel, 1999) demonstrated an over all internal consistency of .91 with subscales spiritual well-being (.74), spiritual experience (.92) and spiritual locus of control (.67) all showing adequate internal consistency as well.

#### *Spirituality Scale Adjusted Subscales*

After factor analyses of the original spirituality scale revealed inconsistencies with previous findings, further analysis were performed and revealed a three factor design with all three Eigen values > 1.0 and no other factor > .50. Subscales were labeled based on the consistent conceptual content of the questions within. These three conceptual concepts may be more successful in measuring spirituality based on how it is defined for this study. As a preliminary step, it could be of value to further investigate these three subscales as possible valid measures of spirituality.

#### *Defining Spirituality and Spirituality Components*

Spirituality is an extremely subjective, complex construct that may be viewed differently by each individual and therefore is very difficult to define. This subjective nature makes spirituality not only hard to define, but

equally hard to measure. In this study, spirituality was defined as "a search for the sacred" (Pargament 1999, p.12) at an individual level with institutionalized religion being a subset of this overall definition. Within this description individuals may find any one of a number of ways to the path of discovery including traditional religious institutions as well as nontraditional forms. This approach is consistent with the factor analysis findings of the adjusted subscales. Two of the three newly found spirituality subscales were not associated with religion. Clearly, non-traditional and non-religion spirituality must be considered as concrete aspects of how spirituality is defined. The challenge lies in finding an accurate way to measure spirituality under this definition.

#### *Spirituality Differences*

Although there is anecdotal evidence to suggest that there may be some connection between spirituality and those involved in sport, the results of this study indicate no significant difference in the spirituality of NCAA Division I college athletes and the spirituality of physically active college students. There were also no differences found between the two sample populations when comparing their scores on the subscales of spirituality.

Consequently, based on the present spirituality scale,

there were no differences between athletes and non-athletes. This would imply that becoming a high level athlete does not necessarily depend upon one's level of spirituality.

#### *Differences in Flow and Hope*

Although results indicate that numbers for flow are approaching statistical significance, no differences can be reported between athlete and non-athlete student samples in this study. These findings may be interpreted to mean that, similar to spirituality, those involved in a high level of sport do not necessarily have more frequent occurrences of flow than those involved in recreational sports. Because someone is more likely to experience flow when their skill level matches the challenge at hand, we may conclude; it is not the level of play, but how well an individual's skill is matched to the challenge of play that creates an opportunity for flow to occur. More over, knowing anxiety is the antithesis of Flow (Jackson et al., 1998), one may be lead to believe that flow would be more, or at least as, likely to occur in a recreational setting knowing the pressure and anxiety involved with high level sports today.

Consistent with previous findings there was a significant difference found in hope between the athlete and non-athlete student samples. Hope measures one's goal

directed determination, as well as one's ability to come up with ways to reach those goals and is a successful predictor of achievement in sport (Snyder et al., 1991). The findings of this study would imply that athletes set goals, are determined, and are able to come up with paths to reach those goals better than non-athletes. This may suggest that athletes learn to be better at setting goals and finding ways to achieve them through their athletic endeavors, or it may be simply that individuals with this trait tend to gravitate towards athletics. This is a possible question for future research.

#### *Spirituality and Flow*

Although the conceptual foundations are similar, the examination of whether those who are highly spiritual are also more likely to enter a state of flow produced results showing no significant correlations among athletes, or non-athletes for both the original and adjusted spirituality scales. In fact, spiritual well-being, which is a subscale of the original spirituality scale was the only variable that showed even a small correlation as noted by Aron & Aron (1999) (< .20 is small, around .40 is moderate, > .80 is large). According to Jackson (2001) those athletes that experience flow, often perform better than those that do not experience flow. The Trait Flow Scale (Jackson, 2001)



is a measure of the frequency at which an individual experiences flow in a sport setting. Based upon the findings in this study we are led to believe that overall, those athletes and non-athletes that are likely to experience a high frequency of flow are not necessarily highly spiritual. These results are not consistent with anecdotal evidence, previously discussed, that would suggest to the contrary.

#### *Spirituality and Hope*

Hope is measured by looking at an individual's ability to come up with ways to meet their goals (pathways), and how determined they are to reach those goals (agency) (Snyder et al. 1991). Research has also reasoned that an individual's well-being depends upon the perceived progress toward these important goals (Curry and Snyder, 1997). Based on how spirituality is defined for this study (a search for the sacred) and that spirituality involves an individual's ability to find existential meaning through life events, one may conclude that because of the theoretical consistencies someone who is high in hope, would also be highly spiritual. In the athlete sample results indicate hope, as measured by The Hope Scale (Snyder et al., 1996), shows a significant correlation to overall spirituality, ( $\underline{r} = .25$ ,  $\underline{p} < .05$ ) and to adjusted

spirituality ( $\underline{r} = .26, \underline{p} < .05$ ), although both correlations are moderate. In fact hope had a higher correlation with the subscale of the original spirituality called spiritual well-being ( $\underline{r} = .40, \underline{p} < .001$ ) as well as with the subscale of the adjusted Spirituality scale referred to as non-sensing spirituality ( $\underline{r} = .49, \underline{p} < .001$ ). These findings may suggest that these two specific subscales are more closely tied to hope than our overall measure of spirituality and one might assume that someone high in either spiritual well-being and or high in non-sensing spirituality would also have high hope. Subsequently, spiritual locus of control also had a moderate significant correlation with hope ( $\underline{r} = .22, \underline{p} < .05$ ).

When looking at each of the subscales of hope and how they relate to spirituality in the athlete sample, the subscale agency was found to not even have a small significant correlation (Aron & Aron, 1999) with either the original or the adjusted spirituality scales. In fact, the only significant correlation found between agency and spirituality scales and subscales is found in the subscales spiritual well-being ( $\underline{r} = .26, \underline{p} < .001$ ) and non-sensing spirituality ( $\underline{r} = .35, \underline{p} < .001$ ). The lack of significant correlations was not consistent when looking at hope's other subscale, pathways. The subscale pathways had

significant correlations with: original spirituality ( $r = .28, p < .001$ ), spiritual well-being ( $r = .40, p < .001$ ), spiritual locus of control ( $r = .23, p < .001$ ), adjusted spirituality ( $r = .27, p < .05$ ), as well as between pathways and non-sensing spirituality ( $r = .46, p < .001$ ).

When comparing athletes to non-athletes based upon correlations between hope and spirituality, results are similar. In the non-athlete sample hope again showed a low significant correlation with both original spirituality ( $r = .17, p < .05$ ) and adjusted spirituality ( $r = .19, p < .05$ ), while showing a much more significant correlation with subscales spiritual well-being ( $r = .32, p < .001$ ) and non-sensing spirituality ( $r = .36, p < .001$ ). Again, much like the athletes, with non-athletes both the original spirituality and adjusted spirituality do not seem to have much of a connection with hope, but when you look at the two subscales that to have high significant correlations there is a similar conceptual bases. The explanation lies in the questions of the two subscales. When the original spirituality scale was adjusted after the factor analysis, many of the same questions in the subscale spiritual well-being, were factored into the subscale non-sensing spirituality. Most of these questions address one's belief that their life has purpose or meaning. Conceptually this

is not dissimilar to the underlying foundation of hope that looks at people and their meaningful goals. Consequently, both subscales of hope in the non-athlete population were limited in significant correlations to the same two subscales of spirituality and adjusted spirituality, most likely for similar reasons.

#### *Hope and Flow*

Past research has shown Hope Scale scores to provide additional information beyond natural ability in regard to the prediction of actual athletic achievements (Curry et al., 1997). According to Jackson (2001) those athletes that experience flow, often perform better than those that do not experience flow. These findings would lead us to believe that hope and flow may have underlying similarities. The results of the present study are consistent with prior investigations. The strongest correlations among any of the major variables were found between hope and flow for athletes ( $\underline{r} = .58, \underline{p} < .001$ ) and non-athletes ( $\underline{r} = .42, \underline{p} < .001$ ) alike. The only higher correlations were those between related subscales. For example, hope's two dimensions; agency and pathways had a positive correlation of  $\underline{r} = .50, \underline{p} < .001$ , in the non-athlete student sample. This information reiterates the consistency in theoretical foundations between hope and

flow. We may conclude from these results that someone high in hope (athlete or non-athlete) would also demonstrate the ability to reach a flow state more frequently than most.

#### *Study Limitations*

Because of the suspected validity issue of the original Spirituality Scale from inconsistencies in factor or subscale structuring, the present study must be considered preliminary. It would be best to replicate this study using an alternative spirituality scale, or use validity testing to confirm adjusted subscales as found from this data sample. Although surveying all coaches was originally proposed, the suspect nature of the spirituality scale led to the decision not to survey the coaches because any performance prediction results would in all likelihood lack validity. Therefore, the study continued with an adjusted purpose as a preliminary study pointing to where future studies might possibly head.

Also, because female sports proved more accessible, more female athletes were surveyed than male athletes. Likewise, because classes surveyed had more females there were more female students surveyed as well. This could affect the validity of the results. Another potential problem is sample size. In comparing athletes to non-athletes, more than twice as many non-athletes were

surveyed. It would also be important to note that when looking at the spirituality of athletes, those questioned in this study were all college level. Therefore the generalizing of the findings of this study should be kept to this level.

### *Conclusions*

Based on the findings of this study, we may deduct that spirituality, as measured by using the Spiritual Health Inventory (Chapel, 1999), is a concept that is difficult to measure.

It would appear, based on the results of this scale in this study, that athletes are not significantly more spiritual than non-athletes. With this in mind, it is important to note that although our data does not show significant differences between athlete and non-athlete student samples in spirituality, our analyses uncovered a possible validity problem with the present spirituality scale. This discovery, although unfortunate for present investigations, will prove a vital step for future researchers in uncovering the role of spirituality in sport. Anecdotal evidence suggests spirituality may be an intricate part of some people's ability to achieve, obtain goals, and overcome obstacles. Next, a consensus needs to be obtained on how to correctly define and measure

spirituality. We now have only begun to investigate what roles spirituality plays in the realm of Sport. Only further investigation using either the new subscales developed here within and or other valid spirituality measures will provide answers to such questions.

In summary, consistent with prior research, significant differences were found between student athlete and active non-athlete student samples in hope. No significant differences in flow can be reported between samples, although values approached significance. There may be athlete and non-athlete differences in spirituality, but further testing is needed. It is important to note that spirituality has properties beyond religious importance. Although preliminary, the adjusted subscales to spirituality reveal a strong presence with or without religious intentions in this student athlete population. This finding is an important contribution to the body of knowledge specific to the role of spirituality and sport. This idea is intriguing and worthy of further development. Finally, since hope, as measured by the Hope Scale (Snyder et al., 1991) is a predictor of sport achievement, and there appears to be a significant relationship between hope and overall spirituality, the one notable finding may be that spirituality in sport is worthy of future research.

The relationship of hope and spirituality, while preliminary, is worthy of consideration by future researchers. The Spirituality Scale, as such, had differing factors from previous research. The adjusted factors proved to be a valid measure of spirituality in this study. Therefore, further research is needed to better define spirituality in empirical terms based on the findings of this preliminary study. In this respect, our study into the role of spirituality in sport has primary and necessary importance in determining a focus of future research.

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Appendix A  
Informed Consent Statements

## STUDENT ATHLETE INFORMED CONSENT STATEMENT

## SUBJECT INFORMATION AND CONSENT FORM

INVESTIGATOR:	Jed Fiebelkorn Principal Investigator Health and Human Performance 109 McGill Hall The University of Montana Missoula, MT 59812 (406) 207-0917	Lewis A. Curry, Ph.D. Supervising Investigator Health and Human Performance 109 McGill Hall The University of Montana Missoula, MT 59812 (406) 243-5242
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**Special Instructions:**

The Department of Health and Human Performance at the University of Montana supports the practice of protection of human subjects participating in research. The following information is provided so that you can decide whether or not you wish to participate in the present study.

If you would like additional information concerning this study before, during, or after it is completed, please feel free to contact me by phone or mail. A copy of this consent form will be given to you.

This consent may contain words that are new to you. If you read any words that are not clear to you, please ask the person who gave you this form to explain them to you.

**Purpose:**

This study is concerned with the role of spirituality in your life in general and the role of spirituality in sport achievement.

**Procedure:**

You will be asked to fill out various standardized questionnaires (taking approximately 15 minutes) asking questions about your spirituality in general, and how you feel about some of your experiences in sport activities or athletics. In addition, your coach (s) will be asked a couple of questions about your performance this past season, as she/he will be asked to answer the same couple of questions about many of your teammates.

**Risks:**

There are no anticipated risks in completing this questionnaire. Your name will not be tied to your responses in any way.

**Benefits:**

Your responses to the questionnaires will help us to assess how students and student-athletes are currently using spirituality in their daily lives and in sport. This information may help to gain insight into the relationship between spirituality and sport achievement which may in turn help develop interventions for the purpose of helping athletes maximize their potential in sport.



**Confidentiality:**

Be assured that your name will not be associated in any way with the research findings. Dr. Lew Curry will remove the front page from the questionnaire and create a coded number master list to record questionnaire responses into the computer. Only Dr. Curry and myself will see your answers. After assuring compliance to Human Subjects in research, the master list will be destroyed so there will be no future identification.

The results of this questionnaire will be only used as a summary. There will be no identification of student athletes or even the specific sport.

**Compensation for Injury:**

If injury is caused by the negligence of the University of Montana or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established by the Department of Administration under the authority of M.C.A., Title 2, Chapter 9. In the event of a claim for such injury, further information may be obtained from the University's Claims Representative or University Legal Counsel.

**Voluntary Participation/Withdrawal:**

Your participation is solicited, but it strictly voluntary. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

**Questions:**

If you have any questions about the research now or during this study contact: Jed Fiebelkorn at (406) 207-0917 or Dr. Lew Curry at (406) 243-5242.

**Subject's Statement of Consent:**

I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that a member of the research team will, also answer any future questions I may have. I voluntarily agree to take part in this study. I understand that I will receive a copy of this form.

---

Name (Please Print)

---

Signature of Subject

---

Date

COACH INFORMED CONSENT STATEMENT

**SUBJECT INFORMATION AND CONSENT FORM**

INVESTIGATOR:	<p>Jed Fiebelkorn Principal Investigator Health and Human Performance 109 McGill Hall The University of Montana Missoula, MT 59812 (406) 207-0917</p>	<p>Lewis A. Curry, Ph.D. Supervising Investigator Health and Human Performance 109 McGill Hall The University of Montana Missoula, MT 59812 (406) 243-5242</p>
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**Special Instructions:**

The Department of Health and Human Performance at the University of Montana supports the practice of protection of human subjects participating in research. The following information is provided so that you can decide whether or not you wish to participate in the present study.

If you would like additional information concerning this study before, during, or after it is completed, please feel free to contact me by phone or mail. A copy of this consent form will be given to you.

This consent may contain words that are new to you. If you read any words that are not clear to you, please ask the person who gave you this form to explain them to you.

**Purpose:**

This study is concerned with student-athlete achievement in sport.

**Procedure:**

The athletes in your program who have agreed to participate in this study have previously filled out a questionnaire asking various questions about themselves, in general, and how they feel about their sport performance, in particular. As their coach, you are requested to answer eight question specific to each of your athletes.

**Risks:**

There are no anticipated risks in completing this questionnaire. Your name will not be tied to your responses in any way.

**Benefits:**

Your responses to the questionnaires will help us to assess how students and student-athletes are currently using spirituality in their daily lives and in sport. This information may help to gain

insight into the relationship between spirituality and sport achievement which may in turn help develop interventions for the purpose of helping athletes maximize their potential in sport.

**Confidentiality:**

Be assured that your name will not be associated in any way with the research findings. Dr. Lew Curry will remove the front page from the questionnaire and create a coded number master list to record questionnaire responses into the computer. Only Dr. Curry and myself will see your answers. After assuring compliance to Human Subjects in research, the master list will be destroyed so there will be no future identification.

The generalized results from this study will be shared with all coaches and Athletic Department personnel. No one sport will be singled out in any way. Results will be stratified by class and gender only.

**Compensation for Injury:**

If injury is caused by the negligence of the University of Montana or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established by the Department of Administration under the authority of M.C.A., Title 2, Chapter 9. In the event of a claim for such injury, further information may be obtained from the University's Claims Representative or University Legal Counsel.

**Voluntary Participation/Withdrawal:**

Your participation is solicited, but it strictly voluntary. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

**Questions:**

If you have any questions about the research now or during this study contact: Jed Fiebelkorn at (406) 207-0917 or Dr. Lew Curry at (406) 243-5242.

**Subject's Statement of Consent:**

I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that a member of the research team will, also answer any future questions I may have. I voluntarily agree to take part in this study. I understand that I will receive a copy of this form.

---

Name (Please Print)

---

Signature of Subject

---

Date

**Appendix B**  
**Student-Athlete Questionnaires**

### Activity Experience Scales

**I. Directions:** Please answer the following questions in relation to your experiences in your chosen sport or favorite physical activity. These questions relate to the thoughts and feelings you may experience during participation. You may experience these characteristics some of the time, all of the time, or none of the time. There are no right or wrong answers. Think about how often you experience each characteristic during your sport and circle the number that best matches your experience.

<b>Generally, when participating in my sport (activity)</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Always</b>
1. I am challenged, but believe my skills will allow me to meet the challenge.	1	2	3	4	5
2. I make the correct movements without thinking about trying to do so.	1	2	3	4	5
3. I know clearly what I want to do.	1	2	3	4	5
4. It is really clear to me how my performance is going.	1	2	3	4	5
5. My attention is focused entirely on what I am doing.	1	2	3	4	5
6. I have a sense of control over what I am doing.	1	2	3	4	5
7. I am not concerned with what others may be thinking of me.	1	2	3	4	5
8. Time seems to alter (either slows down or speeds up).	1	2	3	4	5

<b>Generally, when participating in my sport (activity):</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Always</b>
9. I really enjoy the experience.	1	2	3	4	5
10. My abilities match the high challenge of the situation.	1	2	3	4	5
11. Things just seem to happen automatically	1	2	3	4	5
12. I have a strong sense of what I want to do.	1	2	3	4	5
13. I am aware of how well I am performing.	1	2	3	4	5
14. It is no effort to keep my mind on what	1	2	3	4	5

is happening.

15. I feel like I can control what I am doing.	1	2	3	4	5
16. I am not concerned with how others may be evaluating me.	1	2	3	4	5
17. The way time passes seems to be different than normal.	1	2	3	4	5

	Never	Rarely	Sometime	Frequently	Always
<b>Generally, when participating in my sport (activity):</b>					
18. I love the feeling of the performance and want to capture it again.	1	2	3	4	5
19. I feel I am competent enough to meet the high demands of the situation.	1	2	3	4	5
20. I perform automatically, without thinking too much.	1	2	3	4	5
21. I know what I want to achieve.	1	2	3	4	5
22. I have a good idea while I am performing about how well I am doing.	1	2	3	4	5
23. I have total concentration.	1	2	3	4	5
24. I have a feeling of total control.	1	2	3	4	5
25. I am not concerned with how I am presenting myself.	1	2	3	4	5
26. It feels like time goes by quickly.	1	2	3	4	5
27. The experience leaves me feeling great.	1	2	3	4	5

	Never	Rarely	Sometimes	Frequently	Always
<b>Generally, when participating in my sport (activity):</b>					
28. The challenge and my skills are at an equally high level.	1	2	3	4	5
29. I do things spontaneously and automatically without having to think.	1	2	3	4	5
30. My goals are clearly defined.	1	2	3	4	5
31. I can tell by the way I am performing how	1	2	3	4	5

well I am doing.

32. I am completely focused on the task at hand.	1	2	3	4	5
33. I feel in total control of my body.	1	2	3	4	5
34. I am not worried about what others may be thinking of me.	1	2	3	4	5
35. I lose my normal awareness of time.	1	2	3	4	5
36. The experience is extremely rewarding.	1	2	3	4	5

**II. Directions:** Read each item carefully. Using the scale shown below, please select the number that best describes YOU and put that number in the blank provided.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True

- \_\_\_\_\_ 1. I can think of many ways to get out of a jam.
- \_\_\_\_\_ 2. I energetically pursue my goals.
- \_\_\_\_\_ 3. I feel tired most of the time.
- \_\_\_\_\_ 4. There are lots of ways around any problem.
- \_\_\_\_\_ 5. I am easily downed in an argument.
- \_\_\_\_\_ 6. I can think of many ways to get the things in life that are most important to me.
- \_\_\_\_\_ 7. I worry about my health.
- \_\_\_\_\_ 8. Even when others get discouraged, I know I can find a way to solve the problem.
- \_\_\_\_\_ 9. My past experiences have prepared me well for my future.
- \_\_\_\_\_ 10. I've been pretty successful in life.
- \_\_\_\_\_ 11. I usually find myself worrying about something.
- \_\_\_\_\_ 12. I meet the goals I set for myself.

**- 48 -III. Directions:** Please answer the following questions in relation to your spiritual beliefs. There are no right or wrong answers. To you and your beliefs, being spiritual may be different than being religious, or it may be the same thing. Think about how much you agree or disagree with the following statements as each relates to what you experience or have experienced in your life.

	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
1. I believe my life has meaning.	1	2	3	4	5
2. I believe in God, a Creator, or a Higher Power.	1	2	3	4	5
3. I do not have an internal experience of being forgiven.	1	2	3	4	5
4. I believe my life has purpose.	1	2	3	4	5
5. I do not believe that anything can be done to develop my spiritual health.	1	2	3	4	5
6. I have an internal experience of being accepted for who I am.	1	2	3	4	5
7. I do not pray to God, a Creator, or a Higher Power.	1	2	3	4	5
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
8. I have no experience of peace with myself or with others.	1	2	3	4	5
9. I do not enjoy participating in worship or religious practices.	1	2	3	4	5
10. I believe that God or my Higher Power will do things for me or to me, regardless of what I do.	1	2	3	4	5
11. I have had a spiritual experience or a sense of spiritual awakening.	1	2	3	4	5
12. I have a sense of internal support or spiritual strength in dealing with illness or other problem	1	2	3	4	5
13. I experience a sense of harmony with the world and the universe as they exist.	1	2	3	4	5
14. I do not believe there is such a thing as spiritual health.	1	2	3	4	5



15. I believe that God, or my Higher Power, will not do anything for me which I can do for myself. 1 2 3 4 5

16. It is my experience that developing and maintaining spiritual health requires effort and work. 1 2 3 4 5

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
17. I experience the presence of God or a Higher Power in my life.	1	2	3	4	5
18. I am grateful for all that I have received from life.	1	2	3	4	5
19. I experience a sense of awe when I consider life and the universe.	1	2	3	4	5
20. God or a Higher Power is so powerful that nothing I do makes any difference.	1	2	3	4	5
21. Much of spiritual experience comes through reading and thinking.	1	2	3	4	5
22. My spiritual experiences make it necessary to make changes in my self and my life.	1	2	3	4	5
23. My spiritual experience comes through my relationship with nature and the natural environment.	1	2	3	4	5

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
24. My spiritual experiences help me deal with health or other life problems.	1	2	3	4	5
25. Much of my spiritual experience comes through religious activities.	1	2	3	4	5
26. Most of the problems in my life are caused by Others or events beyond my control.	1	2	3	4	5
27. I feel most spiritual or connected to a Higher Power when doing things to help others.	1	2	3	4	5
28. I value other people helping me with my problems.	1	2	3	4	5

**DEMOGRAPHIC INFORMATION****Directions:** Please complete the following demographic information.

Age: \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Gender: \_\_\_\_\_ Female  
 \_\_\_\_\_ Male

Class standing: \_\_\_\_\_ Freshman Current year in school: \_\_\_\_\_ 1<sup>st</sup> year  
 \_\_\_\_\_ Sophomore \_\_\_\_\_ 2<sup>nd</sup> year  
 \_\_\_\_\_ Junior \_\_\_\_\_ 3<sup>rd</sup> year  
 \_\_\_\_\_ Senior \_\_\_\_\_ 4<sup>th</sup> year  
 \_\_\_\_\_ Graduate Student \_\_\_\_\_ Beyond 4<sup>th</sup> year

Current Campus Residence: \_\_\_\_\_ College dorm or residence hall

Sport (activity): \_\_\_\_\_ Football \_\_\_\_\_ Fraternity or sorority house  
 \_\_\_\_\_ Basketball \_\_\_\_\_ Off-campus house or apartment  
 \_\_\_\_\_ Volleyball \_\_\_\_\_ Parent/guardian's home  
 \_\_\_\_\_ Soccer \_\_\_\_\_ Other  
 \_\_\_\_\_ Tennis  
 \_\_\_\_\_ Golf  
 \_\_\_\_\_ Track & Field (or Cross Country)  
 \_\_\_\_\_ Other (Please Name)

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**THANK YOU FOR YOUR HELP!**

## Appendix C

### Tables

**Table 1****Descriptive Statistics**

	Mean	<u>SD</u>	Internal Consistency
Trait Hope Scale	52.51	5.58	.81
Agency	26.64	3.20	.77
Pathways	25.87	3.31	.74
DFS-2 Total Flow Score	135.85	16.92	.95
Spirituality - Total Score	106.37	14.61	.91
Spiritual Well-Being	36.20	4.14	.74
Spiritual Experience	43.81	9.43	.92
Spiritual Locus of Control	26.36	4.07	.67
<hr/>			
*Spirituality - Adjusted Total Score	63.00	10.43	.91
Religion-Based Spirituality	18.66	4.92	.88
Non-Religious Spirituality	22.53	4.50	.86
Non-sensing Spirituality	21.81	2.73	.79

Note: N = 253; \* See Factor Analysis Section of Results

Table 2 - Athletes

Correlation Table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Hope	--	--	--	.58**	25*	40**	11	22*	26*	11	.20	.49**
(2) Agency		--	39**	.52**	13	26*	02	13	.12	00	16	35**
(3) Pathways			--	.45**	28**	40**	15	23**	.27*	18	18	.46**
(4) DFS-2 Total Flow Score				--	06	15	- 02	- 01	08	-.02	- 05	26**
(5) Spirituality - Total Score					--	--	--	--	--	--	--	--
(6) Spiritual Well-being						--	45**	.33**	--	--	--	--
(7) Spiritual Experience							--	.40**	--	--	--	--
(8) Spiritual Locus Of Control								--	--	--	--	--
(9) Spirituality - Adjusted Score									--	--	--	--
(10) Religion-Based Spirituality										--	76**	.39**
(11) Non-Religious Spirituality											--	50**
(12) Non-sensing Spirituality												--

Note: N = 81      \* p < .05      \*\* p ≤ .001

Table 3 - Non-Athletes

Correlation Table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Hope	--	--	--	42**	.17*	32**	.09	.09	.19*	.06	.17	36**
(2) Agency		--	50**	40**	.16	26*	.10	.11	.19	.08	.13	37**
(3) Pathways			--	33**	.13	.29**	.06	.04	.13	.02	.11	26**
(4) DFS-2 Total Flow Score				--	.10	.19*	.03	.10	.09	.02	.05	.20**
(5) Spirituality - Total Score					--	--	--	--	--	--	--	--
(6) Spiritual Well-being						--	.48**	.43**	--	--	--	--
(7) Spiritual Experience							--	.62**	--	--	--	--
(8) Spiritual Locus Of Control								--	--	--	--	--
(9) Spirituality - Adjusted Score									--	--	--	--
(10) Religion-Based Spirituality										--	.71**	.42**
(11) Non-Religious Spirituality											--	.57**
(12) Non-sensing Spirituality												--

Note: N = 172      \* p < .05      \*\* p ≤ .001

## Appendix D

### Figures

Figure 1

<p>Spiritual Experience</p>	<ul style="list-style-type: none"> <li>• I experience the presence of God or a Higher power in my life</li> <li>• I do not pray to God, a Creator, or a Higher Power</li> <li>• Much of my spiritual experience comes through religious activities</li> <li>• My spiritual experiences help me deal with health or other life problems</li> <li>• My spiritual experiences make it necessary to make changes in myself and my life</li> <li>• I do not enjoy participating in worship or religious services</li> <li>• I believe in God, a Creator, or a Higher Power</li> <li>• I have a sense of internal support or spiritual strength in dealing with illness or other problems</li> <li>• It is my experience that developing and maintaining spiritual health requires effort and work</li> <li>• I have had a spiritual experience or a sense of spiritual awakening</li> <li>• I feel most spiritual or connected to a Higher Power when doing things to help others</li> <li>• I believe that God or my Higher Power will do things for me or to me, regardless of what I do</li> </ul>
<p>Spiritual Locus of Control</p>	<ul style="list-style-type: none"> <li>• God or a Higher Power is so powerful that nothing I do makes any difference</li> <li>• I believe that God, or my Higher Power will not do anything for me which I can do for myself</li> <li>• I have no experience of peace with myself or with others</li> <li>• I do not believe there is such a thing as spiritual health</li> <li>• I do not believe that anything can be done to develop spiritual health</li> <li>• Most of my problems in my life are caused by others or event beyond my control</li> <li>• I do not have an internal experience of being forgiven</li> </ul>
<p>Spiritual Well-being</p>	<ul style="list-style-type: none"> <li>• I experience a sense of harmony with the world and the universe as they exist</li> <li>• I have an internal experience of being accepted for who I am</li> <li>• Much of my spirituality experience comes through my relationship with nature and the natural environment</li> <li>• I believe my life has purpose</li> <li>• I believe my life had meaning</li> <li>• I experience a sense of awe when I consider life and the universe</li> <li>• I am grateful for all I have received from life</li> <li>• much of my spiritual experience comes through reading and thinking</li> <li>• I value other people helping me with my problems</li> </ul>



Figure 2 (Adjusted Subscales)

<p>God Based Spirituality (Religion-based question)</p>	<ul style="list-style-type: none"> <li>• I believe in God, A creator, or a Higher Power</li> <li>• I do not pray to God, a Creator, or a Higher Power</li> <li>• I do not enjoy participating in worship or religious practices</li> <li>• I experience the presence of God or a Higher Power in my life</li> <li>• Much of my spiritual experience comes through religious activities</li> </ul>
<p>Non-God Based Spirituality (High spiritual presence without reference to Religion)</p>	<ul style="list-style-type: none"> <li>• I have had a spiritual experience or a sense of awakening</li> <li>• I have a sense of internal support or spiritual strength in dealing with illness or other problems</li> <li>• I experience a sense of harmony with the world and the universe as they exist</li> <li>• I experience a sense of awe when I consider life and the universe</li> <li>• My spiritual experiences make it necessary to make changes in myself and my life</li> <li>• My spiritual experience help me deal with health or other life problems</li> </ul>
<p>Non-sensing Spirituality (people who are spiritual but don't think they are spiritual)</p>	<ul style="list-style-type: none"> <li>• I believe my life has meaning</li> <li>• I believe my life has purpose</li> <li>• I have an internal experience of being accepted for who I am</li> <li>• I have no experience of peace with myself or with others</li> <li>• I am grateful for all that I have received in my life</li> </ul>