THE RELATIONSHIP BETWEEN SPIRITUAL INTELLIGENCE, MINDFULNESS, AND TRANSFORMATIONAL LEADERSHIP AMONG PUBLIC HIGHER EDUCATION LEADERS

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Abstract

Since the mid-1990s, researchers have grown increasingly interested in the effect of spirituality on a person’s ability to lead others. The spiritual leadership literature has expanded to include the role of spirituality in particular leadership settings, such as higher education, and within particular leadership types, particularly transformational leadership. To date, most research in this area has been theoretical in nature, with very little qualitative or quantitative research being conducted. In an effort to study spirituality more empirically, researchers have begun to consider the role of spiritual intelligence and mindfulness, both of which can and have been studied quantitatively in fields outside of higher education leadership. This research fills a gap in the literature by examining whether or not theoretical similarities seen in the literature between spiritual intelligence, mindfulness, and transformational leadership were observed when the variables were studied quantitatively within a public higher education setting. The following research question was posed: to what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System (UMS)? To answer this question, UMS supervisors and academic chairs were given an electronic survey measuring levels of spiritual intelligence, mindfulness, and transformational leadership. Results were analyzed to determine whether or not statistically significant relationships existed between variables. Findings suggest that statistically significant positive relationships exist between spiritual intelligence, mindfulness, and transformational leadership. These findings may help public higher education leaders recruit, hire, promote, train, and develop future leaders in a more complete, holistic, and effective manner.

**Key words:** spirituality, spiritual intelligence, mindfulness, transformational leadership, higher education
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Chapter 1: Introduction

This dissertation was designed to explore the extent to which the characteristics of spiritual intelligence and mindfulness correlate with transformational leadership among leaders, defined as all supervisors and academic chairs, within the University of Maine System. Chapter one establishes a context for the research problem, describing the value of the study for both scholars and practitioners. It then discusses the research question at the center of the study, the hypotheses proposed, as well as the theoretical framework that provided the foundation for this study. Chapter two reviews the literature while chapter three outlines the study’s methodology. Finally, chapter four describes in detail the study’s findings while chapter five provides a discussion of the results, limitations, and suggestions for future research.

Research Topic

“Ultimately it is the protection and flourishing of their values that humans seek in the leadership of their organizations and institutions. The ultimate tests of leadership end up as moral and spiritual criteria because of the way humans are constituted” (Morrill, 2010, p. 14). It was not until the mid-1990s that researchers began to actively discuss the proposition Morrill put forth in this quote – that spirituality is a fundamental component of organizational leadership (Bolman & Deal, 1995; Conger, 1994; Dehler & Welsh, 1994; Fairholm, 1996; Hawley, 1995; Vaill, 1996). These authors, dissatisfied with the way academia often relegated one’s spiritual need to find meaning and purpose in life to the sidelines as inappropriate for scientific inquiry, suggested that questions of a spiritual nature could not be divorced from the work done in organizations every day, or from scholarly debate about what constitutes quality leadership (Bolman & Deal, 1995; Conger, 1994; Fairholm, 1996).
Since those early theorists began to publish, the topic of spirituality and leadership has only grown in popularity and significance within the popular and scholarly press. An Amazon search revealed over 2,600 books on spirituality and leadership for sale. Scholarly journals have been created for the study of this important topic such as *The Journal of Spirituality, Leadership and Management* and *The Journal of Management, Spirituality and Religion*. Other leadership journals have committed special issues to the discussion of this topic. For example, in 2011 *The International Journal of Leadership in Public Services* published a special issue on values, spirituality, and leadership. Other organizations such as the Academy of Management (AOM) have interest groups focused on the topic of management, spirituality, and religion.

As the literature on leadership and spirituality developed over the years, researchers began to examine the role of spirituality within specific organizational settings such as higher education (Astin, 2004; Hafner & Capper, 2005; Hoppe, 2005; Houston, Blankstein, & Cole, 2008; Hoyle, 2002; Thom, Ma, & Ho, 2005; Woods & Woods, 2008). While still an emerging field, scholars have begun to consider the role spirituality may play in public higher education leadership specifically, where the topic of spirituality has largely been ignored for fear of what is permissible in a public setting (Blanton, 2008; Boje, 2000; Speck, 2005).

Throughout the extant literature on higher education leadership, one particular leadership model is seen with great regularity—transformational leadership, the ability to inspire others toward change (Bass, 1985). While perhaps an imperfect model for studying higher education leadership (Harrison, 2011), transformational leadership continues to be the most frequently discussed leadership model within the higher education leadership literature (Argia & Ismail, 2013; Astin, 2004; Bashman, 2012; Bodla & Nawaz, 2010; Butcher, Bezzina, & Moran, 2011;

Interestingly, many researchers have begun to relate components of transformational leadership with spirituality (Astin, 2004; Boorom, 2009; Chatterjee & Krishnan, 2007; Hartsfield, 2003; Howard, Guramatunha-Mudiwa, & White, 2009; Field, 2003; Jacobsen, 2004; Zwart, 2000), noting that transformational leadership relates to spirituality in a number of ways. For example, transformational leadership and spirituality are both concerned with asking fundamental questions, demonstrating a commitment to values and mission, fostering relationships, embracing interconnectedness, and understanding the world in new and different ways (Astin, 2004; Boorom, 2009; Chatterjee & Krishnan, 2007; Field, 2004; Fry, 2003; Howard, Guramatunha-Mudiwa, & White, 2009). Because of its close connection with the spirituality and higher education leadership literature, transformational and spiritual leadership are two centerpieces of this study.

As interest in spirituality and leadership has grown, and as research in this area has expanded in new and exciting directions, scholars have begun to consider how the study of spirituality and leadership might move beyond theoretical conversations to a more empirical study of the topic. This has lead to the burgeoning of two new streams of spirituality-related literature: spiritual intelligence (Emmons, 2000a; Noble, 2000; Vaughan, 2002; Wolman, 2001; Zohar & Marshall, 2001) and mindfulness (Dhiman, 2009; Hawkins, 2010; Kabat-Zinn, 2003; Santorelli, 2011; Sauer & Kohls, 2011; Sethi, 2009). A number of authors suggest a relationship between spiritual intelligence and leadership (Amram, 2009; Cowan, 2005; Howard, Guramatunha-Mudiwa, & White, 2009; Wigglesworth, 2006; Wolman, 2001; Zohar & Marshall, 2000) as well as between mindfulness and leadership (Boyatzis & McKee, 2005; Carroll, 2007;
Dhiman, 2009; Goldman Schuyler, 2010; Santorelli, 2011; Sauer & Kohls, 2011; Sethi, 2009). These positions informed this study.

While exploratory in nature, researchers have linked characteristics of spiritual intelligence such as the ability to see interconnections, the tendency to ask why and what if questions, and a commitment to values (Noble, 2000; Vaughan, 2002; Wolman, 2001; Zohar & Marshall, 2001) with components of transformational leadership, such as its focus on relationships, its use of innovative thinking to solve problems, and its emphasis on values and mission. Similarly, characteristics of mindfulness have been linked with components of transformational leadership. Examples include a willingness to take risks and encourage critical thinking, a unique ability to connect deeply and empathetically with others, a strong commitment to the development of followers, and a deep connection with one’s passion and purpose in life (Boyatzis & McKee, 2005; Hawkins, 2010; Kabat-Zinn, 2009; Santorelli, 2011; Sauer & Kohls, 2011).

Within the literature, neither spiritual intelligence nor mindfulness is presented as a static quality that a person either does or does not possess. Instead, they are presented as abilities that can be improved upon over time. This makes spiritual intelligence and mindfulness particularly useful concepts within the leadership literature because they represent the potential to improve leadership behavior through training and development. Additionally, in fields such as healthcare and psychology, researchers have created instruments to measure both spiritual intelligence (King & DeCicco, 2009) and mindfulness (Bear et al., 2006). Because of the secular nature of these previous studies, and because these variables can be measured and improved over time, spiritual intelligence and mindfulness have great practical potential within public higher education leadership. If shown to be significantly correlated with transformational leadership,
mindfulness and spiritual intelligence could be useful additions to the current higher education leadership literature, and could offer practical implications for the field of higher education leadership.

**A Gap in the Literature**

While mindfulness has been researched extensively, both qualitatively (Ashcroft, Barrow, Lee, & MacKinnon, 2012; Fisher, Hauck, Bayes, & Byrne, 2012) and quantitatively (Grossman, Niemann, Schmidt, & Walach, 2004; Moore, Brody, & Dierberger, 2009), results have been published almost exclusively within the health and psychology literature. Accordingly, the studies have been related to health and wellness, not higher education leadership. The majority of the limited empirical research studying leadership, and its relationship to spiritual intelligence or mindfulness, has been at the doctoral dissertation level (Amram, 2009; Christ-Lakin, 2010; Doherty, 2011; Hawkins, 2010; Horowitz, 2012), and again, has not been conducted using higher education leaders as subjects. Empirical research on spiritual intelligence and mindfulness in education focuses on either college course curriculum (Bush, 2011; Green & Noble, 2010), college student leadership (Doherty, 2011; Horowitz, 2012), or on K12 instruction (Sherretz, 2011) rather than university leadership. The limited extant empirical research analyzing the relationship between spirituality and leadership among higher education leaders has been conducted almost exclusively from a qualitative perspective (Blanton, 2008; Borger, 2007; Doetzl, 2004; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009). Wide-ranging and thorough searches of the published literature have shown no qualitative or quantitative studies analyzing spiritual intelligence and/or mindfulness within higher education leadership.
The purpose of this study was to examine quantitatively the extent to which spiritual intelligence and mindfulness associate with transformational leadership among supervisors and academic chairs within a public higher education setting. This study extended the literature on spirituality and leadership by examining whether theoretical and qualitative research proposing relationships between spirituality and higher education leadership was supported when the variables were studied quantitatively, and when using the variables of spiritual intelligence and mindfulness specifically. A quantitative approach filled a deficiency in the literature by providing an empirical contribution to the extant conversations about the importance of spirituality in higher education leadership (Hafner & Capper, 2005; Hoppe, 2005; Hoyle, 2002; Thom, Ma, & Ho, 2005; Woods, 2007; Woods & Woods, 2008), and offered an opportunity to further support qualitative studies suggesting the importance of spirituality in higher education leadership (Blanton, 2008; Borger, 2007; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009).

**Statement of the Problem**

The problem addressed in this dissertation was the lack of quantitative research centering on the connections between spiritual intelligence, mindfulness, and transformational leadership among higher education leaders. Based on the extensive publications in recent years linking spirituality and leadership (Astin, 2004; Bolman & Deal, 1995; Boorum, 2009; Chatterjee & Krishnan, 2007; Fairholm, 1996; Field, 2003; Hartsfield, 2003; Howard, Guramatunha-Mudiwa, & White, 2009; Jacobsen, 2004), this topic is growing in importance and popularity within the wider leadership literature, and within higher education leadership in particular. However, the vast majority of published literature in the field of spirituality and higher education leadership remains theoretical in nature (Hafner & Capper, 2005; Hoppe, 2005; Hoyle, 2002; Thom, Ma, &
As stated above, the limited extant empirical research studying spirituality and leadership within a higher education setting is nearly all from a qualitative perspective (Blanton, 2008; Borger, 2007; Doetzel, 2004; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009). A number of these qualitative studies provide evidence that spirituality plays an important role in higher education leadership (Blanton, 2008; Borger, 2007; Dussault, 2010; Terrazas, 2005; Walker & McPhail, 2009).

It is important to determine whether or not these theoretical and qualitative studies are supported when studied quantitatively. While a number of quantitative studies have found a relationship between spirituality and leadership (Boorom, 2009; Chatterjee & Krishnan, 2007; Christ-Lakin, 2010; Field, 2003; Hartsfield, 2003), this researcher knows of only one quantitative study looking at spirituality and leadership within the higher education setting (Jones-Johnson, 2001): a study that used a general spirituality inventory to measure spirituality. No quantitative studies were found analyzing the specific spirituality-related characteristics of either mindfulness or spiritual intelligence and leadership within a higher education setting.

Even though survey instruments have been created and tested for both spiritual intelligence and mindfulness, and theoretical work has been conducted in this area, very little empirical research has been conducted on the role of spiritual intelligence and mindfulness in leadership within any setting. Only a few empirical studies exist. There are at least three quantitative dissertations measuring spiritual intelligence and leadership. One examined spiritual intelligence and transformational leadership among leaders in a military organization (Christ-Lakin, 2010). Another examined spiritual intelligence, emotional intelligence, and leadership effectiveness within a corporate setting (Amram, 2009). The third examined spiritual intelligence and leadership among college students (Doherty, 2011). Only Christ-Lakin’s (2010)
study looked at transformational leadership specifically. In terms of mindfulness, at least two empirical studies exist. One is a qualitative study that examined mindfulness and change leadership within a corporate setting (Hawkins, 2010), and the other quantitative study examined mindfulness and leadership among college student leaders (Horowitz, 2012). Based on this overview, Table 1 outlines the gap in the literature this research seeks to address.

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Significance of the Problem

This study is significant because a quantitative study analyzing the relationships between spiritual intelligence, mindfulness, and transformational leadership fills a gap in the literature and has the potential to contribute to leadership development and training. The study has both theoretical and practical implications, in that it will:

• extend the existing literature on spiritual intelligence, mindfulness, and transformational leadership, which have not been studied together quantitatively before,
• provide a methodology that can be repeated in various higher education settings,
• contribute to the validity and reliability of the three instruments being used in this study, which is important for future quantitative research in this area, and
• provide quantitative evidence supporting the inclusion of mindfulness and spiritual intelligence in leadership recruitment, hiring, promotion, training, and development if the variables are shown to be significantly related.

National-level change. This topic is of particular importance today because of leadership changes occurring at both the national and local level within higher education; changes that have created what Boyle (2010) referred to as a “perfect storm” for higher education leadership (p. 4). Evidence suggests significant change in senior leadership across America’s colleges and universities. For example, there is a national trend of high turnover rates among university presidents and provosts (Fethke & Policano, 2012; Mann, 2010). According to a 2011 survey of college and university presidents conducted by the American Council on Education (ACE), average presidential tenure decreased from 8.5 years to 7 years between 2006 and 2011 (Fethke & Policano, 2012). Eduventures conducted a national survey of provosts and found that 43% of respondents believed provosts were holding positions for shorter periods of
time when compared with five years ago (Mann, 2010). Similarly, Kelderman (2013) wrote that more than one third of chief business officers at colleges and universities plan to retire within four years and about 40% plan to retire as their next career move.

Additionally, demographic characteristics of today’s university leaders appear to be contributing to the high turnover rate amongst university presidents and provosts. A study conducted by ACE found that nearly half of the nation's university presidents, and about 30% of provosts, were 61 years of age or older (Boyles, 2010). According to the U.S. Census Bureau (2000), 37,000 postsecondary education administrator positions will be replaced between 2008 and 2018 (Boyle, 2010). In addition to high turnover rates and the large number of university administrators nearing retirement age, Boyle (2010) pointed to an insufficient pipeline of leaders and a lack of professional development and institutional succession plans. Fullan and Scott (2009) similarly argued that higher education is facing a leadership “succession crisis”, and that the development of future leaders within higher education will require “explicit attention” in coming years (p. 129). Knowing that the growth and development of future higher education leadership will be critical in coming years, it is important to consider what specific type of leadership might be most effective in this setting.

Bamford-Wade (2010) suggested that transformational leadership is well suited for organizational structures such as universities. Because of shared governance, a system in which decision-making is dispersed amongst key stakeholders, formal authoritative leadership styles are often inappropriate and ineffective. Instead, higher education leaders must rely on credibility and relationship building, which aligns well with principles of transformational leadership (Hechanova, 2013). Research also supports the effectiveness of transformational leadership within the educational setting.
Within this setting, transformational leadership behaviors have been found to impact “teachers’ perceptions of school conditions, their commitment to change, and the organizational learning that takes place” (Hallinger, 2003, p. 339). Additional researchers have found that transformational leadership increases commitment to organizational values (Ross & Gary, 2006), reduces teacher’s resistance to change (Oreg & Berson, 2011), and reduces cynicism about change (Bommer, 2005). Kull (2003) looked at the role of transformational leadership in higher education specifically and found it to be positively associated with an increase in followers' alliance, expectations, personal meaning, organizational fit, knowledge and investment, and lower discord. These studies indicate that transformational leadership is an effective way for educational leaders to engage their organizations, particularly during periods of intense change. This makes transformational leadership particularly important as universities leaders address the “succession crisis” (Fullan & Scott, 2009) evident in higher education today.

**Study setting.** The University of Maine System (UMS) was chosen for this study because it provides a microcosm of the “perfect storm” (Boyle, 2010, p. 4) being experienced in higher education leadership across the country. First, a number of schools within the UMS have seen substantial leadership turnover in recent years. Five of the seven universities within the system have seen a new president within the last three years, and the remaining two have had presidential turnover within the past five years. Next, the UMS will undergo significant change in coming years and quality leadership will be required for those changes to be successful. The Chancellor of the UMaine System, Chancellor James Page (2013), foreshadowed the changes in his 2013 State of the University address noting, “Maine’s Universities’ basic educational and operational models are at significant risk” (p. 2). This change calls for UMS to build a more fully integrated system of public higher education “to a level never before seen in Maine” (p. 3).
System-level changes such as those proposed by Chancellor Page will require significant leadership from across the system. System leaders must take a proactive approach and begin cultivating leaders among existing staff and faculty. Finally, the UMS provides an excellent opportunity to extend conversations about spirituality and higher education into the public sector, which scholars have cited as an important step for future research in this area (Blanton, 2008; Boje, 2000).

**Holistic view of leadership.** The increased demand for higher education leaders, both across the nation and within Maine, makes the study of spirituality and leadership an issue of particular importance in higher education today. Given the “perfect storm” (Boyle, 2010) being experienced within higher education leadership, and the vast amount of change higher education institutions will undergo in coming years, institutional leaders must seriously consider how to go about identifying, hiring, and training transformational leaders. Given the effectiveness of transformational leadership within the educational setting (Bommer, 2005; Hallinger, 2003; Kull, 2003; Oreg & Berson, 2011; Ross & Gary, 2006), this leadership model could help organizational leaders better respond to coming challenges. While the literature reveals a great deal about the behaviors associated with transformational leadership, and the results of those behaviors on followers and organizations, less is known about the characteristics that are related to transformational leadership (Hartsfield, 2003), or how to cultivate transformational leadership skills within organizational members. The literature suggests one important way to do this is to treat individuals holistically, understanding that their spiritual reality impacts the way they lead others.

As an emerging field of study, there is no quantitative evidence to support the existing theoretical and qualitative research about the importance of spiritual intelligence or mindfulness
in leadership. While the literature suggests conceptual similarities between spiritual intelligence, mindfulness, and transformational leadership (Dhiman, 2009; Howard, Guramatunha-Mudiwa, and White, 2009; Sethi, 2009), there is no research examining the extent to which these similarities hold up when studied quantitatively in a public higher education setting. It is critical that this gap be filled, as mindfulness and spiritual intelligence could prove to be powerful tools for analyzing this important topic in a quantitative manner.

**Research Question**

As the above research suggests, spirituality is of increasing interest in the leadership literature. While much has been written on this topic, and instruments have been created to help study it quantitatively, searches of the extant literature have yielded no indication of any quantitative research examining the role of either spiritual intelligence or mindfulness within public higher education leadership. To advance the study of this important topic, the following research question was proposed:

- To what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System?

The purpose of this question was to examine the relationship between spiritual intelligence, mindfulness, and transformational leadership. As will be discussed in chapter two, conceptual similarities exist between components of spiritual intelligence, components of mindfulness, and components of transformational leadership. This research question examined the extent to which these conceptual similarities were supported by statistical data when the variables were studied quantitatively. By studying the extent to which these variables were correlated, this research hoped to shed light on how two important characteristics, spiritual intelligence and mindfulness,
were correlated with transformational leadership among public higher education leaders, which could potentially contribute to practice by informing the way higher education leaders are recruited, hired, promoted, trained, and developed.

**Study variables and instruments.** Variables studied in this research included *spiritual intelligence, mindfulness, and transformational leadership*. Spiritual intelligence was operationalized using the Spiritual Intelligence Self-Report Inventory (SISRI-24) (King & DeCicco, 2009), which consists of four subfactors: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. Mindfulness was operationalized using the Five Factor Mindfulness Questionnaire (FFMQ-SF) (Baer et al., 2006), which is comprised of five subfactors: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. Finally, transformational leadership was operationalized using the Multifactor Leadership Questionnaire (MLQ-5X), which uses the following subfactors: idealized influence (attributed and behavior), intellectual stimulation, individualized consideration, and inspirational motivation (Bass & Avolio, 1995).

**Hypotheses.** This study hypothesized a positive correlation between mindfulness and spiritual intelligence, a positive correlation between spiritual intelligence and transformational leadership, a positive correlation between mindfulness and transformational leadership, and a positive correlation between mindfulness and spiritual intelligence combined and transformational leadership.

**Null hypotheses.**

H1₀: There is no correlation between mindfulness and spiritual intelligence among leaders within the University of Maine System ($r = 0$).
H2₀: There is no correlation between spiritual intelligence and transformational leadership among leaders within the University of Maine System ($r = 0$).

H3₀: There is no correlation between mindfulness and transformational leadership among leaders within the University of Maine System ($r = 0$).

H4₀: Mindfulness and spiritual intelligence do not significantly predict transformational leadership among leaders within the University of Maine System ($r = 0$).

Research hypotheses.

H1: Mindfulness is positively correlated with spiritual intelligence among leaders within the University of Maine System ($>x, >y$).

H2: Spiritual intelligence is positively correlated with transformational leadership among leaders within the University of Maine System ($>x, >y$).

H3: Mindfulness is positively correlated with transformational leadership among leaders within the University of Maine System ($>x, >y$).

H4: Mindfulness and spiritual intelligence positively predict transformational leadership among leaders within the University of Maine System ($>x, >y, >z$).

Theoretical Framework

Despite the growing interest around the role of spirituality in higher education leadership, no quantitative research exists analyzing the relationship between the specific spirituality-related characteristics of spiritual intelligence and mindfulness and transformational leadership within a public higher education setting. To address this problem of practice and research question, this study was grounded in the following theoretical constructs: transformational leadership theory (Bass, 1985), spiritual intelligence (Emmons, 2000a), and mindfulness (Kabat-Zinn, 2003). The following section describes these theories individually, and then outlines key conceptual
similarities that exist between them.

**Transformational leadership theory.** Transformational leadership is often traced back to Burns (1978) who first described a type of leadership he referred to as transforming leadership. Bass (1985) further developed this concept coining the term transformational leadership, and it was Leithwood (1994) who applied transformational leadership specifically to the educational setting. Transformational leadership, the ability to inspire others toward change, is often compared with transactional leadership, which involves quid pro quo trade-offs between leader and follower (Bass, 1985). Transformational leadership was selected for this study not only because of its conceptual similarities with components of spirituality as listed above, but also because of its appropriateness within the higher education organizational structure, and because of the frequency with which it is used as a leadership model in higher education research.

Bamford-Wade (2010) wrote that transformational leadership is particularly useful when working within organizations that have a system of shared governance, such as universities. Shared governance is a system in which decision-making is dispersed amongst key stakeholders, and accordingly, higher education leaders are less likely to base their influence on formal authority (Bamford-Wade, 2010). Instead, they rely more heavily on credibility and relationship building, which aligns well with the principles of transformational leadership (Hechanova, 2013). Bass and Avolio (1994) wrote that key characteristics (or the four Is) of transformational leadership include individual consideration, intellectual stimulation, inspirational motivation, and idealized influence. Each of these constructs focuses on a leader’s interactions with others and on a leader’s ability to influence others toward change.
Individual consideration refers to paying particular attention to group members’ needs (Bass & Avolio, 1994). This characteristic encourages a leader to seek buy-in from various stakeholders, to invest significant energy in one-on-one relationships, and to provide individual encouragement and support to organizational members in the form of coaching and mentoring (Gumusluoglu & Ilsev, 2009). Intellectual stimulation concerns a leader’s ability to inspire his or her followers to consider problems in new and different ways. In an environment of intellectual stimulation, creative approaches to problem solving are not only allowed, but encouraged (Stewart, 2006). Inspirational motivation refers to a person’s ability to, with the help of organizational members, create a sense of vision and mission for their organization (Bass & Avolio, 1994). Idealized influence, also referred to as charismatic leadership, involves modeling the type of behavior a leader hopes to see from his or her followers, including a strong commitment to values, mission, and purpose (Stewart, 2006). Together, the four Is were measured in this study using the Multifactor Leadership Questionnaire (MLQ-5X) (Bass & Avolio, 1995).

**Spiritual intelligence.** As previously discussed, research in spirituality and its relationship with leadership emerged prominently in the popular and scholarly literature in the mid-1990s (Bolman & Deal, 1995; Dehler & Welsh, 1994; Fairholm, 1996). Around the year 2000, a concept emerged that is a vehicle to help researchers explore the relationship between spirituality and leadership more thoroughly—spiritual intelligence (Emmons, 2000a; Noble, 2000; Vaughan, 2002; Wolman, 2001; Zohar & Marshall, 2001). Even though spirituality is far more than a form of intelligence, spiritual intelligence provides a mechanism for analyzing spirituality in a more empirical manner (Emmons, 2000a). Emmons (2000b) described how spirituality differs from spiritual intelligence, noting that spirituality is a broad concept referring
to a general search for meaning and purpose in life, while spiritual intelligence is a cognitive ability that can be improved upon over time and can be used with purpose and utility. Specifically, he defined spiritual intelligence as "the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment" (Emmons, 2000b, p. 59). Zohar and Marshall (2001) began writing about spiritual intelligence around the same time as Emmons. These authors define spiritual intelligence as the intelligence with which we solve problems of meaning, place our actions in a broader context, and decide that one course of action is more meaningful than another (Zohar & Marshall, 2001).

In support of this new body of literature, King and DeCicco (2009) developed a self-report survey instrument to measure spiritual intelligence—the Spiritual Intelligence Self Report Inventory (SISRI-24). This instrument, used in this study, divides spiritual intelligence into four key components: critical existential thinking, personal meaning production, transcendent awareness, and conscious state expansion. Critical existential thinking involves “the capacity to critically contemplate meaning, purpose, and other existential or metaphysical issues” (King & DeCicco, 2009, p. 70). Personal meaning production is defined as “the ability to construct personal meaning and purpose in all physical and mental experiences, including the ability to create and master a life purpose” (King & DeCicco, 2009, p. 70). Transcendent awareness refers to a person’s capacity to perceive transcendent dimensions of the self, of others, and of the physical world (i.e. interconnectedness), and conscious state expansion refers to a person’s ability to enter heightened states of consciousness (King & DeCicco, 2009, p. 70).

**Mindfulness.** Although a mostly secularized term today, mindfulness has strong Buddhist origins (Dhiman, 2009). It wasn’t until John Kabat-Zinn (2009) began his Mindfulness-Based Stress Reduction (MBSR) program to help patients deal with stress and pain
that the term gained popularity within the health and psychology literature. Kabat-Zinn (2003) defined mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145). Kabat-Zinn (2012) outlined seven attitudinal qualities that form the basis for mindfulness practice: non-judging, patience, beginner’s mind, trust, non-striving, acceptance, and letting go.

Extensive research has been done in the health and psychological disciplines around mindfulness and mindfulness-based interventions (Ashcroft, Barrow, Lee, & MacKinnon, 2012; Brown, Marquis, & Guiffrida, 2013; Caldwell, Baime, & Wolever, 2012; Moore, Brody, & Dierberger, 2009).

Most authors define mindfulness in a manner similar to that of Kabat-Zinn (2003). For example, Dane’s (2010) definition of mindfulness draws from an overview of literature and states that mindfulness is "a state of consciousness in which attention is focused on present-moment phenomena occurring both externally and internally" (p. 1000). Sauer and Kohls (2011) defined mindfulness using two components: attention to the present moment and acceptance. They wrote, mindfulness is "keeping one's attention on what is happening at the moment without cognitively evaluating it" (Sauer & Kohls, 2011, p. 293). For this study, mindfulness was measured using the Five Facet Mindfulness Questionnaire (FFMQ-SF). This scale measures five separate factors of mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Observing refers to “noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells” (Baer et al., 2008, p. 330). Describing refers to “labeling internal experiences with words”, and acting with awareness refers to “attending to one’s activities of the moment” (Baer et al., 2008, p. 330). Finally, non-judging
of inner experience refers to “taking a non-evaluative stance toward thoughts and feelings” while non-reactivity to inner experience is the “tendency to allow thoughts and feelings to come and go, without getting caught up in or carried away by them” (Baer et al., 2008, p. 330).

**Transformational leadership, spiritual intelligence, and mindfulness.** Conceptual similarities can be seen in the literature linking components of spiritual intelligence and mindfulness with components of transformational leadership. For example, as a component of intellectual stimulation, organizational members are encouraged to take risks and question assumptions (Vinger & Cilliers, 2006). Similarly, Zohar and Marshall (2001) wrote that indicators of high spiritual intelligence include a tendency to ask ‘why’ and ‘what if’ questions, and the ability and inclination to work against convention. Spiritually intelligent individuals more naturally question long-standing assumptions about how an organization can and should operate, and they may more easily consider unique, creative solutions to problems (Zohar & Marshall, 2000).

These characteristics can also be seen among mindful leaders. Mindful leaders are more open to the ideas of others and allow conflict and disagreement to be addressed without defensiveness (Sethi, 2009). They also:

- have enhanced clarity and creative thinking (Dhiman, 2009),
- look freshly at each situation (Langer, 1989),
- are less attached to a particular point of view (Martin, 2002),
- have great capacity for novel thinking (Sauer & Kohls, 2011),
- are less fearful of failure and more able to take risk and encourage risk taking (Santorelli, 2011), and
• make it safe for others to explore new ideas, concepts, and possibilities (Hawkins, 2010).

Mindful leaders also have the ability to “relate in a disciplined and efficient manner to the steady stream of thoughts that can clutter the present moment and obscure the stillness from which true innovation and clear-seeing emerges” (Dhiman, 2009, p. 73). These characteristics align well with the intellectual stimulation component of transformational leadership.

Transformational leadership, particularly the characteristics of idealized influence and inspirational motivation, is also heavily oriented towards the importance of values, mission, and purpose (Bass & Avolio, 1994). A spiritually intelligent individual is inspired by vision and values (Zohar & Marshall, 2001). A mindful leader sees greater connection between their doing life and their being life (Dhiman, 2009), is more reflective than reflexive, considering important long term goals rather than reacting impulsively in the moment (Sauer & Kohls, 2011), is able to develop a deep connection with their passion and purpose (Boyatzis & McKee, 2005), has a heightened appreciation for what is really important, and has a more refined sense of who they want to be as they pursue their life’s calling (Dhiman, 2009). They also have a deeper level of self-awareness, which allows leaders to “act in ways that are not only meaningful to us but inspiring to others” (Boyatzis & McKee, 2005, p. 114).

With individual consideration, transformational leaders place a great deal of value in one-on-one relationships. This is also a component of spiritual intelligence, which according to nearly every available definition, places a strong emphasis on the interconnection that exists between individuals. This sense of interconnection also encourages people to view others as whole people and not just co-workers or employees, which is an important element of individual consideration (Bass & Avolio, 1994). Finally, spiritually intelligent individuals are reluctant to
cause harm to individuals and avoid doing so to any extent possible (Zohar & Marshall, 2001). This is consistent with individual consideration, which creates an environment where individuals’ needs and concerns are considered and respected (Stewart, 2006).

Similarly, mindful leaders listen to understand, not just hear or respond (Hawkins, 2010; Sethi, 2009). They place high value on creating supportive relationships (Boyatzis & McKee, 2005), have greater empathy for themselves and others (Hawkins, 2010; Kabat-Zinn, 2009), are less narcissistic, and are less engrossed with their own thoughts/feelings, which allows for more openness and receptivity to others (Sauer & Kohls, 2012). They have a unique ability to connect deeply with others, as well as a deep commitment to the development of others (Hawkins, 2010). Here again similarities are seen between mindfulness and spiritual intelligence and the individual consideration component of transformational leadership.

**Similarities between the models.** Table 2 summarizes the alignment of key components of transformational leadership, spiritual intelligence, and mindfulness as described above.

<table>
<thead>
<tr>
<th><strong>Table 2</strong></th>
<th><strong>Theoretical Framework Summary: Alignment of Key Components of Transformational Leadership, Spiritual Intelligence, and Mindfulness</strong></th>
</tr>
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</table>
| **Focus on values, mission, and purpose, as well as moral/ethical behavior** | Transformational leaders:  
- Emphasize the importance of mission and purpose (Bass & Avolio, 1994)  
- Behave in a moral and ethical manner (Bass & Avolio, 1994)  
- Model behavior they hope to see from their followers, including commitment to values and mission (Stewart, 2006)  
- Create a sense of vision and mission for their organization, and then repeatedly emphasize the | Spiritually intelligent individuals:  
- See a higher-level connection/purpose between elements and rise above daily difficulties toward that higher purpose (Emmons, 2000b)  
- Ask fundamental questions that speak to purpose and mission (Astin, 2004)  
- Sanctify, or imbue, the daily work of an organization with a sense of higher meaning and purpose (Emmons, 2000a) | Mindful individuals:  
- See greater connection between their doing life and their being life, and have a heightened appreciation for what is really important (Dhiman, 2009)  
- Are more reflective than reflexive; they consider important long term goals rather than reacting impulsively in the moment (Sauer & Kohls, 2011)  
- Are more likely to exhibit moral and |
<table>
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<tr>
<th><strong>Encourage “outside-the-box” thinking and risk taking</strong></th>
<th>Transformational leaders:</th>
<th>Spiritually intelligent individuals:</th>
<th>Mindful individuals:</th>
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<tr>
<td>• Encourage organizational members to take risks and question assumptions (Vinger &amp; Cilliers, 2006)</td>
<td>• Have a marked tendency to ask why/what if questions and to seek fundamental answers (Zohar &amp; Marshall, 2001)</td>
<td>• Are more open to the ideas of others (Sethi, 2009) and less attached to a particular point of view (Martin, 2002)</td>
<td>• Are less fearful of failure, and more able to take risk and encourage risk taking (Santorelli, 2011)</td>
</tr>
<tr>
<td>• Create an environment where creative approaches to problem solving are not only allowed, but are encouraged (Stewart, 2006)</td>
<td>• Possess a facility for working against convention (Zohar &amp; Marshall, 2001)</td>
<td>• Have enhanced clarity and creative thinking, and are thus able to relate in a disciplined manner to the stream of thoughts that “clutter the present moment and obscure the stillness from which true innovation and clear-seeing emerge” (Dhiman, 2009, p. 73)</td>
<td>• Look freshly at each situation; have great capacity for outside the box thinking (Langer, 1989; Sauer &amp; Kohls, 2011)</td>
</tr>
<tr>
<td>• Understand that problem solving takes creativity and risk (Bass &amp; Avolio, 1994)</td>
<td>• Have the capacity to be flexible (Zohar &amp; Marshall, 2001)</td>
<td>• Are less fearful of failure, and more able to take risk and encourage risk taking (Santorelli, 2011)</td>
<td>• Make it safe for others to explore new ideas and possibilities (Hawkins, 2010)</td>
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<tr>
<th><strong>Focus on the needs of others and on</strong></th>
<th>Transformational leaders:</th>
<th>Spiritually intelligent individuals:</th>
<th>Mindful individuals:</th>
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<tbody>
<tr>
<td>• Pay particular attention to group</td>
<td>• Are reluctant to cause</td>
<td>• Can focus on what others are saying.</td>
<td></td>
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building relationships

| members’ needs; create environment where individuals’ needs are respected (Bass & Avolio, 1994; Stewart, 2006) | unnecessary harm (Zohar & Marshall, 2001) | They listen to understand, not just hear or respond (Hawkins, 2010; Sethi, 2009) |
| Invest significant energy in one-on-one relationships (Gumusluoglu & Ilsev, 2009) | See interconnections that exist between people and understand the importance of investing in and maintaining relationships to foster those interconnections (Emmons, 2000a; Noble, 2000; Wolman, 2001; Zohar & Marshall, 2001) | Place high value on creating supportive relationships (Boyatzis & McKee, 2005) |
| Provide individual encouragement to organizational members through coaching/mentoring (Gumusluoglu & Ilsev, 2009) | Have a capacity to perceive transcendent dimensions of the self, of others, of the physical world (non-materialism, interconnectedness, etc.) (King & DeCicco, 2009) | Have greater empathy for themselves and others (Hawkins, 2010; Kabat-Zinn, 2009) |
| View each organizational member as a whole person and not just an employee or co-worker (Bass & Avolio, 1994) | | Are less engrossed with their own thoughts/feelings, which allows for more openness and receptivity to others (Sauer & Kohls, 2012) |
| Put the needs of others before their own (Bass & Avolio, 1994) | | Have a unique ability to connect deeply with others and a deep commitment to the development of others (Hawkins, 2010) |

While Table 2 provides an overview of key theoretical similarities between the variables of interest in this study, Figure 1 provides a visual representation of how the proposed research has been conceptualized. At the top of the diagram, the large theoretical constructs that provide the foundation for this study are listed along with their corresponding seminal author. The diagram shows the proposed relationships between these three theoretical constructs. Moving down, the diagram shows how each of these major theories was operationalized in this study: spiritual intelligence measured with the Spiritual Intelligence Self-Report Inventory (SISRI-24), mindfulness measured with the Five Factor Mindfulness Questionnaire (FFMQ-SF), and transformational leadership measured with the Multifactor Leadership Questionnaire (MLQ-5X). At this lower level, the diagram also outlines the four proposed hypotheses.
Figure 1. Theoretical framework diagram showing relationship between large theoretical constructs, operationalization of variables, and research hypotheses.

**Differences between the models.** While there are many conceptual points of convergence between transformational leadership, spiritual intelligence, and mindfulness, as
Table 1 and Figure 1 show, there are also differences between these concepts. The most important difference is that while transformational leadership theory explains the behaviors leaders must engage in to create positive change, it does not explain how a person can better prepare him or herself to exhibit these behaviors (Hartsfield, 2003). For example, what internal changes can a leader make to become a better, more transformational leader? Spiritual intelligence and mindfulness, on the other hand, deal with the characteristics a leader possesses. Put simply, transformational leadership looks externally while spiritual intelligence and mindfulness look internally.

**Developing a holistic understanding.** Studying these three theories together provides a closer analysis of how two important characteristics relate to transformational leadership, which allows for a more holistic understanding of what it means to be a transformational leader. This more holistic understanding may help higher education leaders better understand how to prepare future leaders to effectively and proactively respond to change, think creatively about what higher education can and should look like in coming years, create a shared vision that recognizes important local and global interconnections, and honor the unique vision, mission, and purpose of each higher education institution.

Quantitative evidence of significant positive associations between spiritual intelligence, mindfulness, and transformational leadership could have both scholarly and practical implications within higher education leadership. Not only would it fill a gap in the literature, but it would also suggest the importance of including mindfulness and spiritual intelligence in future leadership training and development. It would also suggest that those in a position to hire, recruit, and promote future higher education leaders should begin to consider including questions about spirituality and mindfulness into the hiring, recruitment, and promotion processes. Finally,
conducting this research within the UMS might further scholarly discussions on how to incorporate spirituality into public higher education leadership. Together, these scholarly and practical goals demonstrate the necessity of this study, which was designed to examine the relationships between spiritual intelligence, mindfulness, and transformational leadership among leaders within the University of Maine System.
Chapter 2: Literature Review

This chapter addresses the following literature review questions: (1) In what ways are the characteristics of spirituality, spiritual intelligence, and mindfulness related to transformational leadership? (2) To what extent have these relationships been seen within empirical research on the topic? (3) How can spirituality, spiritual intelligence, and mindfulness be used to understand the type of leadership needed in public higher education today? (4) What legal considerations should be considered when discussing issues of spirituality within the public higher education setting? The literature was thoroughly interrogated using the following key terms: transformational leadership, public higher education, law, legal, spirituality, spiritual intelligence, spiritual leadership, mindfulness, and mindful leadership.

There are four major bodies of literature underpinning this study: transformational leadership theory, spiritual leadership theory, spiritual intelligence, and mindfulness. Research is presented examining theoretical relationships between these variables as well as the degree to which these theoretical relationships have been supported with empirical research. Implications for addressing issues of spirituality within a public higher education setting are then discussed emphasizing important legal considerations.

This review suggests that while theoretical and qualitative studies suggest relationships between the characteristics of spiritual intelligence, mindfulness, and transformational leadership, there has been limited quantitative research in this area. Quantitative research on this topic fills a deficiency in the literature by providing empirical support for the existing theoretical conversations surrounding the importance of spirituality in higher education leadership. It also offers an opportunity to support qualitative studies suggesting the importance of spirituality in
higher education leadership. This review begins with an overview of the major theoretical constructs guiding this research, beginning with transformational leadership theory.

**Transformational Leadership Theory**

One of the most frequently discussed models of leadership within higher education is that of transformational leadership (Stewart, 2006). Transformational leadership is often traced back to Burns (1978) who first described a type of leadership he referred to as transforming leadership. Bass (1985) further developed this concept coining the term transformational leadership, and Leithwood (1994) applied transformational leadership specifically to the educational setting. Transformational leadership, the ability to inspire others toward change, is often contrasted with transactional leadership, which involves quid pro quo trade-offs between leader and follower (Bass, 1985). Bass and Avolio (1994) wrote that key characteristics, or the four Is, of transformational leadership include: individual consideration, intellectual stimulation, inspirational motivation, and idealized influence. Each of these items focuses on a leader’s interactions with others and on a leader’s ability to influence others toward change.

**Individual consideration.** Individual consideration refers to paying particular attention to group members’ needs (Bass & Avolio, 1994). This characteristic is what encourages a leader to seek buy-in from various university stakeholders, to invest significant energy in one-on-one relationships, and to provide individual encouragement and support to organizational members in the form of coaching and mentoring (Gumusluoglu & Ilsev, 2009). An individually considerate leader actively listens to others, accepts individual differences, and views each organizational member as a whole person and not just an employee or co-worker (Bass & Avolio, 1994). This type of behavior is important when leading change in a higher education setting where a number of influential stakeholder groups exist.
**Intellectual stimulation.** Intellectual stimulation concerns a leader’s ability to inspire his or her followers to consider problems in new and different ways. In an environment of intellectual stimulation, creative approaches to problem solving are not only allowed, but are encouraged (Stewart, 2006). As universities face increasingly complex challenges, this type of creativity will be important. Michael Fullan (2007) wrote that leadership is about mobilizing people to solve complex, non-linear problems that have yet to be solved. This type of problem solving takes creativity and risk taking that must be supported and encouraged by leadership. Transformational leadership is ultimately about improving the capacity of organizational members to solving complex organizational problems (Leithwood, Begley, & Cousins, 1994), and intellectual stimulation allows institutions to do this by creating a safe environment for creative, innovative, and even risky ideas to emerge.

**Inspirational motivation.** Inspirational motivation refers to a person’s ability to, with the help of organizational members, create a sense of vision and mission for their organization (Bass & Avolio, 1994). Leaders motivate and inspire others by setting high standards of performance, having clear expectations, and encouraging organizational members to believe they can reach their goals and achieve their shared vision (Gumusluoglu & Ilsev, 2009). As the environment of higher education continues to evolve, the role of vision, mission, and purpose will only grow in importance (Miller & Miller, 2001). With an increasingly complex higher education environment, and new players joining the market each year, it will be important that institutional leaders understand their organization’s unique purpose and mission in a new and complex field.

**Idealized influence.** Idealized influence, also referred to as charismatic leadership, involves modeling the type of behavior a leader hopes to see from his or her followers, including
a strong commitment to values, mission, and purpose (Stewart, 2006). Group members want to emulate a transformational leader because these leaders put the needs of others before their own, they do not use power for personal gain, they share risk with other organizational members, and they behave in a moral and ethical manner (Bass & Avolio, 1994).

These four Is of transformational leadership (Bass & Avolio, 1994) have been studied by researchers to see if the behaviors associated with transformational leadership are truly able to promote organizational change; a number of studies suggest that they do. Researchers have found transformational leadership behavior to be associated with organizational change (Eisenbach, Watson, & Pillai, 1999), individual commitment to change (Herold et al., 2008), reduced cynicism about organizational change (Bommer, Rich & Rubin, 2005) and organizational innovation (Gumusluoglu & Ilsev, 2009). Within education, transformational leadership behaviors have been found to: impact “teachers’ perceptions of school conditions, their commitment to change, and the organizational learning that takes place” (Hallinger, 2003, p. 339), increase commitment to organizational values (Ross & Gary, 2006), reduce teacher’s resistance to change (Oreg & Berson, 2011), and reduce cynicism about change (Bommer, 2005).

Bamford-Wade (2010) wrote that transformational leadership works particularly well within organizations that have shared governance, such as universities. Because of shared governance, a system in which decision-making is dispersed amongst key stakeholders, higher education leaders are less able to base their influence on formal authority. Traditional chain-of-command leadership styles are much less effective in environments where authority is dispersed. Instead, higher education leaders must rely more heavily on credibility and relationship building, which aligns well with principles of transformational leadership (Hechanova, 2013). Kull (2003)
looked at the role of transformational leadership in a higher education setting and found it to be positively associated with an increase in followers' alliance, expectations, personal meaning, organizational fit, knowledge and investment, and lower discord. These studies indicate that transformational leadership is an effective way for university leaders to engage their organizations during periods of intense change. While the literature reveals a great deal about the behaviors associated with transformational leadership, and the results of those behaviors on followers and organizations, less is known about the characteristics that correlate with transformational leadership (Hartsfield, 2003). To explore this issue more closely, this analysis now turns to spiritual leadership theory and to recent attempts by researchers to link components of spirituality with transformational leadership. This discussion provides important context relating to the two key variables of interest in this study – spiritual intelligence and mindfulness.

**Spiritual Leadership Theory**

Beginning in the mid-1990s, a number of researchers began to discuss the role of one particular characteristic thought to be associated with quality leadership, spirituality (Bolman & Deal, 1995; Dehler & Welsh, 1994; Fairholm, 1996). Spiritual leadership theorists sought to better understand how a person’s internal life affects his or her ability to successfully lead others (Fry, 2003; Hartsfield, 2003). Helen Astin (2004) provided a definition of spirituality, writing that:

> spirituality concerns the values that we hold most dear, our sense of who we are and where we come from, our beliefs about why we are here—the meaning and purpose that we see in our work and our life—and our sense of connectedness to each other and the world around us. (p. 4)
Fry (2003) wrote that spirituality can be used to lead others. To achieve this, Fry explained that leaders must create a sense of calling for members in which people feel a sense of purpose in what they do, and a sense of belonging within their organizational culture. Fry (2003) also wrote that spiritual leadership is required for an organization to learn and grow, and that it can help motivate employees intrinsically by providing vision, values, hope, loving relationships, and a connection to something larger than themselves.

**Spirituality and transformational leadership.** A number of conceptual similarities can be seen in the literature between transformational and spiritual leadership theories. In the same way that transformational leadership emphasizes the importance of relationships (Bass, 1985), spirituality deals with the interconnections we feel among one another and with the world in which we live (Astin, 2004). Spirituality drives us to ask fundamental questions that speak to mission and purpose (Astin, 2004), which aligns well with the transformational leadership behaviors of idealized influence and inspirational motivation, also emphasizing mission and purpose (Bass & Avolio, 1994). Helen Astin (2004) described that in order to truly transform an organization, an internal transformation is required. This internal transformation requires considering spiritual elements such: self-awareness, authenticity, empathy, values, and connectedness (Astin, 2004).

While many researchers are drawn to the topic of spirituality, perhaps by a search for meaning and purpose in their own lives, Klenke (2003) raised important concerns about the study of spirituality and education leadership. First, defining spirituality is difficult, making the study of spirituality challenging. This problem is confounded when spirituality is studied with leadership, a similarly difficult concept to define. Second, perhaps following from this lack of a clear definition is that spirituality is difficult to measure. Klenke (2003) wrote that these issues
must be further studied in order to advance the theoretical conversation about spirituality and education leadership.

Dent, Higgins, and Wharff (2005) also suggested that further distinctions and clarifications were needed, and that “researchers must use the utmost care in defining (spirituality) and showing how it is different from other concepts that can be utilized without the controversy of spirituality associated with them” (p. 647). As these authors noted, spirituality invokes a certain level of concern, particularly in the scholarly arena, that spirituality is too closely tied to religion. Nearly all scholars writing on this topic, however, agree that while religion may be a source of spirituality for some, the two variables need not be related. In fact, most scholars writing about spirituality and leadership intentionally and purposively draw a bright red line between religion and spirituality (Benefiel, 2008; Bolman & Deal, 1995; Dehler & Walsh, 1994). For example, Hoppe (2007) explained that religion relates to a specific, formal doctrine, while spirituality transcends any one particular belief system and refers more to a universal search for meaning.

**Spiritual Intelligence**

Around the year 2000, a concept emerged that may provide a solution to the elusive nature of researching spirituality and education leadership—spiritual intelligence (Emmons, 2000a; Noble, 2000; Vaughan, 2002; Wolman, 2001; Zohar, 2005; Zohar & Marshall, 2001). Even though spirituality is far more than a form of intelligence, spiritual intelligence provides a mechanism for analyzing spirituality in a more empirical manner (Emmons, 2000a). Emmons (2000b) described how spirituality differs from spiritual intelligence, noting that spirituality is a broader concept referring to a general search for meaning and purpose in life, while spiritual intelligence is a biological ability that can be improved upon over time and can be used with
purpose and utility. Specifically, he defined spiritual intelligence as “the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment” (Emmons, 2000b, p. 59).

This scientific approach to spirituality may provide more concrete ways to study the topic. And because spiritual intelligence can be taught and improved upon over time (Emmons, 2000b; Ronel, 2008), it might be possible to incorporate spiritual intelligence into leadership training. To do so, it is important to consider what characteristics constitute spiritual intelligence. For Emmons (2000a), components of spiritual intelligence include:

- (1) the capacity to transcend the physical and material,
- (2) the ability to experience heightened states of consciousness,
- (3) the ability to sanctify everyday experience,
- (4) the ability to utilize spiritual resources to solve problems,
- (5) the capacity to be virtuous.

(p. 10)

In response to criticism that the fifth item, the capacity to be virtuous, did not meet the necessary criteria for intelligence, Emmons (2000b) later removed it from the list. Using these criteria, a spiritually intelligent leader is able to imbue the daily work of an organization with a sense of higher meaning and purpose, what Emmons (2000a) referred to as sanctifying. Spiritually intelligent individuals are also more likely to see their work as a calling rather than simply a career. They are able to see a higher-level connection between elements and rise above, or transcend, daily difficulties toward that higher purpose (Emmons, 2000b).

Another set of authors, Zohar and Marshall (2000), began writing about spiritual intelligence around the same time as Emmons. These authors defined spiritual intelligence as the intelligence with which we solve problems of meaning, place our actions in a broader context,
and decide that one course of action is more meaningful than another (Zohar & Marshall, 2000).

Components of spiritual intelligence, as defined by Zohar and Marshall (2000), include:

(1) the capacity to be flexible, (2) a high degree of self-awareness, (3) a capacity to face and use suffering, (4) a capacity to face and transcend pain, (5) the quality of being inspired by vision and values, (6) a reluctance to cause unnecessary harm, (7) a tendency to see connections between diverse things, (8) a marked tendency to ask why? or what if? questions and to seek fundamental answers, and (10) possessing a facility for working against convention. (p. 15)

While their definitions differ slightly, most authors agree the spiritual intelligence relates to our ability to seek meaning and purpose in life and work, to discover interconnections, and to use that knowledge to solve daily problems and seek a better life (Emmons, 2000a; Wolman, 2001; Zohar & Marshall, 2000).

Since these authors are proposing a new form of intelligence, it is critical to consult the work of Howard Gardner who developed the initial theory of multiple intelligences in his 1983 book, *Frames of Mind: Theories of Multiple Intelligences*. Since this book was written, many authors have tried to expand the number of intelligences beyond the initial eight proposed by Gardner. The popular term emotional intelligence, for example, emerged in the scholarly debate in Daniel Goleman’s 1995 book, *Emotional Intelligence*. Gardner (1983) did not list either emotional or spiritual intelligence in his list of eight intelligences, but he did include both intrapersonal intelligence (the ability to understand one’s own thoughts, emotions, and feelings) and interpersonal intelligence (the ability to understand the thoughts, emotions, and feelings of others). While emotional and spiritual intelligence may have some similarities, they are actually quite distinct. Emotional intelligence allows people to read and understand their own emotions,
as well as the emotions of those around them, and to respond appropriately given that context (Goleman, 1995). Spiritual intelligence, on the other hand, allows people to reconsider context entirely (Zohar & Marshall, 2000). It allows people to question the status quo, to step outside of situation completely and imagine a better reality.

In response to Emmons’ (2000a) theory of spiritual intelligence, Gardner (2000) challenged that while many aspects of spirituality suggest it may be a form of intelligence, spirituality ultimately does not meet the necessary criteria. Gardner (2003) conceded, however, that in the end “what counts as an intelligence is a judgment call and not an algorithmic conclusion” (p. 10). Other scholars (Edwards, 2003; Hyde, 2004; Mayer, 2000) wrote that while spirituality has many characteristics qualifying it as a form of intelligence, better distinctions are needed and more research is required before this concept can be proven.

Even without a strong endorsement from Gardner (2000), the founder of multiple intelligences, spiritual intelligence is emerging in the literature as a legitimate and useful scholarly concept. Assessment tools have even been designed and tested, and have been shown to accurately measure spiritual intelligence (King & DeCicco, 2009; Manghrani, 2011). With the help of these assessments, researchers are beginning to analyze the impact of spiritual intelligence on leadership, particularly transformational leadership (Christ-Lakin, 2010).

**Spiritual intelligence and transformational leadership.** Authors have also begun to discuss in theoretical terms the similarities that exist between transformational leadership and spiritual intelligence (Howard, Guramatunha-Mudiwa, & White, 2009). For example, as a component of intellectual stimulation organizational members are encouraged to take risks and question assumptions (Vinger & Cilliers, 2006). Similarly, Zohar and Marshall (2001) wrote that indicators of high spiritual intelligence include a tendency to ask why and what if questions
and the ability and inclination to work against convention. Spiritually intelligent individuals also more naturally question long-standing assumptions about how an organization can and should operate, and they more easily consider unique, creative solutions to problems.

Transformational leadership, particularly the characteristics of idealized influence and inspirational motivation, is also heavily oriented towards the importance of values, mission, and purpose (Bass & Avolio, 1994). A spiritually intelligent individual is also inspired by vision and values (Zohar & Marshall, 2000). With individual consideration, transformational leaders place a great deal of value in one-on-one relationships. This is also a component of spiritual intelligence, which according to nearly every available definition, places a strong emphasis on the interconnections that exists between individuals. This sense of interconnection encourages people to view others as whole people, which is an important element of individual consideration (Bass & Avolio, 1994). Finally, spiritually intelligent individuals are reluctant to cause harm to individuals and avoid doing so to the extent possible (Zohar & Marshall, 2001). This is consistent with individual consideration, which creates an environment where individuals’ needs and concerns are considered and respected (Stewart, 2006).

Spiritual intelligence, and the instruments that have been created to measure it, allows for the quantitative study of one important characteristic thought by researchers to be associated with transformational leadership (Howard, Guramatunha-Mudiwa, and White, 2009). Another important characteristic worthy of consideration is mindfulness. Mindfulness, with its recent popularity in the health and psychology literature, may provide a secular way of addressing issues of a spiritual nature within the public higher education setting. Also, a number of mindfulness trainings exist that might serve as a practical mechanism for teaching mindfulness practice to higher education leaders.
Mindfulness

Although a mostly secularized term today, mindfulness has strong Buddhist origins (Dhiman, 2009). It wasn’t until Jon Kabat-Zinn began his Mindfulness-Based Stress Reduction (MBSR) program to help patients deal with stress and pain that the term began to gain popularity within the health and psychology literature (Kabat-Zinn, 2009). Extensive research has been done in the health and psychological disciplines around the effects of mindfulness and mindfulness-based interventions (Ashcroft, Barrow, Lee, & MacKinnon, 2012; Brown, Marquis, & Guiffrida, 2013; Caldwell, Baime, & Wolever, 2012; Moore, Brody, & Dierberger, 2009). Kabat-Zinn (2003) defined mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment” (p. 145). Kabat-Zinn (2012) outlined seven attitudinal qualities that are the basis for mindfulness practice: non-judging, patience, beginner’s mind, trust, non-striving, acceptance, and letting go. Hawkins (2010) provided a similar definition writing, “mindfulness is a state of being based on deep awareness of the present moment and what is going on within and around one that is characterized by openness, curiosity, and acceptance” (p. 42).

Mindfulness and cognitive psychology. Although it is not the construct that will be used for this study, Langer (1989) defines mindfulness from the lens of cognitive psychology. Comparing mindfulness to mindlessness Langer (1989) stated that, “just as mindlessness is the rigid reliance on old categories, mindfulness means the continual creation of new ones” (p. 63). In addition to creating new categories, mindfulness involves “drawing novel distinctions” or “noticing new things” (Langer & Moldoveanu, 2000). While Langer’s definition of mindfulness certainly has points of similarities with eastern mindfulness, her perspective of mindfulness is constructed entirely from a western scientific perspective, and she makes no effort to relate the
two in her work. While interesting, Langer’s definition will not be the definition of mindfulness used in this study.

**Characteristics of mindfulness.** Most authors define mindfulness in a manner more similar to that of Kabat-Zinn (2003). For example, Dane (2010) conferred with Kabat-Zinn (2005) that mindfulness is not a static quality that some people possess and others do not. Instead mindfulness, like spiritual intelligence, is a state of mind that all people possess in some capacity, and a person’s ability to maintain mindful consciousness can be improved upon over time. Dane’s (2010) definition of mindfulness draws from an overview of literature and states that mindfulness is: “a state of consciousness in which attention is focused on present-moment phenomena occurring both externally and internally” (p. 1000). Sauer and Kohls (2011) defined mindfulness using two components: attention to the present moment and acceptance. They wrote, mindfulness is “keeping one's attention on what is happening at the moment without cognitively evaluating it” (Sauer & Kohls, 2011, p. 293). For Sethi (2009), mindfulness allows three skills to develop: focus, awareness, and living in the moment. While slightly different, these definitions generally agree that mindfulness relates to present moment awareness, as well as a non-judgmental and non-reactive response to that awareness.

Researchers have found mindfulness to produce a number of benefits for individuals. In the health field, mindfulness has been found to be associated with: self-regulated behavior, positive emotional states, and declines in mood disturbance and stress (Brown & Ryan, 2003). Within the higher education context, mindfulness has been studied among college students and has been found to have a significant positively association with rational coping and a significant negative relationship with emotional and avoidant coping and perceived stress (Palmer &
Rodger, 2009). Benefits have been seen in the business world as well, where Walach et al. (2007) found that MBSR helped employees deal with stress in their professional environments.

In order to study mindfulness, and to determine its potential benefits, researchers have created assessment tools capable of measuring mindfulness. The two instruments most frequently cited in the literature are the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) and the Five Facet Mindfulness Questionnaire (FFMQ-SF) (Baer, Smith, Lykins et al., 2008; Baer, Samuel & Lykins, 2011; Van Dam, Earleywine & Danoff-Burg, 2009). The MAAS analyzes mindfulness as a single construct—open or receptive awareness of, and attention to, what is taking place in the present (Brown & Ryan, 2003). Conversely, the Five Facet Mindfulness Questionnaire (FFMQ-SF) uses multiple dimensions for mindfulness: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Thus, the FFMQ-SF involves not only paying attention in the present moment, but it emphasizes important characteristics such as non-judgment and non-reaction as well.

Other mindfulness assessments include: Toronto Mindfulness Scale (TMS) (Lau et al., 2006), Kentucky Inventory of Mindfulness Skills (KIMS) (Baer, Smith & Allen, 2004), Cognitive and Affective Mindfulness Scale (CAMS) (Feldman et al., 2007), Philadelphia Mindfulness Scale (PHLMS) (Cardaciotto et al., 2008), Freiburg Mindfulness Inventory (FMI) (Buchheld, Grossman & Walach, 2001), and the Mindfulness Questionnaire (MQ) (Chadwick, Hember, Mead, Lilley, & Dagnan, 2005). The FFMQ-SF attempts to pull the best from a number of these instruments (combining the MAAS, FMI, KIMS, CAMS, and MQ), which is why it was chosen for this study.
**Mindfulness and transformational leadership.** Much like spiritual intelligence, mindfulness began to garner attention from leadership scholars shortly after its introduction in other literature streams such as psychology and health. In a book by Boyatzis and McKee (2005), the authors discussed resonant leadership, which they see as being comprised of three key elements: mindfulness, hope, and compassion. Boyatzis and McKee (2005) wrote about what happens when leaders slip into mindlessness, and how mindfulness is crucial for leading in today’s world. They go on to recommend reflection, practice, and supportive relationships for leaders wanting to cultivate mindfulness and improve their leadership ability.

In his grounded theory research, Hawkins (2010) defined a mindful leader as: “a leader who is accepting, curious, and humble and who has the capacity to selflessly and compassionately connect with others in a desire to bring about the best and/or engender change” (p. 68). He also discussed how mindful leadership helps create organizational change. He wrote that the mindful leadership of change is a process that:

(a) makes the implicit explicit while increasing mindfulness of, and lessening attachments to things, thoughts, emotions, and other objects, (b) engages the collective in understanding where they are and where they might be, (c) forges understanding and movement out of many voices, and (d) uses a holistic process that enables others to determine how they fit and what they owe the world based on what is emerging.

(Hawkins, 2010, p. 68)

Mindfulness training is beginning to grow in popularity not only within the leadership literature, but also within corporate leadership. Fortune 100 and 500 companies are beginning to use mindfulness training to improve employee performance in team-based projects, and to “catalyze embodied leadership, innovation, creativity, emotional intelligence, and effective
communication” (Kabat-Zinn, 2012). Goldman Schuyler (2010) wrote about consulting with corporate leaders on the use of embodied learning and mind training to improve leadership skills.

Most of the literature on mindfulness and leadership discusses leadership in very general terms, without delving into specific types of leadership (Dhiman, 2009; Sauer & Kohls, 2011; Sethi, 2009). However, a number of similarities can be seen in the literature between mindfulness and transformational leadership specifically. For example, mindful leaders: see greater connection between their doing life and their being life (Dhiman, 2009), are more reflective than reflexive and consider important long term goals rather than reacting impulsively in the moment (Sauer & Kohls, 2011), are more likely to exhibit moral/ethical behaviors (Sauer & Kohls, 2011), are able to develop a deep connection with their passion and purpose (Boyatzis & McKee, 2005), and are self-reflective and can help others self-reflect (Hawkins, 2010). These characteristics align nicely with components of idealized influence, such as its emphasis on moral and ethical behavior, a commitment to mission and purpose (Bass & Avolio, 1994), and a commitment to modeling those values for followers (Stewart, 2006).

Mindful leaders also display a number of characteristics that align with components of intellectual stimulation. For example, mindful leaders are less likely to cling to their own ideas, are more open to the ideas of others, and they allow conflict and disagreement to be addressed without defensiveness (Sethi, 2009). Dhiman (2009) wrote that mindful leaders have enhanced clarity and creative thinking, and have the ability to “relate in a disciplined and efficient manner to the steady stream of thoughts that can clutter the present moment and obscure the stillness from which true innovation and clear-seeing emerges” (p. 73). Mindful leaders are also less fearful of failure, and they are more able to take risk and encourage risk taking among others (Hawkins, 2010; Santorelli, 2011). Because of what Kabat-Zinn (2006) referred to as beginner’s
mind, mindfulness allows leaders to see things freshly, as if for the first time (Langer, 1989), to be less attached to a particular point of view (Martin, 2002), and to have a greater capacity for outside-the-box thinking (Kabat-Zinn, 2010; Sauer & Kohls, 2011). All of these characteristics align well with intellectual stimulation, a key component of transformational leadership. Intellectual stimulation refers to a transformational leader’s ability to encourage organizational members to take risks and challenge assumptions (Bass & Avolio, 1994; Vinger & Cilliers, 2006) and to support creativity and innovation within their organization (Stewart, 2006).

Another key component of transformational leadership is individual consideration, which refers to a leader’s ability to pay attention to the needs of others (Bass & Avolio, 1994) and to invest in personal relationships through coaching and mentoring (Gumusluoglu & Ilsev, 2009). Similarly, mindful leaders listen to understand not just hear or respond (Hawkins, 2010; Sethi, 2009). For this reason, and others, mindful leaders have a unique ability to connect deeply with others. They show a deep commitment to the other’s development and personal and professional growth (Hawkins, 2010). They place high value on creating supportive relationships (Boyatzis & McKee, 2005) and have great empathy for both themselves and others (Hawkins, 2010; Kabat-Zinn, 2009). Mindful leaders also tend to be less narcissistic and less engrossed with their own thoughts and feelings, which allows for more openness and receptivity to others (Sauer & Kohls, 2012). These characteristics align well with the leadership behaviors associated with individual consideration.

Finally, characteristics of mindfulness also relate to the final I of transformational leadership—inspirational motivation. Inspirational motivation refers to a leader’s ability to create a sense of shared vision and mission for his or her organization (Bass & Avolio, 1994). They do this by continually emphasizing mission and purpose, and by having high expectations of both
themselves and others. They are able to encourage and inspire organizational members to believe that they can meet high expectations and achieve shared goals (Gumusluoglu & Ilsev, 2009). Similarly, mindful leaders have a heightened appreciation for what is really important (Dhiman, 2009). They set high expectations for others, but also empower others with their strong ability to “clearly communicate responsibilities, authorities, and expectations combined with the capacity to provide flexibility, autonomy, and latitude to others as they carry out their work” (Hawkins, 2010, p. 63). Finally, mindful leaders have a deep level of self-awareness, which allows leaders to act in ways that are not only meaningful but inspiring (Boyatzis & McKee, 2005).

While definitions vary, most definitions of mindfulness describe it as a present moment awareness in which one accepts internal and external realities in a non-judgmental and non-reactive manner. Also consistent among discussions of mindfulness is that it “can be measured, varies from individual to individual, and can be improved with practice” (Hawkins, 2010). These elements are critical for those interested in the role mindfulness might play within leadership development. This tells us that, like spiritual intelligence, mindfulness is not a static ability or inability; it can be taught and improved upon over time. The ability of mindfulness to be taught, and to be measured, has implications for those interested in the role of mindfulness in leadership and leadership development.

As the above research shows, a number of conceptual similarities exist linking transformational leadership, spirituality, spiritual intelligence, and mindfulness. Next, it is important to look at the extent to which these conceptual similarities have been seen within empirical research on the topic.
Empirical Studies Linking Variables

While spirituality and leadership are complex concepts to study empirically, both have been subject to a great deal of qualitative and quantitative research in recent years. Spiritual intelligence and mindfulness provide excellent examples of an effort by researchers to study spirituality, and its effects on leadership, in a more rigorous and scientific manner. The following section outlines the results of a few such studies.

Spirituality and leadership. A number of empirical studies have analyzed the relationship between spirituality and leadership across a range of settings. Dent, Higgins, and Wharf (2005) conducted a qualitative narrative analysis to determine the “factors and conditions necessary for promoting a theory of spiritual leadership within the context of the workplace” (p. 625). Their exhaustive review of the literature resulted in a review of key themes and questions to direct future research in spiritual leadership theory. Jacobsen (1994) studied spirituality and transformational leadership in particular, using the Delphi model to qualitatively examine the relationship between spirituality and transformational leadership among participants. Jacobsen found that spirituality played a key role in the personal and professional lives of those respondents determined to be transformational leaders within their organizations. Issues of integrating spirituality into secular organizations were also discussed. While a majority or respondents were in favor of such an integration, a significant minority had concerns about how this integration might work in a secular setting, particularly in terms of expectations around religious pluralism.

Quantitative studies have also linked spirituality and leadership. Boorom (2009) conducted a quantitative dissertation to examine the extent to which Spiritual Leadership Theory (SLT), and the variables contained within it, related to transformational leadership behaviors as
perceived by both leaders and followers. Boorom found that the transformational leadership characteristics of leaders as perceived by followers helped explain all five variables of SLT (p. 118). Another quantitative study by Chatterjee and Krishnan (2007) examined the influence of both spirituality and political skill on transformational leadership. The researchers found that transformational leadership was enhanced by spirituality but not by political skills. Field (2003) used quantitative analysis to study the relationship between spirituality (measured using a number of spirituality assessment tools) and transformational leadership (measured using the MLQ-5X) among business leaders. Field found positive correlations ranging from $r = .307$ to $r = .416$, and was thus able to confirm that spirituality and transformational leadership had a significant positive correlation among the business leaders assessed. Wellman, Wellman, and Perkins (2009) were also able to find a relatively strong positive and statistically significant Pearson’s $r$ correlation of .448 between spirituality (measured using the Inventory on Spirituality) and leadership (measured using the Leadership Practices Inventory).

Hartsfield (2003) examined the relationship between spirituality, emotional intelligence, and self-efficacy on transformational leadership among leaders within a corporate setting. While positive correlations were found among all three variables, the strongest Spearman’s rho correlations were found between transformational leadership and emotional intelligence ($r = .56$), followed by self-efficacy ($r = .52$) and spirituality ($r = .36$). These variables taken together predicted 40% of the variance in transformational leadership, while spirituality only accounted for 2% of that variance. The only empirical study found that did not find a significant relationship between spirituality (measured using the Spirituality Assessment Scale) and transformational leadership (measured using the MLQ) was a dissertation conducted by Zwart (2000).
While these quantitative studies surely suggest a relationship between spirituality and transformational leadership, the range of findings suggest that the manner in which spirituality is understood and measured is important to research findings. These studies produced results ranging from low to no correlations (Zwart, 2000), to moderate correlations (Hartsfield, 2003), to moderate/strong correlations (Field, 2003; Wellman, Wellman, & Perkins). Given the range of findings present, further research in this area is needed to further clarify these relationships.

**Spiritual intelligence and leadership.** After a thorough analysis of the literature, only one quantitative study was found analyzing spiritual intelligence and transformational leadership (Christ-Lakin, 2010). Christ-Lakin (2010) recently completed a dissertation analyzing the correlation between spiritual intelligence and transformational leadership in a non-profit organization (an Armed Forces Reserves Center in the southwest US). A correlation of .400 was shown to exist between the two variables. To measure spiritual intelligence, Christ-Lakin used the PsychoMatrix Spiritual Inventory (mindfulness, intellectuality, divinity, childhood spirituality, extra sensory phenomenon, community, and trauma).

While not studying transformational leadership specifically, Amram (2009) studied the effect of both emotional and spiritual intelligence on leadership effectiveness, and found EI and SI to be separate constructs that each contributed to leadership effectiveness. Similarly, Doherty (2011) analyzed the relationship between spiritual intelligence and leadership effectiveness among college students. Multiple regression analysis showed that a number of different measures of both spirituality and spiritual intelligence significantly predicted the leadership practices of interest in the study.

**Spirituality and leadership in education.** Educational researchers have recently begun to study the role of spirituality in education leadership (Blanton, 2008; Doetzl, 2004; Hafner &
Capper, 2005; Houston, Blankstein, & Cole, 2008; Hoyle, 2002; Moran & Curtis, 2004; Thom, Ma, & Ho, 2005; Woods, 2007; Woods & Woods, 2008). Dussault (2010) completed a dissertation analyzing the existing literature on spirituality and postsecondary leadership, noting the slow but important growth of this topic. Borger (2007) and Walker and McPhail (2009) studied spiritual leadership in community college leaders, and have both found spirituality to influence effective leadership practice in the community college setting. Terrazas (2005) completed a phenomenological dissertation examining the perspectives of spirituality and its influence on leadership in higher education finding that spirituality enhances educational leadership. Moran and Curtis (2004) used qualitative analysis to examine the role of religio-spirituality in the professional lives of student affairs professionals, and found that most respondents indicated a desire to more freely express this component of their personality in their work with students.

Also using qualitative analysis, Doetzel (2004) examined ten educational leaders and the manner in which they behaved spiritually as well as their spiritual insights. Blanton (2008) conducted a grounded theory qualitative study to examine the relationship between spirituality and leadership among school principals, finding that the “pragmatic work of these principals was grounded in spirituality” (p. vii). Also within the K12 setting, Riaz (2012) examined the relationship between self-report spirituality and transformational leadership among school principals. Transformational leadership was measured from both the principal’s perspective as well as from that of the teachers reporting to the principals. Findings suggested that a principal’s self-reported level of spirituality was related to their being perceived as displaying transformational leadership behavior, particularly that of inspirational motivation and idealized influence behaviors. Interestingly, this studied also measured transaction leadership, and found
no statistically significant relationship between spirituality and any of the transactional leadership subfactors.

The role of spirituality in leadership has been studied not only among K12 and higher education leaders but within students as well. Gehrke (2008) examined the relationship between spirituality and leadership among college students. The Social Responsibility Leadership Scale was used to measure leadership while three separate scales were used to measure spirituality (spirituality, equanimity, and spiritual quest). Pearson’s $r$ scores ranges from weak to moderate across the study’s findings, but a number of positive correlations were found.

While many leadership scholars have examined the role of spirituality in education (Dussault, 2010), there has been more limited research analyzing the role of spiritual intelligence specifically. Recently, Howard, Guramatunha-Mudiwa, and White (2009) studied the role of spiritual intelligence in transformational leadership within the K-12 setting. In their analysis, Howard et al. (2009) found that spiritual intelligence contributes to transformational educational leadership by: expanding our understanding of organizational members, allowing for the development of a deeper understanding of one another, fostering learner-centered teaching, and allowing leaders to tap into larger issues of community values, mission, and purpose.

At the college level, Green and Noble (2010) studied the impact of fostering spiritual intelligence in undergraduate students. The only quantitative study found analyzing spirituality and higher education leadership was a study by Jones-Johnson (2001), which looked specifically at the relationship between spirituality (measured using the Inventory on Spirituality) and five specific leadership practices (Leadership Practices Inventory) among female administrators. The study found significant positive correlations among some of these variables but not all. While there are many studies, both qualitative and quantitative, analyzing the relationships between
spirituality and leadership, none exists analyzing the relationship between spiritual intelligence and transformational leadership among higher education leaders. This gap in the literature, along with the range of findings presented here, makes further research in this area important.

**Mindfulness and leadership.** While a number of empirical studies have been conducted on mindfulness, these studies focus primarily on the mental and physical health fields (Ashcroft, Barrow, Lee, & MacKinnon, 2012; Brown, Marquis, & Guiffrida, 2013; Caldwell, Baime, & Wolever, 2012; Moore, Brody, & Dierberger, 2009). Only now are scholars beginning to analyze mindfulness within the leadership context. Thus far, research in this area is mainly of a theoretical nature (Boyatzis & McKee, 2005; Carroll, 2007; Dhiman, 2009; Goldman Schuyler, 200; Santorelli, 2011; Sauer & Kohls, 2011; Sethi, 2009), and very few empirical studies exist analyzing the relationship between mindfulness and leadership.

Empirical studies that do exist are primarily at the doctoral dissertation level. For example, Hawkins (2010) used a grounded theory approach to study the process by which leaders use mindfulness to engage in organizational change. Stoeckel (2004) completed a phenomenological dissertation interviewing eight community college presidents to discover how community college presidents experienced self-reflection in their leadership roles. Three themes emerged from this study: mindfulness, discovery, and authenticity (Stoeckel, 2004). Horowitz (2012) completed a quantitative dissertation studying the role of mindfulness among college student leaders. This author knows of no research analyzing mindfulness and transformational leadership within higher education leaders. Because spiritual intelligence and mindfulness provide a mechanism for the empirical study of such an important component of human life, our spirituality, further research on this topic is warranted.
Spirituality in Public Higher Education—Legal Considerations

Hoppe (2007) wrote about the role of spiritual leadership theory in higher education noting that spirituality allows higher education leaders to: be more effective, to live a more balanced life, to relate the values they hold personally to the work they do every day, and to understand the interconnections that exist in their life and in the lives around them. Astin and Astin (2004) recently conducted a survey looking at the role of spirituality in the lives of undergraduate college students across the United States. Survey results found that 75% of students agreed that to some or a great extent they were searching for meaning and purpose in life. Another survey of higher education faculty found that four in five faculty members described themselves as a “spiritual person”, and nearly half said that they were spiritual “to a great extent” (Lindholm, 2007). Based on results such as these, Joseph Subbiondo (2011) suggested that higher education in America has entered a postsecular age in which the academic study and practice of spirituality on America’s campuses is gaining renewed interest.

Subbiondo (2011) compared this postsecular age with the secular age in which the objective, empirical search for knowledge was the only appropriate expression of academic inquiry. In fact, much of the past century has seen higher education move sharply away from topics of a spiritual nature toward those of a more scientific nature (Gilley, 2005). However, as recent evidence shows, this trend may be changing. Students, faculty, and staff alike are eager for opportunities to discuss questions of meaning, purpose, and values— topics that in the secular scientific world have been largely ignored (Lindholm & Astin, 2008; Sheep, 2006). While many students and faculty are seeking open, frank dialogue about these important topics, many are unable to find a space for these discussions within higher education (Astin & Astin, 2004). As such, scholars have begun to call for a more intentional approach to spirituality as a
core component of a liberal education (A. Astin, 2004; Zajonc, 2003). Additionally, as described above, researchers are increasingly interested in the role spirituality can and should play within higher education leadership.

What are public university leaders to make of this new desire to incorporate spirituality into higher education and higher education leadership? Public schools have often been the battleground for debates over separation of church and state, and as such, many educational institutions have chosen to ignore the topic of spirituality (Lambie, Davis, & Miller, 2008). Many public institution leaders have assumed that the law requires a complete separation of religious and spiritual matters from public education (Estanek, 2006; Lower, 2004). Without a full understanding of the legal limitations and legal protections afforded by the law, public institution leaders are likely to continue avoiding this important topic. However, as spirituality becomes a topic of greater concern and interest among students, staff, scholars, and institutional leaders, avoidance may no longer be feasible or appropriate.

While many scholars recognize a difference between spirituality and religion (Benefiel, 2008; Dehler & Walsh, 1994; Hoppe, 2007; King, 2007), it is important for public institutional leaders to discover whether or not the law recognizes a difference between religion and spirituality. This has proven challenging over time. In fact, the courts have frequently struggled to consistently define activities that qualify as religious (Clark, 2001). Given the court’s struggle to define religious activity, defining spiritual activity will likely prove even more challenging. To date, the court system has yet to hear a case directly related to spirituality in the work or education setting (Rhodes, 2003). Given the growing interest in spirituality, and the close connection between religion and spirituality for many people, it will not likely be long before a question about spirituality and public education is before the courts. In the meantime, a closer
examination of the legal parameters around religion in the public sector can provide an important frame of reference for public institution leaders wanting to incorporate spirituality on campus.

**Relevant laws.** The two most important laws governing religion and the state can be found in the establishment clause and the free exercise clause of the First Amendment of the United States Constitution. The First Amendment states, “Congress shall make no law respecting an establishment of religion [establishment clause] or prohibiting the free exercise thereof [free exercise clause]” (Lowery, 2004, p. 146). “Congress” has been interpreted by the Supreme Court to apply to all branches of government, including public universities. It is the overlap between these two clauses that often causes confusion. Taken together, these clauses dictate that public institutions neither promote religion, nor prohibit the free expression of religion. This principle is known as the neutrality principle, which requires that governmental agencies maintain neutrality in issues of religion (King, 2007). While many people understand that the state cannot support a particular religion, fewer people realize that the state must also refrain from promoting non-religion over religion (Lowery, 2004). The goal is complete neutrality.

The courts have developed legal precedence to help enforce this goal of neutrality. Named after a landmark case, *Lemon v. Kurtzman* (1971), the courts have established a three-pronged Lemon test for determining if a government program or statue violates the establishment clause of the First Amendment. If any of the following three requirements have been violated, the statute or program will be found in violation of the first amendment. First, “the statue must have secular legislative purposes”. Second, “its principle or primary effect must be one that neither advances nor inhibits religion”. And third, “the statute must not foster an excessive government entanglement with religion” (Lowery, 2004, p. 16).
While the First Amendment provides perhaps the broadest protections related to religion, additional laws are important to consider as well. For example, Title VII of the Civil Rights Act of 1964 provides legal protection for discrimination against a person for his or her religious beliefs or affiliation (Richards, 1997). Similarly, state statues often provide protection for individuals based on religion. Taken together, these laws provide the legal framework through which most questions about religious expression and the public sector are addressed.

**Spirituality on campus.** An administrator could read the above laws and decide that the best plan of action would be to avoid issues of religion and spirituality all together. It is important to consider, however, whether or not this approach will continue to be feasible or appropriate in today’s postsecular higher education environment. Clark (2001) writes that the fear of addressing spiritual matters on campus has contributed to a lack of spiritual development amongst college students. Chickering (2006) argues that universities, even public universities, must begin to help students examine both their own spiritual and religious beliefs, as well as the beliefs of others. In their landmark study on spirituality amongst higher education students, Astin and Astin (2004) found that many college students expressed a desire to engaged in questions of spirituality. More than half of the student surveyed (58%) placed a high value on integrating spirituality into their lives, while nearly three quarters of students (71%) said that they gain spiritual strength by trusting in a higher power. Additionally, students indicated that religious or spiritual beliefs: provide me with strength, support, and guidance (74%), have helped me develop my identity (73%), and give meaning/purpose to my life (67%).

Despite the importance of this topic to many students, more than half of the students (56%) said that their professors never provide opportunities to discuss the meaning and purpose of life. And importantly, only half (55%) are satisfied with how their college experience
provided opportunities for spiritual and religious reflection (Astin & Astin, 2004). While these beliefs certainly do not reflect the beliefs of all students, they do indicate that a substantial number of students are beginning to show interest in this topic, and to feel the need to explore issues of spirituality more fully during their developmental years in college. Additionally, as this literature review has already shown, many higher education leaders are interested in exploring the ways in which spirituality might be used to improve higher education leadership. The question then remains, can and should public universities help facilitate these discussions among students, staff, faculty, and leaders within public higher education?

A number of scholars and faculty members have recently said “yes”, higher education should be facilitating these discussions (A. Astin, 2004; Estanek, 2006; Hoppe & Speck, 2005; Koetting & Combs, 2005). This new emphasis has already shown positive results. Kuh and Gonyea (2006) found that college students who engaged in spirituality-enhancing activities were more likely to attend cultural events on campus, perform community service, and engaged in extracurricular activities. They were also somewhat more likely to be satisfied with college and to view life outside of the classroom positively. Additionally, Lindholm and Astin (2008) found that faculty members who identified as being spiritual (measured by the extent to which they seek opportunities to grow their own spirituality and to integrate spirituality into their own lives), were more likely to use student-centered teaching methods in their courses. These recent studies suggest there may be value in moving toward a more postsecular higher education model in which spiritual questions of meaning and purpose are discussed frequently and openly amongst students, staff, and faculty. For Laurence (1999), this change meant “going beyond the acquisition of knowledge and entering the realms of meaning and purpose” (p. 14).
Given the above legal framework, and the fact that many students, faculty, and staff are eager to begin incorporating spirituality into their work and educational experiences (Astin & Astin, 2004; Lindholm, 2007), how can public university leaders begin to address issues of spirituality on campus while staying firmly within existing legal parameters? Estanek (2006) suggest the need to develop a new understanding of spirituality, one that clearly and distinctly separates it from religion. This new understanding need not be one specific, concrete definition. In fact, Hicks (2002) suggests that leaders refrain from trying to come up with one catchall definition of spirituality. Instead, institutions should create a structure and culture in which staff and students can determine their own religious and spiritual beliefs (Hicks, 2002).

Additionally, Gilley (2005) suggests the need to incorporate the oath of “do no harm” when discussing spirituality. In answering the question “Whose spirituality?” Gilley (2005) writes, “both no one’s and everyone’s” (p. 98). This idea mirrors constitutional law, which refuses to support any one particular religion, but at the same time allows for the expression of all religions and beliefs. Chickering (2006) suggests that faculty consider the role of spirituality to their scholarly work as well as in the classroom. For Chickering, this means applying the same rigorous analytical frameworks applied in the sciences to better examining student spirituality and the role of spirituality in the development of a student values and beliefs.

As spirituality becomes an increasingly popular topic of conversation on college campuses, institutional leaders must attempt to understand this growing desire amongst staff, faculty, and students to discuss not only scientific issues, but issues of a more spiritual nature as well. Instead of running away from spirituality for fear of the potential legal ramifications, leaders must find a way to address this topic with a full understanding of the legal issues involved. This is particularly true if leaders are going to begin incorporating spirituality,
mindfulness, or spiritual intelligence into leadership training and development. Institutions must remain cognizant and respectful of both the limitations and protections awarded by the First Amendment. They must ensure that they remain religiously neutral, and that they do not infringe on the rights of students, faculty, and staff.

Public higher education leaders can respect and honor desires to incorporate spirituality on campus while remaining religiously neutral by: understanding the legal restrictions and protections regarding religion and spirituality in the public sector, encouraging open and honest discussion about this increasingly important topic on campus, creating an environment of religious pluralism where multiple definitions of spirituality and religion are encouraged, and by developing clear institutional policies that address this important topic. These steps might allow higher education leaders to benefit from incorporating spirituality into the higher education environment, including higher educational leadership.

**Issues for Further Study**

While a great deal of research has been conducted on spirituality and leadership, many questions remain unanswered. Many authors describe the complexity of constructs such as leadership and spirituality, and suggest that a great deal of research is needed to peel back the layers of these complex but important concepts (Ashmos & Duchon, 2000), to study different components of spirituality (Chatterjee & Krishnan, 2007), and to research alternative measures for spirituality (Field, 2004; Hartsfield, 2003).

Krishnan (2001) wrote that future research is needed to help practitioners identify and train transformational leaders within their organizations. To do this, scholars write that future research should study the characteristics associated with transformational leadership such as spiritual intelligence and mindfulness (Hartsfield, 2003; Christ-Lakin, 2010; Sethi, 2009).
Researchers have only begun to explore these associations, so additional research is needed using a variety of research methods and survey measurements. Also, because spirituality can often be interrelated with culture, studies must be conducted across a wide range of racial/ethnic/cultural groups (Boorom, 2009; Field, 2004; Gumusluoglu & Ilsev, 2009; Terrazas, 2005).

For those researchers who have created and tested various survey measurements (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; King & DeCicco, 2009; Manghrani, 2011), additional research is needed to further test the validity and reliability of these instruments across multiple participant groups and settings. Field (2004) wrote that this is particularly important for variables as difficult to measure as leadership and spirituality. To date, no research exists using the three instruments proposed in this study: the SISRI-24, the MLQ-5X, and the FFMQ-SF. Using these instruments in a unique setting, with a unique group of participants, will provide valuable information about the reliability and validity of these instruments.

Finally, many of the studies reviewed here call for a better understanding of how spirituality can be more fully and more successfully integrated into organizations (Walker & McPhail, 2009). While somewhat difficult to study empirically, spirituality is fundamental to who we are as individuals, and it cannot and should not be separated from the important work conducted within organizations around the world (Bolman & Deal, 2011; Mitroff & Denton, 1999). This is particularly true for educational institutions whose purpose is to transform the lives of students (Blanton, 2008; Green & Noble, 2010; Houston, Blankstein, & Cole, 2008). Thus, a closer look at the role spiritual intelligence and mindfulness play in transformational leadership in the higher education setting may prove valuable.

As this analysis suggests, it is time to more aggressively consider spiritual intelligence and mindfulness within the context of public higher education leadership. Spiritual intelligence
and mindfulness may both prove to be much-needed conceptual mechanisms for the measurement and empirical analysis of the important characteristic of spirituality. While theoretical and qualitative research suggests conceptual similarities between spiritual intelligence, mindfulness, and transformational leadership (Dhiman, 2009; Howard, Guramatunha-Mudiwa, & White, 2009; Sethi, 2009), there is no research examining the extent to which these similarities hold up when studied quantitatively in the public higher education setting. While legal considerations must be considered, particularly within public higher education, it is critical that this gap be filled as mindfulness and spiritual intelligence could prove to be powerful tools for incorporating spirituality into higher education leadership.
Chapter 3: Methodology

The purpose of this study was to fill a gap in the literature by examining quantitatively the extent to which spiritual intelligence and mindfulness associate with transformational leadership among leaders within a public higher education setting. To do this, this researcher sought to answer the following research question: to what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System? The following null and statistical hypotheses were proposed:

Null Hypotheses

H1\(_0\): There is no correlation between mindfulness and spiritual intelligence among leaders within the University of Maine System (\(r = 0\)).

H2\(_0\): There is no correlation between spiritual intelligence and transformational leadership among leaders within the University of Maine System (\(r = 0\)).

H3\(_0\): There is no correlation between mindfulness and transformational leadership among leaders within the University of Maine System (\(r = 0\)).

H4\(_0\): Mindfulness and spiritual intelligence have no statistical correlation with transformational leadership among leaders within the University of Maine System (\(r = 0\)).

Research Hypotheses

H1: Mindfulness is positively correlated with spiritual intelligence among leaders within the University of Maine System (>x, >y).

H2: Spiritual intelligence is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).
H3: Mindfulness is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).

H4: Mindfulness and spiritual intelligence positively predict transformational leadership among leaders within the University of Maine System (>x, >y, >z).

This chapter first outlines the research design of the study. Next, population and sampling are discussed. This is followed by a discussion of data collection, including instruments and procedures. A discussion of how the data were analyzed follows. Finally, this chapter outlines how the researcher ensured validity, reliability, generalizability, and the protection of human subjects.

**Research Design**

Based on the research question, this study sought to determine the extent to which the characteristics of spiritual intelligence and mindfulness associated with transformational leadership. To explore this relationship, an associational research design was used to determine the nature and intensity of the relationships between variables. Specifically, this study used an explanatory associational research design, using statistical analysis to determine the extent to which spiritual intelligence, mindfulness, and transformational leadership correlate or co-vary; that is, the extent to which changes in one variable were reflected in changes in the other (Creswell, 2008).

According to Creswell (2008), an associational research design should be used when the research goal is to determine the tendency for variables to vary consistently. If the variables of interest vary consistently, the variables can be said to correlate or associated. If they do not vary consistently, they cannot be said to correlate. If variables are found to vary consistently, this would provide useful information about how, and to what extent, the characteristics of spiritual
intelligence and mindfulness are related to transformational leadership. While an associational study cannot be used to prove causation, a true experimental design was simply not possible given the problem of practice or research question described in this study.

There are a few disadvantages of using a non-experimental design. First, because the researcher does not control the environment, the results cannot be used to show causality (Muijs, 2011). Also, causality cannot be shown in a non-experimental design because the researcher cannot be certain of time sequence like in an experimental design. Because an associational design does not show a causal relationship, this type of study cannot prove that one variable causes another, only that the variables vary consistently. Finally, there is a greater chance that an extraneous variable will impact the study’s results when using a non-experimental design. While a non-experimental study does have these limitations, the results of an associational study can inform further studies and can demonstrate a quantitative relationship between variables. A strong association between two variables can have a great deal of predictive power to guide future research and practice in higher education leadership.

**Population and Sampling**

The population in this study was leaders within the University of Maine System (UMS). The UMS is comprised of seven public universities: the University of Maine, the University of Southern Maine, the University of Maine at Augusta, the University of Maine at Fort Kent, the University of Maine at Machias, the University of Maine at Farmington, and the University of Maine at Presque Isle. For the purposes of this study, “leader” was defined as all supervisors and academic chairs within the UMaine System. These groups were chosen because of either their formal leadership role within their academic unit, as is the case with academic chairs, or because they have direct reports and are ostensibly responsible for providing some level of leadership to
those individuals whom they supervise. This delimiting definition revealed a sample size of 877 potential participants. A human resources representative from the UMaine System provided this list of participants, along with their email addresses.

Once the list of respondents and emails was gathered, all participants were sent an email requesting their participation in the study with a link to the survey instrument. Included in the email was an informed consent form for their review. All data were collected online via Survey Gizmo. A total of 235 individuals completed the survey, and another 31 partially completed the survey. This resulted in a 94.5% confidence level (with an error margin of 5.5%). The 235 responses produced a 27% response rate to the survey. This response rate was a bit lower than predicted based on the literature. Baruch and Holtom (2008) completed a review of the literature, analyzing 1607 articles published between 2000 and 2005, and found that the average response rate from surveys that utilized data collected from individuals was 52.7% with a standard deviation of 20.4. Baruch (1999) found that the average response rate was even higher when the studies were conducted in an academic setting, increasing to 55.6% with a standard deviation of 19.7. Given this information, a response rate of 27% was lower than anticipated, but still high enough to conduct the necessary statistical analyses and to achieve a reasonable confidence interval.

In an attempt to gain the highest possible response rate, the researcher sent out an introductory email letting respondents know to be expecting the official survey invitation via email within the next few days, and to encourage their participation. To improve response rates, one week after the initial email invitation was sent, an additional reminder email was sent to the entire population reminding those who had not yet completed the survey to do so. To allow respondents to maintain anonymity, the researcher did not track which respondents had
completed the instrument, necessitating reminder emails to the entire population. In addition to using reminders, Creswell (2008) suggested that survey instruments be kept short, and that modest incentives be used to help improve response rates. To this end, the survey instrument was kept as short as possible, taking approximately 15 minutes to complete. Piloting of the survey instrument provided a reliable estimate of the actual time required. Participants were made aware of this time commitment when they were invited to participate. Additionally, at the end of the survey participants were given an opportunity to enter a drawing for a $50 Visa gift card. This moderate incentive was mentioned in the email invitation, and hopefully encouraged some people to participate.

A portion of the participants in this sample were from the University of Southern Maine where the researcher is currently employed, and thus a small number of participants knew the researcher as a colleague. To help mitigate any potential concerns this could have caused, the researcher maintained a professional and objective position as researcher throughout the entire study. No one that reports to the researcher was asked to participate in the study.

**Data Collection: Instruments**

To determine the extent to which spiritual intelligence and mindfulness are associated with transformational leadership among public higher education leaders, the following survey instruments were used:

- the Multifactor Leadership Questionnaire (MLQ-5X) to measure transformational leadership,
- the Spiritual Intelligence Self-Report Inventory (SISRI-24) to measure spiritual intelligence, and
- the Five Factor Mindfulness Questionnaire (FFMQ-SF) to measure mindfulness.
These instruments were combined into one online survey instrument consisting of four distinct sections: the MLQ-5X, the SISRI-24, the FFMQ-SF, and a demographics section. The demographics section collected information on gender, age, race, education level, which UMaine System institution the respondents was affiliated with, the number of years the respondent had worked within the UMaine System, and supervisory status. This section also asked whether or not the respondent considered him or herself to be a leader within his or her organization.

**The Spiritual Intelligence Self-Report Inventory (SISRI-24).** The first instrument respondents completed was the Spiritual Intelligence Self-Report Inventory (SISRI-24), which measured respondent’s level of spiritual intelligence (King & DeCicco, 2009). The SISRI-24 is a self-report instrument that measures spiritual intelligence based on four subscales: critical existential thinking (CET), personal meaning production (PMP), transcendental awareness (TA), and conscious state expansion (CSE). These factors are measured using a 24-item instrument, which analyzes each item with a 5-point Likert scale (0 “not at all true of me”, 1 “not very true of me”, 2 “somewhat true of me”, 3 “very true of me”, and 4 “completely true of me”). A full copy of the instrument is appended to this document in Appendix A. The researcher received permission from the instrument's author to reproduce the SISRI-24 instrument. The author allows for unlimited use of the instrument as long as it is for educational purposes, and as long as the instrument is not altered. The instrument was not altered for this educational study.

*Sample Items for the SISRI-24 (full instrument available in Appendix A)*

<table>
<thead>
<tr>
<th>I have often questioned or pondered the nature of reality.</th>
<th>0- Not at all true of me</th>
<th>1- Not very true of me</th>
<th>2- Somewhat true of me</th>
<th>3- Very true of me</th>
<th>4- Completely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>My ability to find meaning and purpose in life helps me adapt to stressful situations.</td>
<td>0- Not at all true of me</td>
<td>1- Not very true of me</td>
<td>2- Somewhat true of me</td>
<td>3- Very true of me</td>
<td>4- Completely true of me</td>
</tr>
<tr>
<td>I am aware of a deeper</td>
<td>0- Not at all</td>
<td>1- Not</td>
<td>2-</td>
<td>3- Very</td>
<td>4-</td>
</tr>
</tbody>
</table>
connection between myself and other people.

I have developed my own techniques for entering higher states of consciousness or awareness.

<table>
<thead>
<tr>
<th></th>
<th>0- Not at all true of me</th>
<th>1- Not very true of me</th>
<th>2- Somewhat true of me</th>
<th>3- Very true of me</th>
<th>4- Completely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>true of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very true of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat true of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>true of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completely true of me</td>
<td></td>
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</table>

King and DeCicco (2009) conducted research on the SISRI, originally an over-inclusive 84-item survey, to determine the reliability and validity of the instrument. The results of this work led to the final 24-item instrument used in this research study. Through their work, King and DeCicco were able to address the content validity, criterion validity, and construct validity of the SISRI-24. First, as it relates to content validity, King and DeCicco (2009) wrote that an "extensive review of the literature supports four core components" (p. 69) of spiritual intelligence. The following psychometric scales were also used to test criterion validity: the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006), the Metapersonal Self Scale (DeCicco & Stroink, 2007), the Mysticism Scale-Research Form D (Hood, 1975), the Age Universal Intrinsic-Extrinsic Religiosity Scale (Gorsuch & Venable, 1983), and the Balanced Inventory of Desirable Responding (Paulhus, 1984).

To test construct validity, King and DeCicco (2009) compared the SISRI-24 to scales for both intrinsic and extrinsic religiosity. While intrinsic religiosity was more correlated with SISRI-24 scores than extrinsic religiosity ($r = 0.48$ vs. $r = 0.21$), neither were highly correlated with spiritual intelligence. This confirmed the construct validity of the instrument as distinct from religiosity. Also, the SISRI-24 was more highly correlated with presence of meaning ($r = 0.44$) than search for meaning ($r = 0.21$), which was expected since the SISRI-24 is intended to measure an ability to construct meaning and purpose, not a person's desire to find meaning and purpose. Finally, King and DeCicco found almost no correlation between SI and IQ ($r = 0.07$),
which is important for construct validity, because this shows that SI is indeed a distinct form of intelligence.

King (2008) used a number of different methods to ensure the reliability of the SISRI-24 instrument: Cronbach's alpha to ensure internal consistency reliability, split-half reliability, and test-retest reliability. Because the SISRI-24 uses four distinct subscales to measure spiritual intelligence, internal consistency reliability is very important. According to King (2008), the SISRI-24 produced a Cronbach Alpha score of 0.92 (CET = 0.78; PMP = 0.78; TA = 0.87; CSE = 0.91). King also conducted a split-half reliability assessment in which the instrument produced a correlation coefficient of 0.91. If the individual items were indeed measuring the same variable, a correlation level of at least 0.70 would be expected (Muijs, 2011).

Another important way to address reliability is to employ the test-retest method in which the same participants are given the same instrument twice over a period of time. King (2008) administered the SISRI-24 instrument to 25 participants, collected their scores, and then re-administered the survey four months later. Results were compared, and the correlation coefficient was found to be 0.89. A test-retest correlation coefficient of 0.70 or higher is considered a reasonable level of reliability for most research (Muijs, 2011). Also worth noting, the SISRI-24 scored a very weak correlation with social desirability (self deception scale, 0.16; impression management scale, 0.15), which suggests that social desirability bias is not of great concern with this instrument.

**The Five Facet Mindfulness Questionnaire (FFMQ-SF).** Within the electronic survey, respondents were then given the FFMQ-SF. The FFMQ-SF is a self-report instrument that measures mindfulness based on five subscales: observing, describing, acting with awareness, non-judging of inner experience, and non-reacting to inner experience (Baer, Smith, Hopkins,
Kriememeyer, & Toney, 2006). These factors are measured using a 24-item instrument, which analyzes each item with a 5-point Likert scale (1 “never or very rarely true”, 2 "rarely true", 3 "sometimes true", 4 "often true", and 5 “very often or always true”). A full copy of the instrument is appended to this document in Appendix B. The author allows for unlimited use of the instrument, confirmed via email.

Sample Items for the FFMQ-SF (full instrument available in Appendix B)

<table>
<thead>
<tr>
<th>I’m good at finding the words to describe my feelings.</th>
<th>1- Never or very rarely true</th>
<th>2- Not often true</th>
<th>3- Sometimes true/sometimes not true</th>
<th>4- Often true</th>
<th>5- Very often or always true</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I have distressing thoughts or images, I don’t let myself get carried away by them.</td>
<td>1- Never or very rarely true</td>
<td>2- Not often true</td>
<td>3- Sometimes true/sometimes not true</td>
<td>4- Often true</td>
<td>5- Very often or always true</td>
</tr>
<tr>
<td>Generally, I pay attention to sounds, such as a clock ticking, birds chirping or cars passing.</td>
<td>1- Never or very rarely true</td>
<td>2- Not often true</td>
<td>3- Sometimes true/sometimes not true</td>
<td>4- Often true</td>
<td>5- Very often or always true</td>
</tr>
<tr>
<td>I rush through activities without being really attentive to them.</td>
<td>1- Never or very rarely true</td>
<td>2- Not often true</td>
<td>3- Sometimes true/sometimes not true</td>
<td>4- Often true</td>
<td>5- Very often or always true</td>
</tr>
<tr>
<td>I make judgments about whether my thoughts are good or bad.</td>
<td>1- Never or very rarely true</td>
<td>2- Not often true</td>
<td>3- Sometimes true/sometimes not true</td>
<td>4- Often true</td>
<td>5- Very often or always true</td>
</tr>
</tbody>
</table>

A number of authors have studied the reliability and validity of the FFMQ-SF (Baer et al., 2006; Baer et al., 2008; Isenberg, 2009; Neuser, 2010). As stated above, validity ensures that an instrument is measuring what it says it is measuring. Baer et al. (2008) conducted a study to test the construct validity of the FFMQ-SF. Baer et al. (2008) found that the FFMQ-SF had good internal consistency, with adequate-to-good alpha coefficients for all facets in all samples (ranging from 0.72 to 0.92). The authors also found that the five factors represented related but distinct factors with correlations in the 0.32 to 0.52 range (p < .01). Loadings of the five factors
on the overall mindfulness construct were: observing = 0.82, describing = 0.53, acting with awareness = 0.63, non-judging = 0.69, and non-reactivity = 0.84.

In terms of criterion validity, Baer et al. (2008) found that four of the five facets were significantly correlated with meditation experience, as would be expected. This was true even after controlling for demographic variables. Meditators also scored significantly higher on the FFMQ-SF than non-meditating samples. Also, when Baer et al. (2008) compared scores on the acting with awareness facet of the FFMQ-SF with scores from the MAAS (which measures the awareness facet of mindfulness solely), they found a correlation of 0.89, showing that the FFMQ-SF measures awareness in a manner very similar to the MAAS also contributing to the criterion validity of the instrument. To further support the criterion validity of the instrument, Neuser (2010) found the FFMQ-SF to be positively correlated with both the Satisfaction with Life Scale Trait Meta-Mood scale (correlated with empathy, self-control ad discrimination of feelings), and negatively associated with the Center for Epidemiologic Studies Depression Scale, as hypothesized.

Again, the test-retest method is often used to determine the reliability of an instrument. Isenberg (2009) used a test-retest method to measure the reliability of the FFMQ-SF and its constructs and found Intraclass Correlation coefficients in the adequate to good range (0.657-0.863), determining that the FFMQ-SF is a reliable instrument to measure mindfulness. Veehof, ten Kloos, and Taal (2011) also found good to excellent test-retest reliability when testing the FFMQ-SF.

**The Multifactor Leadership Questionnaire (MLQ-5X).** Finally, respondents were given the Multifactor Leadership Questionnaire (MLQ-5X) to measure their level of transformational leadership. Bass and Avolio originally created the MLQ-5X in 1995. This
instrument is available through Mind Garden Inc. for purchase. Mind Garden Inc. either administers the survey for a fee, or it allows researchers to create their own electronic survey using the instrument (once purchased from the website). The later method was used in this study. The MLQ-5X measures transformational leadership using five factors: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individual consideration. It also measures transactional leadership using the factors of contingent reward and management by exception. Finally, it measures passive/avoidant behavior and leadership outcomes. The focus of this study was the association between transformational leadership, mindfulness, and spiritual intelligence, therefore only the subscales measuring transformational leadership were used. This reduced the instrument from a 45-item instrument to a 20-item instrument. Each question in the scale is measured using a 5-point Likert scale (0 “not at all”, 1 "once in awhile", 2 "sometimes, 3 "fairly often", and 4 “frequently if not always”). Representative questions are included below, and a full copy of the instrument is appended in Appendix C.

*Sample Items for the MLQ-5X (full instrument available in Appendix C)*

<table>
<thead>
<tr>
<th>I talk optimistically about the future.</th>
<th>0- Not at all</th>
<th>1- Once in awhile</th>
<th>2- Sometimes</th>
<th>3- Fairly often</th>
<th>4- Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I go beyond self-interest for the good of the group.</td>
<td>0- Not at all</td>
<td>1- Once in awhile</td>
<td>2- Sometimes</td>
<td>3- Fairly often</td>
<td>4- Frequently, if not always</td>
</tr>
<tr>
<td>I spend time teaching and coaching.</td>
<td>0- Not at all</td>
<td>1- Once in awhile</td>
<td>2- Sometimes</td>
<td>3- Fairly often</td>
<td>4- Frequently, if not always</td>
</tr>
<tr>
<td>I emphasize the importance of having a collective sense of mission.</td>
<td>0- Not at all</td>
<td>1- Once in awhile</td>
<td>2- Sometimes</td>
<td>3- Fairly often</td>
<td>4- Frequently, if not always</td>
</tr>
</tbody>
</table>
It was critical that the researcher ensure the validity and reliability of each instrument being used. Validity assures that an instrument measures what it is intended to measure. That is, validity ensures that the various questions or subscales of an instrument (manifest variables) accurately represent the variable the research intends to measure (latent variable) (Muijs, 2011). The MLQ-5X has been revised multiple times by Bass and Avolio to improve reliability and validity. Bass and Avolio (1995) are two of the most prominent scholars working in the field of transformational leadership, and their instrument is well supported by existing leadership literature. This strong theoretical background supports the content validity of this instrument. In fact, the MLQ-5X is the instrument used most frequently in the literature to measure transformational leadership.

Reliability refers to “the extent to which test scores are free of measurement error” (Muijs, 2011, p. 61). Bass and Avolio (1995) reported that the Cronbach's Alpha correlation coefficient for the MLQ-5X range from 0.74 to 0.94. According to Muijs (2011), Cronbach Alpha scores should be over 0.70 before the scale can be considered internally consistent. While the MLQ-5X measures both transactional and transformational leadership, and most good leaders display both of these traits, the MLQ-5X has been found to be consistently reliable in identifying leaders who possess the five factors associated with transformational leadership (Avolio, Jung, & Bass, 1999). These are the five factors of interest in this study.

Data Collection: Procedures

The researcher obtained Institutional Review Board (IRB) approval from both the University of Southern Maine (USM) and Northeastern University prior to gathering data for this study. USM’s IRB office was able to give IRB approval for each of the seven universities within the UMS. Once IRB approval was given, the researcher worked with the UMS Human Resources
office to collect the names and emails of the UMS staff and faculty members that met the participant criteria. Once names and emails were acquired, the researcher emailed each participant an introductory email to briefly explain the study, and to let him or her know to be expecting the survey from the researcher within the next few days. This initial email was to encourage participants to be on the lookout for the survey, and to not delete the email once received, which may have helped improve participation. Next, the researcher sent an email to each participant explaining the study, and asking for the respondent’s participation. Participants were given three weeks to complete the survey. A reminder email was sent one week after the initial email request. Every effort was made to send surveys out during a relatively slow period during the academic year to help improve response rates.

**Data Analysis**

**Preparation and transformation of the data.** Data for this study was collected through Survey Gizmo. Results were exported from the Survey Gizmo website into Excel to be cleaned and prepared for analysis. Once cleaned and prepared, the data were input into IBM SPSS Statistics 19 for analysis. As part of the cleaning process, all data fields were screened for missing data. Any missing data fields were coded as 9999. Before the data could be analyzed, certain transformations of the data needed to occur. First, there was one item within the SISRI-24 instrument, and nineteen items within the FFMQ-SF, that were reverse coded. This reverse coding occurred before calculating an overall score for either item. These items were reverse coded in Excel and then the data were moved to SPSS.

Once the data were moved into SPSS, missing data for the Likert scale instrument were addressed. Any respondent who skipped more than 10% of the survey questions (more than six questions) was removed from the analysis. One respondent met this criterion, shrinking the
sample from 235 to the final number of 234. Respondents who skipped six or fewer questions were left in the sample; they accounted for 28% of the sample. However, 82% of those respondents skipped only one or two questions. Because most respondents who skipped answers skipped only one or two questions, it was determined that retaining these respondents was most appropriate. An alternative course of action would have been to use pairwise or listwise deletion, which would remove the respondent from the sample entirely or remove a particular variable from analysis for those respondents. Pairwise and listwise deletion can bias the sample, deleting respondents who make the analysis more representative of the population (Little & Rubin, 2002).

In their article Missing Data: Our View of the State of the Art, Schafer and Graham (2002) highly recommend two particular methods for dealing with missing data: maximum likelihood and multiple imputation. In this case, the expectation maximization algorithm, a form of maximum likelihood estimation, was used to replace missing data. This method was chosen because it can be run using SPSS, the statistical software package used for data analysis in this study, and because it is less statistically complex than multiple imputation. When using expectation maximization, the data must be shown to be missing completely at random (MCAR). Little’s MCAR test was run, and the missing values were shown to be missing complete at random (the significance level was .368 which was not significant, showing that data were missing completely at random).

Once missing data were replaced using expectation maximization, the sum scores were calculated for each major variable along with its subscales. Spiritual intelligence is comprised of four subfactors (critical existential thinking measured with 7 items; personal meaning production measured using 5 items; transcendental awareness measured using 7 items; conscious state
expansion measured using 5 items). Mindfulness is comprised of five subfactors (observing measured with 4 items; describing measured using 5 items; acting with awareness measured using 5 items; non-judging measured using 5 items; non-reacting measured using 5 items). Transformational leadership is comprised of five subfactors (idealized influence - attributes, idealized influence - behaviors, inspirational motivation, intellectual stimulation, and individualized consideration), each of which was measured using 4 items. For each of these subfactors, the items were summed to provide a single score. Scores for each subfactor were then summed, giving a total scale score for spiritual intelligence, mindfulness, and transformational leadership.

**Level of data.** The data from these instruments were treated as interval, or continuous data. While treating Likert scale data as interval (as opposed to ordinal) is still a contentious issue for some researchers, many other researchers have found that, assuming a scale is reasonably symmetrical, Likert data can be appropriately treated as interval (Labovitz, 1970; Norman, 2010). This is particularly true when multiple Likert scale items are combined, as they were in this study, because the means will approximate a normal distribution. Treating these variables as interval was important because it allowed for more robust parametric analysis than would have been available with lower level nominal or ordinal level data (Norman, 2010). Because the data were treated as interval, Pearson’s r was used as the primary measure of analysis. Pearson’s r is used when variables are continuous, while Spearman’s rho is used when variables are ordinal (Muijs, 2011).

**Descriptive analysis.** To analyze the data from this survey, the researcher first conducted descriptive analysis, as suggested by Muijs (2011), to look at each variable individually before moving on to analyze the relationships between variables. As part of this
descriptive analysis, a frequency distribution was run for each variable. Other than
the demographic data, the majority of data were Likert scale data. Aggregate level scores were
used to develop a general sense of how respondents scored across variables. This analysis
revealed whether respondents scored higher or lower on particular subscales, or if responses
were more evenly spread across the scale. It also allowed for an examination of any outliers in
the data set. Associational statistics are sensitive to outliers, so it was important to identify any
outliers early on.

Measures of central tendency were also calculated during the descriptive analysis stage.
Median and mode were run for each demographic variable (gender, position, age, education
level, and race/ethnicity). Mean and standard deviation were calculated for Likert scale items
(subscale and scale scores) as well as skewness and kurtosis z scores to check for normality of
the data. Normality is required when running certain types of inferential statistics, and was
therefore important to calculate.

**Inferential analysis.** The three major variables of interest in this study were measured
using three separate instruments. First, the MLQ-5X (which measures transformational
leadership) produced a score describing the extent to which a person is a transformational leader
(that is, the extent to which a person scores high on traits of idealized influence, inspirational
motivation, individual consideration, and intellectual stimulation). The higher an individual’s
score, the more transformational of a leader it can be said he or she is. The same is true for
spiritual intelligence (measured using the SISRI-24); the higher the score on the SISRI-24, the
more spiritually intelligent he or she is. Finally, the higher the score on the FFMQ-SF, the more
mindful he or she is. The researcher hypothesized that a high level of mindfulness would be
positively correlated with a high level of spiritual intelligence, that a high level of spiritual
intelligence would be positively correlated with a high level of transformational leadership, that a high level of mindfulness would be positively correlated with a high level of transformational leadership, and that a high level of both mindfulness and spiritual intelligence would positively predict transformational leadership.

By surveying respondents using these instruments, the researcher established a total score from each leader for spiritual intelligence, mindfulness, and transformational leadership. Inferential statistics were used to statistically illustrate whether or not a correlation existed between each set of scores. One way correlation was analyzed was through the use of a scatter plot. When using a scatter plot, scores for one variable are plotted on the x-axis and scores for the other variable are plotted on the y-axis. Each person is then represented by a dot on the scatter plot, and that dot is placed based on the score that person received on each instrument. If a positive relationship is expected, a high score on one variable should be matched by a high score on the other variable. Conversely, a low score on one variable should be matched by a low score on the other variable. In this way, a scatter plot produces a visual representation of correlation among two variables.

*Pearson’s r.* Because the first three hypotheses deal with the extent to which there is a correlation between two continuous variables, Pearson’s $r$ correlation coefficient was used to test the first three hypotheses and to determine the direction and strength of the association between the two variables (Muijs, 2011). Pearson’s $r$ tested the null hypothesis that there is no relationship between mindfulness and spiritual intelligence, spiritual intelligence and transformational leadership, and finally mindfulness and transformational leadership. While the scatter plot produced a visual representation of the association between variables, Pearson correlation coefficient ($r$) provided a numerical value for the level of association. Pearson’s $r$
allowed the researcher to answer the research question: to what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System? This question was answered by first calculating a transformational leadership score, a mindfulness score, and a spiritual intelligence score for each leader.

Next, the researcher used SPSS to determine the Pearson’s $r$ correlation coefficient between these overall scores. Then, Pearson’s $r$ was calculated for the sub-factors of each instrument to see whether or not certain sub-factors were correlated with other sub-factors. When calculating $r$, the score will always be between $+1.00$ and $-1.00$ ($+1.00$ representing a perfectly positive correlation, $-1.00$ representing a perfectly negative correlation, and $0$ representing no relationship). A correlation coefficient value of $+0.3$ would show a modest relationship, a value of $+0.5$ a moderate positive relationship, a value of $+0.8$ a strong relationship, and a value higher than $+0.8$ a very strong relationship (Muijs, 2011). A perfectly straight line on the scatter plot would be represented by a perfectly positive correlation of $+1.0$ (or a perfectly negative correlation of $-1.0$, depending on the direction of the line).

In addition to calculating an $r$ value, both significance level (or $p$ value) and the coefficient of determination were calculated. The $p$ value was needed to determine whether or not the relationship was statistically significant. The standard cutoff point of $<0.05$ was used within this study (Muijs, 2011). The coefficient of determination (calculated by squaring $r$) gives a measure of the amount of variation that can be explained by the correlation/model. This value can be displayed as a percentage, telling the researcher the percentage of variance explained by the correlation (for example: $r = .65, R^2 = .422$, $42\%$ of the variance can be explained by the correlation).
Assumptions of Pearson’s r. When using Pearson’s r, a number of assumptions are made. First, both variables being measured must be continuous (either interval or ratio). As stated, spiritual intelligence, mindfulness, and transformational leadership were each treated as interval for the purposes of this study. Variables must also be independent of one another and linearly related. A scatter plot can visually confirm that the variables are linearly related. During the analysis of the scatter plots in this study, some of the relationships were noted to be only slightly linear. Accordingly, Spearman’s rho was also calculated as this statistical measure does not require linearity, and is often used when the assumptions of Pearson’s r cannot be met (Muijs, 2011).

When using Pearson’s r there is also an assumption that outliers have been kept to a minimum, or removed entirely. Residuals were analyzed to determine the extent to which outliers were present in this study’s data. Residuals were analyzed looking for outliers outside of three standard deviations. Only one case was found to be an outlier. Muijs (2011) writes that one outlier will not significantly impact results, and one need to worry only if the number of outliers rises to 10% or more of the sample. Thus, outliers were not found to be a problem in this study. The scatter plot was also used to check for homoscedasticity, another assumption of Pearson's r. Homoscedasticity means that the variances along the line of best fit, or regression line, remain similar as you move along the line.

A final assumption of Pearson’s r is that both variables are normally distributed (or at least approximate normal distribution). SPSS was used to calculate skewness z scores and kurtosis z scores to test for normality within the three major variables of interest in this study. While findings showed that the variables were slightly skewed and kurtotic, no scores were outside of the permissible significance range of -2.58 and +2.58 (p < .01 level) (Field, 2009), so
the variables of spiritual intelligence, mindfulness and transformational leadership were
approximately normally distributed in terms of skewness and kurtosis. That said, the variables
did not show a perfectly normal distribution.

While the data set showed only slight concerns with normality and linearity, it was
determined that presenting both Pearson’s $r$ and Spearman’s rho scores would best verify the
study’s findings. Although a parametric analysis such as Pearson’s $r$ is often considered more
statistically powerful than a nonparametric analysis such as Spearman’s rho, a nonparametric
analysis is preferable if the assumptions of Pearson’s $r$ cannot be met. Although the concerns
with this data set were minimal, it was determined that Spearman’s rho would also be reported to
verify the results of the Pearson’s $r$ analysis.

**Multiple linear regression.** The fourth and final hypothesis concerned the relationship
between one outcome variable and two predictor variables, thus the above statistical measures
were not appropriate (they are used to study the relationship between one criterion variable and
one predictor variable). Instead, multiple linear regression was used to address hypothesis 4.
Multiple linear regression produces a regression coefficient, which is interpreted in the same way
as Pearson’s $r$ and Spearman’s rho. More important than $r$, is $R^2$, which explains the amount of
variance in the criterion variable that can be explained by the two predictor variables taken
together; that is, $R^2$ reveals how well the variables taken together (spiritual intelligence and
mindfulness) predict the outcome variable (transformational leadership). $R^2$ produces a value
between 0 and 1 and can be represented as a percentage (Muijs, 2011). This percentage tells us
the amount of variance in the criterion variable that can be explained by the two predictor
variables together. In addition to $r$ and $R^2$, a $p$ value was produced to determine whether or not
the relationship was statistically significant (Muijs, 2011).
Validity, Reliability and Generalizability

When conducting this survey research, there were a few different ways the researcher helped ensure validity, reliability, and generalizability of the study. Internal validity means that “observed differences on the dependent variable are directly related to the independent variable, and not due to some other unintended variable” (Fraenkel, Wallen, & Hyun, 2012, p. 166). One of the most important tactics used was ensuring that the instruments used were both reliable and valid. The validity of the SISRI-24, the FFMQ-SF, and the MLQ-5X has been discussed in detail. These instruments have all been through rigorous testing to ensure statistical reliability and validity. In addition to ensuring the validity and reliability of the instrument, other strategies were employed to address threats to validity and reliability present in this study.

Threats to validity. There were a few threats to external validity in this study. First, participants were asked to respond to an email asking for their participation in the study. This created some potential for self-selection bias in which only those participants who were already interested in the topic of spirituality and leadership would choose to participate, potentially biasing the results (Fraenkel, Wallen, & Hyun, 2012). This leads to another threat referred to as non-response bias, which occurs when those participants choosing to respond are likely to answer the survey differently than those participants choosing not to respond. For example, it is possible that those participants who were already interested in spirituality and leadership (and thus more likely to respond to the email invitation) would score higher on the variables being assessed in the survey than those who were not interested in spirituality and leadership, and thus chose not to participate. Incentives and reminder emails were used to encourage participants to complete the survey in the hopes of getting as high of a response rate as possible, hopefully minimizing these concerns.
Next, all three instruments used in this survey were self-report instruments in which each respondent must rate him or herself in terms of leadership style, spiritual intelligence, and mindfulness. This means that respondents may have been in danger of social desirability bias in which they responded based on how they felt they should have responded, not in a way that reflected their true characteristics. It was very important that respondents answer questions as honestly as possible. Thus, every effort was made to help respondents understand that their responses would be completely confidential and that answering questions honestly was critically important to the study. Language included within the instrument, as well as within the survey invitation, helped convey this message. Also, ensuring anonymity hopefully helped respondents feel more comfortable answering questions honestly, thus producing more accurate responses.

Finally, respondent fatigue can often be a threat to the validity of a study. If a survey is too long, some respondents may choose to end their participation before completing the instrument, thus biasing the results (particularly if certain type of individual are more likely than others to be affected by response fatigue). The survey instrument was pilot-tested on a few individuals to check for errors in the survey's implementation and to see how long the instrument took to complete. While modifications would have been made if problems had arisen during this pilot phase, no significant changes were required. Also, as a result of the pilot, it was determined that the survey took approximately 15 minutes to complete. Every effort was made to keep the survey to no more than 15 minutes for respondents. This time frame was communicated to respondents in the email invitation. Keeping the timeframe to fifteen minutes helped avoid respondent fatigue, thus improving the validity of responses.

**Generalizability.** These threats to validity could have impacted the generalizability of the study's findings. To help ensure that the results of this study could be generalized to the
wider population of public universities, the researcher surveyed leaders from all seven schools within the UMaine System. This group of institutions includes a range of schools, form a large research university, to much smaller liberal arts schools. This variety of type of public institution should have helped the generalizability of the study's results. The researcher also gathered demographic information from respondents. This information was reported so that future researchers can compare demographics of their own participants with the demographics of the individuals involved in this study. Finally, the researcher also attempted to maximize the sample size to help improve generalizability.

Protection of Human Subjects

A number of key ethical considerations were made throughout this study. First, the Institutional Review Boards (IRB) reviewed the study for both the UMaine System and the researcher's academic institution, Northeastern University. This review process ensured the researcher had considered all necessary ethical issues inherent in human subject research. Second, the researcher ensured that privacy and confidentiality were maintained throughout the entire research process (Mertens, 2006). Names were collected for those participants wishing to be entered into the drawing for the $50 Visa gift card. Names were removed from the data, however, as soon as the data was collected. Prior to data analysis, each respondent was assigned a unique identification number. Once survey data was collected, the data was stored on a password protected laptop. Throughout the reporting of the findings and results, the researcher was careful not to publish any findings that might inadvertently identify a particular individual. Because the researcher was interested in aggregate data, threats to individual privacy and confidentiality were minimal.

As part of the electronic survey, all respondents were given an informed consent form.
The informed consent form contained an introductory paragraph explaining that participation in the survey was completely voluntary, participants had the right to withdraw from participation at any time, the purpose of the study, the expected length of the survey, any known risks and benefits, as well as the researcher’s contact information should participants want further information. The researcher did not anticipate any risks for subjects associated with participation in this study. Potential benefits included the opportunity to contribute to a better understanding of leadership within the UMaine System, as well as the chance of a small monetary incentive described earlier. Respondents were made aware of these potential risks and benefits in the initial survey invitation.
Chapter 4: Findings

The purpose of this study was to fill a gap in the literature by examining quantitatively the extent to which spiritual intelligence and mindfulness associate with transformational leadership among leaders within a public higher education setting. This section describes the descriptive and inferential statistics run in order to answer the proposed research question and to test the study’s hypotheses. The first section uses descriptive statistics to describe characteristics of the research sample as well as to describe measures of central tendency for the three major variables of interest in the study. Cronbach’s alpha was used to analyze the internal reliability of three major survey instruments, and the next section addresses this measure. Inferential statistics were used to address the research question and each of the four hypotheses. Specifically, scatter plots, Pearson’s r, and Spearman’s rho were used for hypotheses 1-3 to test for correlation, and multiple linear regression was used to test hypothesis 4. Results of these statistical analyses are presented. Finally, the chapter ends with a summary of the results. All data were analyzed using IBM SPSS Statistics Version 19.

Descriptive Statistics

The researcher first conducted descriptive analysis to look at each variable individually before moving on to analyze the relationships between variables. This analysis began with a review of the demographic description of the sample. Next, as part of this descriptive analysis, measures of central tendency were calculated for each of the major variables of interest in this study: spiritual intelligence, mindfulness, and transformational leadership. Skewness and kurtosis were also computed to check for normality in the data set.

Sample overview and demographics. The population of this study consisted of all supervisors and academic chairs within the UMS, across seven public universities. The
population consisted of 877 individuals. A UMS Human Resources staff member provided their names, positions, and email addresses to the researcher. The email survey resulted in 235 complete responses and 31 partial responses. Partial responses refer to those participants who began the survey but did not complete it. All partial surveys were removed from the sample. Additionally, one survey was removed because, although the respondent completed the survey, more than 10% of the survey questions were unanswered. This left a final sample size of 234 responses, which represents a 27% response rate. This response rate represents a 94.5% confidence interval or a 5.5% margin of error.

**Age, race, and gender.** Table 3 outlines major demographic characteristics of participants in this study. The majority of participants (73.4%) fell between the ages of 46-65 with 79 participants between the ages 46-55 (33.9%) and 92 respondents between 56-65 years of age (39.5%). Only 2 respondents reported an age of 25 or younger (.9%), while 16 reported an age of 26-35 (6.9%), 31 were 36-45 (13.3%), and only 13 were 66 years of age or older (5.6%).

As is typical for the demographics of the state of Maine, the vast majority of participants in this study were white (97.4%). In fact, the sample consisted of only three African American participants (0.6%), two participants of Asian/Pacific Islander origin (0.4%), and one Native American (0.2%). In terms of gender, there were slightly more women than men participating in the study (54.8% female and 45.2% male).

**Education level.** As might be expected when studying participants working within a university setting, participants reported relatively high education levels, with a majority of participants (70.3%) reporting having either a master’s degree or higher (37.3% master’s degree and 33.0% reporting doctoral or other terminal degree). Twenty-one percent of respondents reported their highest level of education as a bachelor’s degree, 3% an Associate’s degree, 3.9%
some college, and only 1.7% higher school or GED. As Table 3 shows, not all participants chose to answer every demographic question, which was not required for participation in the study in order to protect anonymity.

Table 3

*Frequency Count for Major Demographic Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (n = 233)</td>
<td>25 or younger</td>
<td>2</td>
<td>0.9%</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>16</td>
<td>6.9%</td>
</tr>
<tr>
<td></td>
<td>36-45</td>
<td>31</td>
<td>13.3%</td>
</tr>
<tr>
<td></td>
<td>46-55</td>
<td>79</td>
<td>33.9%</td>
</tr>
<tr>
<td></td>
<td>56-65</td>
<td>92</td>
<td>39.5%</td>
</tr>
<tr>
<td></td>
<td>66 or older</td>
<td>13</td>
<td>5.6%</td>
</tr>
<tr>
<td>Race (n = 227)</td>
<td>White</td>
<td>221</td>
<td>97.4%</td>
</tr>
<tr>
<td></td>
<td>African American</td>
<td>3</td>
<td>0.6%</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Asian Pacific Islander</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td></td>
<td>Native American</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>Gender (n = 228)</td>
<td>Female</td>
<td>125</td>
<td>54.8%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>103</td>
<td>45.2%</td>
</tr>
<tr>
<td>Education Level (n = 233)</td>
<td>High school/GED</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>9</td>
<td>3.9%</td>
</tr>
<tr>
<td></td>
<td>Associate’s Degree</td>
<td>7</td>
<td>3.0%</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s Degree</td>
<td>49</td>
<td>21.0%</td>
</tr>
<tr>
<td></td>
<td>Master’s Degree</td>
<td>87</td>
<td>37.3%</td>
</tr>
<tr>
<td></td>
<td>Doctoral/Terminal Degree</td>
<td>77</td>
<td>33.0%</td>
</tr>
</tbody>
</table>

*Years with organization, institutional affiliation, and supervisory/leadership status.*

Table 4 describes the frequencies for organizational questions asked of participants. Participants were asked how long they had worked within the UMS. The majority of participants (66.7%)
had worked for the UMS for 11 or more years, 29.9% had worked for the system for 11-20 years, and 36.8% had worked for the system for 21 or more years. Table 4 also outlines the number of participants associated with each of the seven universities. As was expected given the size of the respective universities, the two largest universities (the University of Maine Orono and the University of Southern Maine) had the most respondents in the survey with 50.4% and 21.6% respectively.

Participants were also asked to report the number of people they supervise. Nearly half of the participants (49.9%) reported supervising between 1 and 10 other people, with 109 participants supervising 1-4 other people (23.3%) and 62 supervising 5-10 other people (26.6%). Only 11 respondents (4.7%) said they were the chair of an academic department but did not formally supervise anyone. Because not all employees in a position of leadership (such as supervisors and academic chairs) consider themselves to be a leader, of particular interest to the study was whether or not participants described themselves as a leader. Results show that a vast majority of participants do indeed consider themselves to be a leader within their organization (84.1%). Another 6.9% or respondents replied “don’t know” to this question, and only 9.1% of respondents answered no, I do not consider myself to be a leader.
Table 4

*Frequency Count for Organizational Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years with UMaine System <em>(n = 231)</em></td>
<td>Less than 1 year</td>
<td>5</td>
<td>2.2%</td>
</tr>
<tr>
<td></td>
<td>1-3 years</td>
<td>17</td>
<td>7.4%</td>
</tr>
<tr>
<td></td>
<td>3-5 years</td>
<td>16</td>
<td>6.9%</td>
</tr>
<tr>
<td></td>
<td>6-10 years</td>
<td>39</td>
<td>16.9%</td>
</tr>
<tr>
<td></td>
<td>11-20 years</td>
<td>69</td>
<td>29.9%</td>
</tr>
<tr>
<td></td>
<td>21 or more years</td>
<td>85</td>
<td>36.8%</td>
</tr>
<tr>
<td>Institutional Affiliation <em>(n = 232)</em></td>
<td>UMaine Augusta</td>
<td>19</td>
<td>8.2%</td>
</tr>
<tr>
<td></td>
<td>UMaine Farmington</td>
<td>13</td>
<td>5.6%</td>
</tr>
<tr>
<td></td>
<td>UMaine Fort Kent</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td></td>
<td>UMaine Machias</td>
<td>11</td>
<td>4.7%</td>
</tr>
<tr>
<td></td>
<td>UMaine Orono</td>
<td>117</td>
<td>50.4%</td>
</tr>
<tr>
<td></td>
<td>Univ. of Southern Maine</td>
<td>50</td>
<td>21.6%</td>
</tr>
<tr>
<td></td>
<td>UMaine Presque Isle</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td></td>
<td>UMaine System Office</td>
<td>14</td>
<td>6.0%</td>
</tr>
<tr>
<td>Do you supervise others? <em>(n = 233)</em></td>
<td>No, I do not supervise others</td>
<td>6</td>
<td>2.6%</td>
</tr>
<tr>
<td></td>
<td>Yes, I supervise 1-4 other people</td>
<td>109</td>
<td>23.3%</td>
</tr>
<tr>
<td></td>
<td>Yes, I supervise 5-10 other people</td>
<td>62</td>
<td>26.6%</td>
</tr>
<tr>
<td></td>
<td>Yes, I supervise 11 or more people</td>
<td>45</td>
<td>19.3%</td>
</tr>
<tr>
<td></td>
<td>I am the chair of an academic dept but I do not formally supervise anyone</td>
<td>11</td>
<td>4.7%</td>
</tr>
<tr>
<td>Do you consider yourself to be a leader? <em>(n = 232)</em></td>
<td>Yes</td>
<td>195</td>
<td>84.1%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>21</td>
<td>9.1%</td>
</tr>
<tr>
<td></td>
<td>Don’t know</td>
<td>16</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

**Descriptive analyses of major instruments.** As part of the descriptive analysis, the median and standard deviation for each of the instrument’s subscales as well as the overall
instrument scores were analyzed. Skewness and kurtosis were also measured to see if the
dependent variables were normally distributed. Results are presented in Table 5.

Table 5

*Scale and Subscale Mean, SD, Skewness z score, and Kurtosis z score*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness z score</th>
<th>Kurtosis z score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence Total Score</td>
<td>53.00</td>
<td>17.65</td>
<td>-.522</td>
<td>-1.54</td>
</tr>
<tr>
<td>Critical Existential Thinking Subscale</td>
<td>15.74</td>
<td>6.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Meaning Production Subscale</td>
<td>12.98</td>
<td>3.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transcendental Awareness Subscale</td>
<td>17.40</td>
<td>6.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscious State Expansion Subscale</td>
<td>6.88</td>
<td>5.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindfulness Total Score</td>
<td>84.83</td>
<td>9.84</td>
<td>.164</td>
<td>2.25</td>
</tr>
<tr>
<td>Non React Subscale</td>
<td>16.17</td>
<td>3.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe Subscale</td>
<td>14.90</td>
<td>2.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acting with Awareness Subscale</td>
<td>18.07</td>
<td>3.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe Subscale</td>
<td>18.24</td>
<td>3.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-judgment Subscale</td>
<td>17.45</td>
<td>3.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformatinal Leadership Total Score</td>
<td>59.92</td>
<td>9.16</td>
<td>-.925</td>
<td>-.931</td>
</tr>
<tr>
<td>Idealized Influence (Attributed) Subscale</td>
<td>11.55</td>
<td>2.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idealized Influence (Behavior) Subscale</td>
<td>11.64</td>
<td>2.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational Motivation Subscale</td>
<td>11.85</td>
<td>2.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual Stimulation Subscale</td>
<td>11.89</td>
<td>2.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Consideration Subscale</td>
<td>13.00</td>
<td>2.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These results show that within spiritual intelligence, respondents scored on average highest in
transcendental awareness and lowest in conscious state expansion. Additionally, the standard
deviation was highest for spiritual intelligence when compared to mindfulness and
transformational leadership (*SD* = 17.65). Mindfulness subscales each had a relatively similar
mean score, with the observe subscale receiving the lowest average score (14.90) and the
describe subscale and the acting with awareness subscale scoring highest, each with a score of
over 18. The range of scores for the mindfulness scale was not as wide as it was for spiritual
intelligence; the SD for mindfulness was 9.84. Finally, the subscale scores for transformational leadership were also relatively consistent with all items receiving a mean score between 11 and 12, except for individual consideration, which had the highest mean score at 13. Transformational leadership total scores had a standard deviation similar to mindfulness at 9.16. In terms of skewness and kurtosis, all three variables produced z-scores within the -2.58 and +2.58 range (p<.01 level) (Field, 2009). Therefore, it can be said that the variables of spiritual intelligence, mindfulness and transformational leadership were approximately normally distributed.

**Internal reliability of instruments.** When using instruments to measure variables, it is important to know the internal reliability of the instruments to ensure that the instruments are measuring what they are intending to measure (Creswell, 2008). Cronbach’s alpha was used as a measure of internal reliability (Field, 2009). Table 6 outlines the number of items within each instrument as well as the Cronbach’s alpha score for each instrument and each instrument subscale.
### Table 6

**Cronbach’s Alpha Scores for Scales and Subscales**

<table>
<thead>
<tr>
<th>Scale</th>
<th>N of items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence Self-Report Inventory (SISRI-24)</td>
<td>24</td>
<td>.94</td>
</tr>
<tr>
<td>Critical Existential Thinking Subscale (CET)</td>
<td>7</td>
<td>.86</td>
</tr>
<tr>
<td>Personal Meaning Production Subscale (PMP)</td>
<td>5</td>
<td>.81</td>
</tr>
<tr>
<td>Transcendental Awareness Subscale (TA)</td>
<td>7</td>
<td>.90</td>
</tr>
<tr>
<td>Conscious State Expansion Subscale (CSE)</td>
<td>5</td>
<td>.95</td>
</tr>
<tr>
<td>Five Factor Mindfulness Questionnaire (FFMQ-SF)</td>
<td>24</td>
<td>.85</td>
</tr>
<tr>
<td>Non React Subscale (NR)</td>
<td>5</td>
<td>.77</td>
</tr>
<tr>
<td>Observe Subscale (OBS)</td>
<td>4</td>
<td>.74</td>
</tr>
<tr>
<td>Acting with Awareness Subscale (AA)</td>
<td>5</td>
<td>.82</td>
</tr>
<tr>
<td>Describe Subscale (DES)</td>
<td>5</td>
<td>.82</td>
</tr>
<tr>
<td>Non-judgment Subscale (NJ)</td>
<td>5</td>
<td>.80</td>
</tr>
<tr>
<td>Multifactor Leadership Questionnaire (MLQ-5X)</td>
<td>20</td>
<td>.90</td>
</tr>
<tr>
<td>Idealized Influence – Attributed Subscale (IIA)</td>
<td>4</td>
<td>.69</td>
</tr>
<tr>
<td>Idealized Influence – Behavior Subscale (IIB)</td>
<td>4</td>
<td>.69</td>
</tr>
<tr>
<td>Inspirational Motivation Subscale (IM)</td>
<td>4</td>
<td>.78</td>
</tr>
<tr>
<td>Intellectual Stimulation Subscale (IS)</td>
<td>4</td>
<td>.63</td>
</tr>
<tr>
<td>Individual Consideration Subscale (IC)</td>
<td>4</td>
<td>.71</td>
</tr>
</tbody>
</table>

**SISRI-24.** Consistent with other research on the internal validity of the SISRI-24 instrument, SISRI-24 resulted in a high Cronbach’s alpha score when computed within this sample population (0.94). King (2008) found a similar Cronbach’s Alpha score in his study for the SISRI-24 instrument (0.92). Subscale scores were also similar, although slightly higher, for this study: CET = 0.86; PMP = 0.81; TA = 0.90; CSE = 0.94. These scores compared with the scores found by King (2008): CET = 0.78; PMP = 0.78; TA = 0.87; CSE = 0.91. According to Muijs (2011), if the individual items were indeed measuring the same variable, a correlation level of at least 0.70 would be expected. Thus, the SISRI-24 met this requirement both within the literature and when using Cronbach’s alpha for this study.
FFMQ-SF. The FFMQ-SF also produced Cronbach’s alpha scores above 0.70, with the following subscale scores: NR = 0.77, OBS = 0.74, AA = 0.82, DES = 0.82, NJ = 0.80. The overall FFMQ-SF instrument produced an even higher Cronbach’s alpha score of 0.85. This is consistent with the literature, in which Baer et al. (2008) found alpha scores ranging between 0.72 and 0.92.

MLQ-5X. The MLQ-5X has been used in countless studies to measure transformational leadership, and has thus frequently been tested for internal reliability. Bass and Avolio (1995) reported that the Cronbach's alpha correlation coefficients for the MLQ-5X ranged from 0.74 to 0.94. This study found slightly lower Cronbach’s alpha scores ranging from 0.63 to 0.78 for the subscales. However, all 20 items intended to measure transformational leadership produced an overall Cronbach’s alpha of .90, well above the 0.70 minimum suggested in the literature (Muijs, 2011).

Inferential Statistics

Inferential statistics were used to determine whether or not to reject the null hypotheses. This section outlines each of those hypotheses in order. Scatter plots were used to display the visual relationship between variables for hypotheses 1-3. Additionally, Pearson’s r and Spearman’s rho were used to test the correlation between variables for hypotheses 1-3. To address hypothesis 4, which discusses the relationship between one criterion variables and two predictor variables, multiple linear regression analysis was used (Muijs, 2011).

Hypothesis 1. The first hypothesis concerns the relationship between mindfulness and spiritual intelligence. It states:

H1: Mindfulness is positively correlated with spiritual intelligence among leaders within the University of Maine System (>x, >y).
H1$_0$: There is no correlation between mindfulness and spiritual intelligence among leaders within the University of Maine System ($r=0$).

**Scatter plot.** The first step in determining whether or not a correlation existed was to produce a scatter plot, examining the results for linearity between spiritual intelligence and mindfulness. The scatter plot for hypothesis 1 is shown below in Figure 2.

![Mindfulness and spiritual intelligence scatter plot](image)

Figure 2. *Mindfulness and spiritual intelligence scatter plot.*

As can be seen from Figure 2, mindfulness and spiritual intelligence have a very slight linear relationship with an $r^2$ liner score of 0.040. This relationship for this hypothesis was the least linear relationship seen in this study.
**Pearson’s r correlation analysis.** Next, Pearson’s $r$ was calculated to determine the degree to which mindfulness was statistically correlated with spiritual intelligence. As Table 7 shows, a Pearson’s $r$ score of .200 was found (statistically significant at the 0.01 level) when analyzing the correlation between mindfulness total score and spiritual intelligence total score. Table 7 outlines this correlation as well as correlations between the instrument’s subscales.

Table 7

*Mindfulness and Spiritual Intelligence Scale and Subscale Pearson’s r Correlations (n = 234)*

<table>
<thead>
<tr>
<th>Critical Existential Thinking</th>
<th>Personal Meaning Production</th>
<th>Transcendental Awareness</th>
<th>Conscious State Expansion</th>
<th>Total Spiritual Intelligence Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non react (NR)</td>
<td>.105</td>
<td>.190**</td>
<td>.036</td>
<td>.209**</td>
</tr>
<tr>
<td>Observe (OBS)</td>
<td>.353**</td>
<td>.347**</td>
<td>.346**</td>
<td>.206**</td>
</tr>
<tr>
<td>Acting with Awareness (AA)</td>
<td>.011</td>
<td>.182**</td>
<td>.089</td>
<td>.130*</td>
</tr>
<tr>
<td>Describe (DES)</td>
<td>.102</td>
<td>.276**</td>
<td>.162*</td>
<td>.077</td>
</tr>
<tr>
<td>Non-judgment (NJ)</td>
<td>-.160*</td>
<td>.013</td>
<td>-.057</td>
<td>-.011</td>
</tr>
<tr>
<td>Total Mindfulness Score</td>
<td>.109</td>
<td>.303**</td>
<td>.136*</td>
<td>.182**</td>
</tr>
</tbody>
</table>

*Note:* *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

A number of statistically significant relationships can be seen in the above analysis. The highest correlations, those above .300, were found between the observe subscale of mindfulness and the spiritual intelligence total score ($r = .373$), as well as between the observe subscale and the critical existential thinking ($r = .353$), personal meaning production ($r = .347$), and
transcendental awareness \(r = .346\) subscales of spiritual intelligence. Additionally, the relationship between the mindfulness total instrument score and personal meaning production produced a correlation over .300 \(r = .303\).

Most importantly, when considering the first hypothesis, this analysis shows that total scores for mindfulness had a statistically significant positive relationship with total scores for spiritual intelligence, with a Pearson’s \(r\) score of 0.200 \((p\) value <.01). The correlation coefficient \(r = .200\) was squared to find the coefficient of determination, which shows that mindfulness explains 4\% of the variance in spiritual intelligence. These results suggest that the null hypotheses should be rejected for hypothesis 1, and that mindfulness has a modest statistically significant positive correlation with spiritual intelligence among leaders within the University of Maine System.

**Spearman’s rho correlation analysis.** Next, Spearman’s rho was calculated.

Spearman’s rho was used in addition to Pearson’s \(r\) for a number of reasons. First, when using Pearson’s \(r\) it is assumed that the variables are linearly related and normally distributed. As was shown above, these data do not show perfect linearity or normality. Because Spearman’s rho does not require linearity and normality (Muijs, 2011), those scores are reported here as well to further support and validate the Pearson’s \(r\) findings. Spearman’s rho calculates a correlation coefficient based on ranking rather than actual data, and is thus not bound by the same assumptions as Pearson’s \(r\) making it a more flexible, although less robust, statistical measure (Muijs, 2011). Together, Pearson’s \(r\) and Spearman’s rho paint a complete and accurate portrayal of the relationships between variables for hypotheses 1-3.

As Table 8 shows, a Spearman’s rho score of .205 was found (statistically significant at the .01 level) when analyzing the correlation between mindfulness total scores and spiritual
intelligence total scores. This score is only slightly higher than the Pearson’s $r$ score found between the same variables ($r = .200$). Across the other subscales, the Spearman’s rho analysis produced very similar scores to those from the Pearson’s $r$ analysis. Some scores increased in strength and/or statistical significance while other scores decreased in strength, but all scores remained relatively the same.

Table 8

*Mindfulness and Spiritual Intelligence Scale and Subscale Spearman’s Rho Correlations (n = 234)*

<table>
<thead>
<tr>
<th></th>
<th>Critical Existential Thinking</th>
<th>Personal Meaning Production</th>
<th>Transcendental Awareness</th>
<th>Conscious State Expansion</th>
<th>Total Spiritual Intelligence Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non react (NR)</td>
<td>.102</td>
<td>.208**</td>
<td>.088</td>
<td>.163*</td>
<td>.163*</td>
</tr>
<tr>
<td>Observe (OBS)</td>
<td>.321**</td>
<td>.317**</td>
<td>.326**</td>
<td>.188**</td>
<td>.337**</td>
</tr>
<tr>
<td>Acting with Awareness (AA)</td>
<td>.006</td>
<td>.163*</td>
<td>.083</td>
<td>.098</td>
<td>.081</td>
</tr>
<tr>
<td>Describe (DES)</td>
<td>.137*</td>
<td>.304**</td>
<td>.162*</td>
<td>.084</td>
<td>.185**</td>
</tr>
<tr>
<td>Non-judgment (NJ)</td>
<td>-.155*</td>
<td>.024</td>
<td>-.048</td>
<td>-.023</td>
<td>-.078</td>
</tr>
<tr>
<td>Total Mindfulness Score</td>
<td>.127</td>
<td>.328**</td>
<td>.194**</td>
<td>.126</td>
<td>.205**</td>
</tr>
</tbody>
</table>

*Note:* *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).*

**Hypothesis 2.** The second hypothesis concerns the relationship between spiritual intelligence and transformational leadership. It states:

H2: Spiritual intelligence is positively correlated with transformational leadership among leaders within the University of Maine System ($>x, >y$).
H2₀: There is no correlation between spiritual intelligence and transformational leadership among leaders within the University of Maine System ($r = 0$).

**Scatter plot.** The first step was to produce a scatter plot and look for linearity between spiritual intelligence and transformational leadership. The scatter plot is shown below in Figure 3.

![Scatter plot](image)

Figure 3. *Spiritual intelligence and transformational leadership scatter plot.*

As can be seen from Figure 3, spiritual intelligence and transformational leadership have a somewhat positive linear relationship with an $r^2$ liner score of 0.187. This relationship appears to be stronger and more linear than that between mindfulness and spiritual intelligence.
**Pearson’s r correlation analysis.** Next, Pearson’s $r$ was calculated to determine the degree to which spiritual intelligence was correlated with transformational leadership. As Table 9 shows, a Pearson’s $r$ score of .432 was found (statistically significant at the 0.01 level) when analyzing the correlation between spiritual intelligence total score and transformational leadership total score. Table 9 outlines this correlation as well as correlations between the instrument’s subscales.

Table 9

<table>
<thead>
<tr>
<th></th>
<th>II-A</th>
<th>II-B</th>
<th>IM</th>
<th>IS</th>
<th>IC</th>
<th>Total TL Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Existential Thinking (CET)</td>
<td>.122</td>
<td>.335**</td>
<td>.106</td>
<td>.247**</td>
<td>.209**</td>
<td>.252**</td>
</tr>
<tr>
<td>Personal Meaning Production (PMP)</td>
<td>.369**</td>
<td>.574**</td>
<td>.471**</td>
<td>.314**</td>
<td>.409**</td>
<td>.535**</td>
</tr>
<tr>
<td>Transcendental Awareness (TA)</td>
<td>.246**</td>
<td>.433**</td>
<td>.287**</td>
<td>.215**</td>
<td>.346**</td>
<td>.381**</td>
</tr>
<tr>
<td>Conscious State Expansion (CSE)</td>
<td>.297**</td>
<td>.384**</td>
<td>.284**</td>
<td>.259**</td>
<td>.204**</td>
<td>.358**</td>
</tr>
<tr>
<td>Total Spiritual Intelligence Score</td>
<td>.289**</td>
<td>.495**</td>
<td>.315**</td>
<td>.300**</td>
<td>.335**</td>
<td><strong>.432</strong></td>
</tr>
</tbody>
</table>

*Note:* *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

A number of statistically significant relationships can be seen in Table 9, with many relationships rising above the .400 level. In particular, the subscale of personal meaning production was found to be positively correlated with all transformational leadership subscales, particularly idealized influence-behavior ($r = .574$), inspirational motivation ($r = .471$), and
individual consideration \((r = .409)\). Personal meaning production also produced a relatively high Pearson’s \(r\) score with the total transformational leadership scale score \((r = .535)\). Also worth noting are the correlations between idealized influence-behavior and transcendental awareness \((r = .433)\) and the total spiritual intelligence instrument score \((r = .495)\). The lowest correlations, although still statistically significant and positive, were found between critical existential thinking and the transformational leadership scale and subscales. Nearly every relationship listed above was found to be statistically significant at either the .01 or .05 levels.

Important for hypothesis 2, this analysis shows that the total instrument scores for spiritual intelligence had a modest to strong statistically significant positive relationship with the total instrument scores for transformational leadership, with a Pearson’s \(r\) score of .432 \((p\) value <.01\). The correlation coefficient \((r = .432)\) was squared to find the coefficient of determination, which shows that spiritual intelligence explains 18.7\% of the variance in transformational leadership scores. These results suggest that the null hypothesis should be rejected for hypothesis 2 and that spiritual intelligence has a statistically significant positively correlation with transformational leadership among leaders within the University of Maine System. The strength of this relationship is moderate to strong when compared with the more modest correlation found for hypothesis 1.

**Spearman’s rho correlation analysis.** Next, Spearman’s rho was calculated. As Table 10 shows, a slightly higher spearman’s rho score of .447 was found (statistically significant at the .01 level) when analyzing the correlation between spiritual intelligence total scores and transformational leadership total scores. Again, Spearman’s rho produced scores very similar to those produced from the Pearson’s \(r\) analysis. Some scores increased in strength and/or
statistical significance while other scores decreased in strength, but all scores remained relatively the same.

Table 10

_Spiritual Intelligence and Transformational Leadership Scale and Subscale Spearman’s Rho Correlations (n = 234)_

<table>
<thead>
<tr>
<th>Subscale</th>
<th>II-A</th>
<th>II-B</th>
<th>IM</th>
<th>IS</th>
<th>IC</th>
<th>Total TL Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Existential Thinking (CET)</td>
<td>.126</td>
<td>.339**</td>
<td>.130*</td>
<td>.243**</td>
<td>.212**</td>
<td>.258**</td>
</tr>
<tr>
<td>Personal Meaning Production (PMP)</td>
<td>.390**</td>
<td>.585**</td>
<td>.474**</td>
<td>.338**</td>
<td>.417**</td>
<td>.550**</td>
</tr>
<tr>
<td>Transcendental Awareness (TA)</td>
<td>.299**</td>
<td>.476**</td>
<td>.337**</td>
<td>.272**</td>
<td>.380**</td>
<td>.430**</td>
</tr>
<tr>
<td>Conscious State Expansion (CSE)</td>
<td>.252**</td>
<td>.364**</td>
<td>.279**</td>
<td>.235**</td>
<td>.180**</td>
<td>.334**</td>
</tr>
<tr>
<td>Total Spiritual Intelligence Score</td>
<td>.305**</td>
<td>.506**</td>
<td>.340**</td>
<td>.311**</td>
<td>.340**</td>
<td>.447**</td>
</tr>
</tbody>
</table>

Note: *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

**Hypothesis 3.** The third hypothesis concerns the relationship between mindfulness and transformational leadership. It states:

H3: Mindfulness is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).

H30: There is no correlation between mindfulness and transformational leadership among leaders within the University of Maine System (r = 0).

**Scatter plot.** A scatter plot was produced, evaluating linearity between mindfulness and transformational leadership. The scatter plot is shown below in Figure 4.
Figure 4. *Mindfulness and transformational leadership scatter plot.*

Figure 4 shows that the relationship between mindfulness and transformational leadership is more linear than the first relationship examined, but less linear than that seen between spiritual intelligence and transformational leadership, with an $r^2$ linear score of 0.137.

**Pearson’s $r$ correlation analysis.** Pearson’s $r$ was calculated to determine the degree to which mindfulness correlated with transformational leadership. As Table 11 shows, a Pearson’s $r$ score of .370 was found (statistically significant at the .01 level) when analyzing the relationship between the mindfulness total instrument score and the transformational leadership
total instrument score. Table 11 presents this correlation as well as correlations between the instrument’s subscales.

Table 11

**Mindfulness and Transformational Leadership Scale and Subscale Pearson’s r Correlations (n = 234)**

<table>
<thead>
<tr>
<th></th>
<th>II-A</th>
<th>II-B</th>
<th>IM</th>
<th>IS</th>
<th>IC</th>
<th>Total TL Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non React (NR)</td>
<td>.219**</td>
<td>.105</td>
<td>.193*</td>
<td>.226**</td>
<td>.117</td>
<td>.211**</td>
</tr>
<tr>
<td>Observe (OBS)</td>
<td>.169*</td>
<td>.375**</td>
<td>.271**</td>
<td>.243**</td>
<td>.287**</td>
<td>.335**</td>
</tr>
<tr>
<td>Acting with Awareness (AA)</td>
<td>.170**</td>
<td>.159*</td>
<td>.251**</td>
<td>.202**</td>
<td>.245**</td>
<td>.253**</td>
</tr>
<tr>
<td>Describe (DES)</td>
<td>.185**</td>
<td>.259**</td>
<td>.363**</td>
<td>.303**</td>
<td>.310**</td>
<td>.351**</td>
</tr>
<tr>
<td>Non-judgment (NJ)</td>
<td>.080</td>
<td>-.074</td>
<td>.120</td>
<td>.020</td>
<td>.128</td>
<td>.064</td>
</tr>
<tr>
<td>Total Mindfulness Score</td>
<td>.254**</td>
<td>.241**</td>
<td>.370**</td>
<td>.303**</td>
<td>.335**</td>
<td><strong>.370</strong></td>
</tr>
</tbody>
</table>

*Note: *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

Again, a number of statistically significant relationships were found. Here, unlike with spiritual intelligence and transformational leadership, there are not any correlations above the .400 mark. However, a few relationships rise above the .300 mark. For example, the describe subscale of mindfulness score relatively high with inspirational motivation (r = .363), intellectual stimulation (r = .303), individual consideration (r = .310), and the total transformational leadership instrument score (r = .351). The observe subscale also produced scores above .300 with idealized influence behavior (r = .375) and the total transformational leadership scale (r = .335). Additionally, the total mindfulness instrument score produced alphas above .300 as well with inspirational motivation (r = .370), intellectual stimulation (r = .303), and individual
consideration \( (r = .335) \). Interestingly, the non-judgment subscale of mindfulness produced the lowest correlations with transformational leadership, with some relationships near 0 or even below in the negative range (and no relationships showing statistical significance).

Most importantly in terms of hypothesis 3, this analysis shows that the mindfulness total instrument score had a statistically significant positive relationship with the transformational leadership total instrument score, with a Pearson’s \( r \) score of 0.370 (\( p \) value <.01). The correlation coefficient \( (r = 0.370) \) was squared to find the coefficient of determination, which shows that spiritual intelligence explains 13.7% of the variance in transformational leadership scores. These results suggest that the null hypotheses for hypothesis 3 should be rejected and that mindfulness has a moderate statistically significant positively correlation with transformational leadership among leaders within the University of Maine System.

**Spearman’s rho correlation analysis.** Next, Spearman’s rho was calculated. As Table 12 illustrates, a slightly lower spearman’s rho score of .357 was found (statistically significant at the .01 level) when analyzing the correlation between spiritual intelligence total scores and transformational leadership total scores. As with the first two hypotheses, the Spearman’s rho analysis produced very similar scores to those found in the Pearson’s \( r \) analysis. Some scores increased in strength and/or statistical significance while other scores decreased in strength, but all scores remained relatively the same.
Table 12

Mindfulness and Transformational Leadership Scale and Subscale Spearman’s Rho Correlations
(\(n = 234\))

<table>
<thead>
<tr>
<th></th>
<th>II-A</th>
<th>II-B</th>
<th>IM</th>
<th>IS</th>
<th>IC</th>
<th>Total TL Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non React (NR)</td>
<td>.236**</td>
<td>.087</td>
<td>.155*</td>
<td>.227**</td>
<td>.130*</td>
<td>.190**</td>
</tr>
<tr>
<td>Observe (OBS)</td>
<td>.163*</td>
<td>.283**</td>
<td>.243**</td>
<td>.215**</td>
<td>.279**</td>
<td>.294**</td>
</tr>
<tr>
<td>Acting with Awareness (AA)</td>
<td>.173**</td>
<td>.133*</td>
<td>.247**</td>
<td>.193**</td>
<td>.213**</td>
<td>.226**</td>
</tr>
<tr>
<td>Describe (DES)</td>
<td>.205**</td>
<td>.241**</td>
<td>.341**</td>
<td>.320**</td>
<td>.319**</td>
<td>.331**</td>
</tr>
<tr>
<td>Non-judgment (NJ)</td>
<td>.054</td>
<td>-.067</td>
<td>.075</td>
<td>.019</td>
<td>.143*</td>
<td>.045</td>
</tr>
<tr>
<td>Total Mindfulness Score</td>
<td>.265**</td>
<td>.221**</td>
<td>.344**</td>
<td>.328**</td>
<td>.371**</td>
<td>.357**</td>
</tr>
</tbody>
</table>

Note: *Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).

**Hypothesis 4.** The final hypothesis combines spiritual intelligence and mindfulness and looks at the relationship these two variables have, when analyzed together, on transformational leadership. It says:

H4: Mindfulness and spiritual intelligence positively predict transformational leadership among leaders within the University of Maine System (>\(x\), >\(y\), >\(z\)).

H4\(_0\): Mindfulness and spiritual intelligence do not significantly predict transformational leadership among leaders within the University of Maine System (\(r = 0\)).

**Multi-linear regression analysis.** To address the fourth hypothesis, multiple linear regression was used. Multiple linear regression analyzes the relationship between one criterion variable and multiple predictor variables (Field, 2009). Multiple linear regression is typically calculated with continuous variables. This statistical process works well because spiritual
intelligence, mindfulness, and transformational leadership were each treated as continuous or interval for the purposes of this study (Muijs, 2011).

First, a standardized coefficient or beta was run and evaluated. A beta score represents the value that \( Y \) will change by if \( X \) changes by one unit (Muijs, 2011). Here, the results show that if spiritual intelligence increases by one point, it results in a .373 increase in the transformational leadership score. Similarly, if mindfulness increases by one point, it results in a .296 increase in the transformational leadership score. Both of these relationships were found to be statistically significant at the <.01 level. Table 13 outlines these findings in greater detail.

Table 13

Coefﬁcients

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>Significance</th>
<th>Collinearity Statistics (Tolerance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence Total Score</td>
<td>.373</td>
<td>.000</td>
<td>.960</td>
</tr>
<tr>
<td>Mindfulness Total Score</td>
<td>.296</td>
<td>.000</td>
<td>.960</td>
</tr>
</tbody>
</table>

A major assumption when using multiple linear regression is that the predictor variables are not too strongly correlated with one another—a problem referred to as multicollinearity (Field, 2009). To test for multicollinearity, a collinearity statistic called tolerance was used. Tolerance varies from 0 to 1, with values close to 1 indicating that the other predictor variables do not explain the variance in that variable (Muijs, 2011). As Table 13 shows, both variables in this model had a tolerance score of .960 showing that multicollinearity is not a problem in this model.

A second major assumption when using multiple linear regression is that there are few outliers in the data. Residuals were analyzed to determine the extent to which this model
contained outliers outside three standard deviations. Only one case was found to be an outlier. Muijs (2011) wrote that one outlier will not significantly impact results, becoming a concern only at a rate of 10% or more of the sample. Thus, it was determined that outliers were not of concern in this study.

Next, the multiple linear regression output was analyzed to evaluate the $r$, $R^2$, and adjusted $R^2$. These findings are presented in Table 14.

Table 14

<table>
<thead>
<tr>
<th>Model</th>
<th>$r$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence and Mindfulness Total Scores</td>
<td>.521</td>
<td>.271</td>
<td>.265</td>
<td>7.86</td>
</tr>
</tbody>
</table>

The adjusted $R^2$ of .265 shows that the model has a modest fit with the data. This means that the model, spiritual intelligence and mindfulness combined, predict about 27% of the variability in transformational leadership. This suggests that the model has a modest to moderate fit with the data (Muijs, 2011). Thus, the final null hypothesis can be rejected, and spiritual intelligence and mindfulness can be said to positively predict transformational leadership among leaders within the UMaine System.

Summary

This chapter first detailed the descriptive statistics used in this study including frequencies for key demographics of the sample population as well as measures of central tendencies for the three major variables of interest: spiritual intelligence, mindfulness, and transformational leadership. Inferential statistics were used to reject the four null hypotheses. Specifically, Pearson’s $r$ and Spearman’s rho were used to reject the null hypothesis for
hypotheses 1-3. Spiritual intelligence was found to have a modest statistically significant positive relationship with mindfulness ($r = 0.200$, $p$ value < .01); spiritual intelligence was found to have a moderate to strong statistically significant positive relationship with transformational leadership ($r = 0.432$, $p$ value < .01); and mindfulness was found to have a moderate statistically significant positive relationship with transformational leadership ($r = .370$, $p$ value < .01). The relationships seen between mindfulness and transformational leadership, and between spiritual intelligence and transformational leadership, were stronger than the relationship seen between mindfulness and spiritual intelligence. The strongest relationship was that seen between spiritual intelligence and transformational leadership.

Next, multiple linear regression analysis was used to reject the null hypothesis for hypothesis 4, analyzing the relationship between spiritual intelligence and mindfulness together and transformational leadership. Here, an adjusted $R^2$ value of .265 shows that the model significantly predicts transformational leadership; that is, 26.5% of the variance in transformational leadership can be explained by the mindfulness and spiritual intelligence when analyzed together. The next chapter provides a more detailed discussion of these findings examining the results in relation to the literature and theoretical frameworks being used in this study.
Chapter 5: Discussion

The purpose of this study was to fill a gap in the literature by examining quantitatively the extent to which spiritual intelligence and mindfulness associate with transformational leadership among leaders within the University of Maine System. While a great deal of theoretical research suggests a relationship between spiritual intelligence, mindfulness, and transformational leadership within education (Hafner & Capper, 2005; Hoppe, 2005; Hoyle, 2002; Thom, Ma, & Ho, 2005; Woods, 2007; Woods & Woods, 2008), very little empirical research exists in this area. The limited extant empirical research analyzing the relationship between spirituality and leadership among higher education leaders is done almost exclusively from a qualitative perspective (Blanton, 2008; Borger, 2007; Doetzel, 2004; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009). Additionally, wide-ranging and thorough searches of the published literature have shown no qualitative or quantitative studies analyzing, specifically, the variables of spiritual intelligence and/or mindfulness within higher education leadership. This is a critical gap, because spiritual intelligence and mindfulness represent an important opportunity to bring theoretical conversations about spirituality and leadership to the level of implementation and practice.

Based on this gap in the literature, the following research question was proposed: To what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System? Additionally, the following four hypotheses were proposed:

H1: Mindfulness is positively correlated with spiritual intelligence among leaders within the University of Maine System (>x, >y).
H2: Spiritual intelligence is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).

H3: Mindfulness is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).

H4: Mindfulness and spiritual intelligence positively predict transformational leadership among leaders within the University of Maine System (>x, >y, >z).

Chapter one outlined the purpose of this study in more detail. Chapter two provided a review of the literature, using mindfulness (Kabat-Zinn, 2003), spiritual intelligence (Emmons, 2000a), and transformational leadership (Bass, 1985) as the key theoretical frameworks guiding the research. As chapter two suggested, conceptual similarities can be seen in the literature linking spiritual intelligence, mindfulness, and transformational leadership. A quantitative approach, such as that conducted here, filled a deficiency in the literature by providing empirical support for the existing theoretical conversations about the importance of spirituality in higher education leadership (Hafner & Capper, 2005; Hoppe, 2005; Hoyle, 2002; Thom, Ma, & Ho, 2005; Woods, 2007; Woods & Woods, 2008), and offered further support for the qualitative studies suggesting the importance of spirituality in higher education leadership (Blanton, 2008; Borger, 2007; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009).

Chapter three described in detail the methodology for this study. To address the research question and hypotheses, the researcher surveyed supervisors and academic chairs within the UMaine System. Online surveys were sent to 877 respondents and 235 surveys were completed. The survey instrument consisted of a basic demographics section, along with three self-report Likert scale instruments measuring the three variables of principle interest in this study: the SISRI-24 to measure spiritual intelligence, the FFMQ-SF to measure mindfulness, and the MLQ-
5X to measure transformational leadership. Once responses were gathered, SPSS was used to analyze the data. A full analysis of the data was presented in chapter four. This chapter discusses those findings, and the implications for those findings, in more detail.

**Brief Summary of Findings**

Results indicated that a modest statistically significant positive relationship exists between mindfulness and spiritual intelligence ($r = 0.200$, $p$ value <.01), that a moderate to strong statistically significant positive relationships exists between spiritual intelligence and transformational leadership ($r = 0.432$, $p$ value <.01), and that a moderate statistically significant positive relationship exists between mindfulness and transformational leadership ($r = .370$, $p$ value <.01). Multiple linear regression analysis provided a significant predictive model with both mindfulness and spiritual intelligence as the predictor variables and transformational leadership as the criterion variable (adjusted $R^2 = .265$). This shows that spiritual intelligence and mindfulness, taken together, predict about 27% of the variability in transformational leadership. Based on these findings, all four null hypotheses were rejected accepting the four research hypotheses.

**Discussion**

**Hypothesis 1.** The first hypothesis concerns the relationship between mindfulness and spiritual intelligence. It states:

H1: Mindfulness is positively correlated with spiritual intelligence among leaders within the University of Maine System ($>x, >y$).

H10: There is no correlation between mindfulness and spiritual intelligence among leaders within the University of Maine System ($r=0$).
It was predicted that a positive correlation would be found between mindfulness and spiritual intelligence among leaders within the UMaine System. Pearson’s $r$ was used to determine whether or not the null hypotheses could be rejected. As indicated, a positive correlation of .200 was found and the null hypothesis was rejected.

Interestingly, when analyzing subscale correlations, the highest correlations were found between the observe subscale of mindfulness and the spiritual intelligence total instrument score. The observe subscale of mindfulness and the spiritual intelligence total score produced an $r = .373$. The observe subscale also produced scores above .300 with the critical existential thinking ($r = .353$), personal meaning production ($r = .347$), and transcendental awareness ($r = .346$) subscales of spiritual intelligence. The observe sub factor of the FFMQ-SF includes “noticing or attending to internal and external experiences, such as sensations, cognitions, emotions, sights, sounds, and smells” (Baer et al., 2008, p. 330).

These high correlations suggest that it might be important to include observe as a component of mindfulness when studying mindfulness, particularly as it relates to spirituality and/or spiritual intelligence. As chapter two described, other popular mindfulness instruments, such as the MAAS, analyze mindfulness as a single construct. In the case of the MAAS, mindfulness is measured as the open or receptive awareness of, and attention to, what is taking place in the present (Brown & Ryan, 2003). As these results show, however, awareness did not produce the highest correlations with spiritual intelligence. Whether or not it should be considered a component of mindfulness, the observe subscale and the FFMQ-SF are worthy of further research given their positive correlations with spiritual intelligence.

Other significant relationships were seen between the total mindfulness scale scores and the personal meaning production subscale of spiritual intelligence, which produced a Pearson’s $r$
score above .300 ($r = .303$). Personal meaning production is defined as “the ability to construct personal meaning and purpose in all physical and mental experiences, including the ability to create and master a life purpose” (King & DeCicco, 2009, p. 70). It stands to reason that higher PMP scores would correlate with higher mindfulness scores given the discussion of mindfulness in the literature. The literature suggests that mindful leaders are similarly concerned with life purpose. As Dhiman (2009) wrote, mindful leaders see greater connection between their doing life and their being life which helps them develop meaning and purpose in what they do.

Boyatzis and McKee (2005) wrote that mindful leaders are able to develop a deep connection with their passion and purpose, which aligns nicely with personal meaning production which centers on a person’s ability to construct a life purpose for him or herself. Finally, Dhiman (2009) wrote that mindfulness allows leaders to strengthen and hone their ability to see the big picture while selectively focusing attention as needed. That ability to see, and remain focused on the big picture might allow someone to remain centered on his or her larger meaning and purpose in life.

Despite these similarities, the strength of the correlation between mindfulness and spiritual intelligence is a bit lower than was expected. While a positive correlation was found, the strength of that association was weakest for this hypothesis ($r = .200$). In some ways this was not surprising because the relationship between these two variables has had the least amount of discussion within the literature. While mindfulness certainly has religious and spiritual roots, and mindfulness is often discussed in ways that align with conversations about spirituality, this researcher knows of no study linking mindfulness and spiritual intelligence. Future research should further examine the extent to which increases in mindfulness might produce increases in spiritual intelligence (or vice versa). If mindfulness is shown to improve levels of spiritual
intelligence, mindfulness could serve as a very useful tool for those interested in improving their level of spiritual intelligence.

**Hypothesis 2.** The second hypothesis concerns the relationship between spiritual intelligence and transformational leadership. It states:

H2: Spiritual intelligence is positively correlated with transformational leadership among leaders within the University of Maine System (>x, >y).

H2₀: There is no correlation between spiritual intelligence and transformational leadership among leaders within the University of Maine System (r = 0).

It was predicted that a positive correlation would be found between spiritual intelligence and transformational leadership among leaders within the UMaine System. Pearson’s r was used to determine whether or not the null hypotheses could be rejected. As indicated above, a statistically significant positive correlation of .432 was found and the null hypothesis was rejected. This positive relationship was the strongest relationship found in the study.

In looking more closely at the subscales, it can be seen that the spiritual intelligence subscale of personal meaning production was positively correlated with all transformational leadership subscales, particularly idealized influence-behavior (r = .574), inspirational motivation (r = .471), and individual consideration (r = .409). Personal meaning production also produced a relatively high Pearson’s r score with the total transformational leadership scale score (r = .535). The theoretical literature on transformational leadership, and the personal meaning production subscale, supports these relationships. While personal meaning production concerns a person’s ability to create and orchestrate a life purpose, as described above, transformational leaders also continually focuses on values, mission, and purpose in terms of their organization. Bass and Avolio (1994) wrote that transformational leaders emphasize the
importance of mission and purpose, creating a sense of vision and mission for their organization and repeatedly emphasize the importance of that mission. They then model this commitment to purpose and mission for their followers, in the hopes that followers will come to understand and believe in that purpose and mission as well (Stewart, 2006). Transformational leaders also encourage organizational members to believe they can reach their goals and achieve their shared vision (Gumusluoglu & Ilsev, 2009). As described in the literature, spiritual intelligence and mindfulness both involve a strong commitment to values, mission, and purpose. Thus, it is not surprising that personal meaning production would produce such high correlations with transformational leadership, particularly the subscales of idealized influence and inspirational motivation which both focus heavily on mission and purpose.

Also worth noting in the analysis of hypothesis two are the correlations between idealized influence-behavior and transcendental awareness ($r = .433$) and between idealized influence-behavior and the total spiritual intelligence instrument score ($r = .495$). As stated above, the literature suggests that transformational leadership, particularly the characteristics of idealized influence and inspirational motivation, is heavily oriented towards the importance of values, mission, and purpose (Bass & Avolio, 1994). For example, the four questions related to idealized-influence-behavior relate directly to mission and purpose. They are: I talk about my most important values and beliefs; I specify the importance of having a strong sense of purpose; I consider the moral and ethical consequences of decisions; and I emphasize the importance of having a collective sense of mission.

Researchers write that spiritually intelligent leaders are similarly focused on mission and purpose, so it makes sense that these variables would produce a relatively high correlation. As the literature suggests, spiritually intelligent individuals see a higher-level connection/purpose
between elements and rise above daily difficulties toward that higher purpose (Emmons, 2000b). As Emmons (2000a) wrote, they are able to “sanctify” (p. 11), or imbue, the daily work of an organization with a sense of higher meaning and purpose. Similarly, Astin (2004) wrote that spiritually intelligence individuals ask fundamental questions that speak to purpose and mission, and Zohar and Marshall (2001) wrote that they are inspired by vision and values and have a capacity to face and use suffering to further mission and purpose. Finally, King and DeCicco (2009) wrote that spiritually intelligence individuals have the ability to critically contemplate meaning and purpose, both in a general sense and for oneself personally. Here again we see theoretical support in the literature to support the empirical findings presented in this study.

Another correlation worth discussing is that between transcendental awareness and the transformational leadership total instrument score \((r = .381)\). Transcendental awareness refers to a person’s capacity to perceive transcendent dimensions of the self, of others, and of the physical world (i.e. interconnectedness) (King & DeCicco, 2009). As might be expected, a relatively high correlation was seen between transcendental awareness and the individual consideration subscale of transformational leadership \((r = .346)\). Individual consideration refers to paying particular attention to group members’ needs (Bass & Avolio, 1994). This characteristic is what encourages a leader to seek buy-in from various stakeholders, to invest significant energy in one-on-one relationships, and to provide individual encouragement and support to organizational members in the form of coaching and mentoring (Gumusluoglu & Ilsev, 2009). If transcendental awareness is the subscale item focused on interconnectedness, it makes sense that it would correlate with individual consideration, which focuses on a person’s relationship with other individual people. If one feels connected to others, it would follow that he or she might feel more inclined to invest in and support those relationships.
Other similarities can be seen with individual consideration. Researchers write that spiritually intelligent people: are reluctant to cause unnecessary harm (Zohar & Marshall, 2001), see interconnections that exist between people and understand the importance of investing in and maintaining relationships to foster those interconnections (Emmons, 2000a; Noble, 2000; Wolman, 2001; Zohar & Marshall, 2001), and have a capacity to perceive transcendent dimensions of the self, of others, of the physical world (i.e. interconnectedness) (King & DeCicco, 2009). Similarly, transformational leaders pay particular attention to group members’ needs and create environment where individuals’ needs are respected (Bass & Avolio, 1994; Stewart, 2006), view each organizational member as a whole person and not just an employee or co-worker (Bass & Avolio, 1994), and put the needs of others before their own (Bass & Avolio, 1994). A clear focus on the needs of individuals, and connectedness to those individuals, can be seen in both of these elements, which may explain the positive correlation.

Spiritual intelligence also scored correlations above .300 (significant at the p< .01 level) with all transformational leadership subscales. As noted above, the highest correlation was seen with idealized influence-behavior, but the other scores are worth noting as well: idealized influence-attribute (.289), inspirational motivation ($r = .315$), intellectual stimulation ($r = .300$), and individual consideration ($r = .335$). These correlations resonate with the description of spiritual intelligence in the literature. In terms of intellectual stimulation, similarities can be seen with spiritual intelligence. Intellectual stimulation concerns a leader’s ability to inspire his or her followers to consider problems in new and different ways (Burns, 1978). In an environment of intellectual stimulation, creative approaches to problem solving are not only allowed, but are encouraged (Stewart, 2006). This resonates with how Zohar and Marshall (2001) described spiritually intelligent individuals. They wrote that spiritually intelligent individuals: have a
marked tendency to as why/what if questions and to seek fundamental answers, possess a facility for working against convention, have the capacity to be flexible, and are better able to see connections between diverse things. Similarly, researchers describe transformational leaders as: encouraging organizational members to take risks and question assumptions (Vinger & Cilliers, 2006), creating an environment where creative approaches to problem solving are not only allowed, but are encouraged (Stewart, 2006), and understanding that problem solving takes creativity and risk (Bass & Avolio, 1994). This literature shows how spiritual intelligence and transformational leadership both encourage creativity, risk taking, and outside-the-box thinking.

Again, the theoretical literature supports the correlations seen in this study.

The lowest correlations, although still statistically significant and positive, were found between critical existential thinking and the transformational leadership scale ($r = .252$) and its subscales (ranging from $r = .106$ to $r = .335$). Critical existential thinking involves “the capacity to critically contemplate meaning, purpose, and other existential or metaphysical issues” (King & DeCicco, 2009, p. 70). While transcendental awareness refers more to a general awareness of other dimensions of self and others, critical existential thinking refers to the ability to think critically about those issues. While both are correlated with transformational leadership, it appears that the general awareness relates more strongly to transformational leadership than the ability to think critically about those issues.

This study’s findings help support the other limited extant quantitative research analyzing the relationship between spiritual intelligence and leadership. Christ-Lakin (2010) also found a significant positive relationship between spiritual intelligence (measured using the PsychoMatrix Spiritual Inventory instead of the SISRI-24) and transformational leadership (also measured using the MLQ-5X). Christ-Lakin found a similar Spearman’s rho score of 0.41 ($p<.001$) within
her sample of a non-profit leadership council (this study produced a Spearman’s rho score of 0.432). This study, which used respondents from a very different sample population and measured spiritual intelligence with a different instrument, adds further evidence to support Christ-Lakin’s findings that spiritual intelligence indeed correlates with transformational leadership.

Amram (2009) also looked at the relationship between spiritual intelligence (measured using the Integrated Spiritual Intelligence Scale), emotional intelligence, and leadership effectiveness within a corporate setting (Amram, 2009). While not looking at transformational leadership in particular, Amram also found a significant positive correlation between leadership effectiveness and spiritual intelligence (0.17, p = .016) but at a much weaker level. This could perhaps be because spiritual intelligence correlates more directly with a particular form of leadership—transformational leadership—and less strongly with leadership effectiveness in general. It could also be a result of the different instrument used to measure spiritual intelligence. Either way, the discrepancies in the findings between Amram’s (2009) study and this study suggest future research is needed to move beyond a correlational study examining spiritual intelligence and transformational leadership to a more practical analysis of spiritual intelligence and leadership effectiveness.

Doherty (2012) measured the relationship between spiritual intelligence (measured using the SISRI-24), spirituality, and specific leadership practices among college students. While not analyzing transformational leadership in particular, the leadership characteristics examined do have similarities with transformational leadership and include: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. All correlations were found to be positive; 64% of the relationships were statistically significant and
of the relationships that were statistically significant, the correlation coefficients ranged from $r = .30$ to $r = .51$. As these correlations show, the Doherty (2012) study produced correlations similar to those produced in this study. The results from the present study add to this very limited body of quantitative research analyzing spiritual intelligence and leadership.

**Hypothesis 3.** The third hypothesis concerns the relationship between mindfulness and transformational leadership. It states:

$H3$: Mindfulness is positively correlated with transformational leadership among leaders within the University of Maine System ($>x, >y$).

$H3_0$: There is no correlation between mindfulness and transformational leadership among leaders within the University of Maine System ($r = 0$).

It was predicted that a positive correlation would be found between mindfulness and transformational leadership among leaders within the UMaine System. Pearson’s $r$ was used to determine whether or not the null hypotheses could be rejected. As indicated above, a statistically significant positive correlation of .370 was found and the null hypothesis was rejected. This positive relationship was the second strongest relationship found in this study, second only to the relationship between spiritual intelligence and transformational leadership.

While less strong than some of the correlations seen between spiritual intelligence and mindfulness, a number of statistically significant relationships were seen between mindfulness and its subscales and transformational leadership. Again we see that the describe subscale of mindfulness scores relatively high with inspirational motivation ($r = .363$), intellectual stimulation ($r = .303$), individual consideration ($r = .310$), and the total transformational leadership instrument score ($r = .351$). This adds further to the argument that a five factor model for mindfulness may be important. Other instruments only measuring awareness, such as the
MAAS, may miss out on important components of mindfulness, particularly as this variable relates to spirituality and spiritual intelligence.

Additionally, the total mindfulness instrument score produced correlations above .300 with inspirational motivation \((r = .370)\), intellectual stimulation \((r = .303)\), and individual consideration \((r = .335)\). These correlations resonate with how mindfulness has been described in the literature. First, when looking at inspirational motivation, we see that inspirational motivation refers to a person’s ability to, with the help of organizational members, create a sense of vision and mission for their organization (Bass & Avolio, 1994). The literature says that, like spiritually intelligent individuals, mindful leaders are also focused on vision, mission, and purpose. Researchers write that mindful leaders: see greater connection between their doing life and their being life, and have a heightened appreciation for what is really important (Dhiman, 2009), consider important long term goals rather than reacting impulsively in the moment (Sauer & Kohls, 2011), and are able to develop a deep connection with their passion and purpose (Boyatzis & McKee, 2005).

When looking at intellectual stimulation, similarities can again be seen with mindfulness. For example, the literature says that mindful leaders are more open to the ideas of others (Sethi, 2009) and that they are less attached to a particular point of view (Martin, 2002). The literature also says that mindful leaders have enhanced clarity and creative thinking, and are thus able to relate in a disciplined manner to the stream of thoughts that “clutter the present moment and obscure the stillness from which true innovation and clear-seeing emerge” (Dhiman, 2009, p. 73). Intellectual stimulation is what allows transformational leaders to encourage outside the box thinking. Similarly, mindful leaders, because they are less fearful of failure, are more able to take risks and encourage risk taking (Santorelli, 2011). Langer (1989) and Sauer and Kohls
(2011) wrote specifically that mindful leaders look freshly at each situation and have great capacity for outside-the-box thinking (Langer, 1989; Sauer & Kohls, 2011). Similarly, Hawkins (2010) wrote that mindful leaders make it safe for others to explore new ideas and possibilities. As was seen between spiritual intelligence and transformational leadership, the literature again shows how mindfulness and transformational leadership both encourage creativity, risk taking, open-mindedness, and outside-the-box thinking. Here again the literature supports the correlations seen in this study.

Other similarities can be seen when examining the component of transformational leadership know as individual consideration. Again, similarities can be seen between this subscale and mindfulness when examining the literature. The literature says that mindful leaders listen to understand, not just hear or respond (Hawkins, 2010; Sethi, 2009), place high value on creating supportive relationships (Boyatzis & McKee, 2005), and have greater empathy for themselves and others (Hawkins, 2010; Kabat-Zinn, 2009). Sauer and Kohls (2012) wrote that mindful leaders are less engrossed with their own thoughts/feelings, which allows for more openness and receptivity to others. Hawkins (2010) similarly wrote that they have a unique ability to connect deeply with others as well as a deep commitment to the development of others. Here we see that mindfulness and individual consideration both relate strongly to a focus on the individual needs of others. These similarities help explain why these correlations may have been seen in this study.

Interestingly, the non-judgment subscale of mindfulness produced the lowest correlations with transformational leadership, with some relationships near zero, or even below zero in the negative range. The literature offers little in the way of explaining why this might be so. Also, because mindfulness and leadership has been studied very little from a quantitative perspective,
there is little to which compare these findings. The only other quantitative study found examining mindfulness and leadership was a study conducted by Horowitz (2012) and examined pre-and post-scores of mindfulness after college student leaders engaged in a leadership development program. Because it did not use an associational design, results cannot be compared to this study.

While not looking at transformational leadership in particular, Hawkins (2010) used a grounded theory approach to study the process by which leaders use mindfulness to engage in organizational change. He describes the mindful leadership of change as a process that, among other things, “engages the collective in understanding where they are and where they might be” (Hawkins, 2010, p. 68). This aligns nicely with the focus on mission and purpose seen in transformational leadership. It is perhaps these common elements that have resulted in the statistically significant positive correlation between mindfulness and transformational leadership seen in this study.

**Hypothesis 4.** The final hypothesis combines spiritual intelligence and mindfulness and looks at the relationship these two variables have, when analyzed together, on transformational leadership. It states:

H4: Mindfulness and spiritual intelligence positively predict transformational leadership among leaders within the University of Maine System (>x, >y, >z).

H40: Mindfulness and spiritual intelligence do not significantly predict transformational leadership among leaders within the University of Maine System (r =0).

It was predicted that mindfulness and spiritual intelligence would positively predict transformational leadership among leaders within the UMaine System. Multiple linear regression was used to determine whether or not the null hypotheses could be rejected. As
indicated above, an adjusted $R^2$ of .265 was found and the null hypothesis was rejected. This adjusted $R^2$ score tells us that the model predicts 26.5% of the variance in transformational leadership.

While the topics of mindfulness, spiritual intelligence, and leadership have been discussed a great deal in the literature, no extant empirical study was found analyzing all three of these variables at one time. This study provides new information about how mindfulness and spiritual intelligence together influence transformational leadership, adding to the existing body of literature on the topic. When looking at the individual correlations, spiritual intelligence and mindfulness complement one another well. We see that the total mindfulness instrument scores its highest correlations with inspirational motivation ($r = .370$), intellectual stimulation ($r = .303$), and individual consideration ($r = .335$) while the total spiritual intelligence instrument score produced its highest correlation with a fourth subscale, idealized influence-behavior ($r = .495$). Perhaps this is why the variables, taken together, produced a positive predictive relationship with transformational leadership.

In a similar study, Hartsfield (2003) found that the variables of spirituality, emotional intelligence, and self-efficacy predicted 40% of the variance in transformational leadership. This is a much stronger predictive relationship, calling into question the role emotional intelligence and self-efficacy might play in this relationship. Interestingly, in Hartsfield’s (2003) study, the relationship between spirituality and transformational leadership was not as strong as that between the other variables, explaining only 2% of the variance in transformational leadership on its own. One reason for this low correlation in Hartsfield’s study could be the manner in which spirituality was measured, using the Spiritual Well Being Scale. Spirituality is different from spiritual intelligence, as described in the literature review, and this particular spirituality
instrument uses both religious and non-religious language. Future research should examine more of these variables at once (spiritual intelligence, emotional intelligence, self-efficacy, and mindfulness) to see what changes these additional variables have on the level of predictability of the model.

**Research Question.** These four individual hypotheses each contribute to a better understanding of how to answer the overall research question, which states:

- To what extent are the characteristics of spiritual intelligence and mindfulness associated with transformational leadership among leaders within the University of Maine System?

The above findings suggest that spiritual intelligence and mindfulness both have a statistically significant positive correlation with transformational leadership \( (p > .01) \) and that the strength of that relationship is moderate to strong \( (r = 0.432 \) and \( r = .370 \) respectively). Taken together, these variables predict about 27% of the variability in transformational leadership.

These positive associations align well with the existing research on spirituality and leadership. A number of qualitative studies have found that spirituality plays a key role in leadership, both in educational and non-educational settings \( \text{(Blanton, 2008; Borger, 2007; Doetzel, 2004; Jacobsen, 1994; Terrazas, 2005; Walker & McPhail, 2009).} \) Additionally, a number of quantitative studies have linked spirituality and leadership across a range of educational and non-educational settings \( \text{(Boorom, 2009; Chatterjee & Krishnan, 2007; Field, 2003; Gehrke, 2008; Hartsfield, 2003; Jones-Johnson, 2001; Riaz, 2012; Wellman, Wellman, & Perkins, 2009).} \)

Very little is known, however, about how spiritual intelligence and mindfulness relate to transformational leadership. This is an important next step in the literature, because spiritual
intelligence and mindfulness represent an opportunity to approach the study of spirituality and leadership in a more applied and practical manner. They are able to do this for a number of reasons. First, spiritual intelligence and mindfulness have both been studied extensively within secular settings such as healthcare. Also, neither spiritual intelligence nor mindfulness is tied to religion. The secular nature of these variables makes them particularly useful in the public higher education where issues of a spiritual nature are sometimes difficult to address because of concern for what is appropriate in a public setting (Blanton, 2008; Boje, 2000; Speck, 2005). Their secular nature will make these specific variables more easily applied within a variety of leadership settings in public higher education.

Additionally, spiritual intelligence and mindfulness both suggest that spirituality is not a static characteristic, but can be improved upon over time. In this way, spirituality is framed not as something people either have or do not have, but is instead acknowledged as a critical component of an individual’s and an organization’s holistic health that can be improved with effort. This makes spiritual intelligence and mindfulness particularly useful concepts within the leadership literature, because they represent the potential to improve a person’s leadership behavior through training and development in spirituality. For example, Mindfulness Based Stress Reduction could easily be incorporated into a university’s leadership training to help improve a leader’s level of mindfulness. Also, like emotional intelligence, spiritual intelligence can be discussed among leaders as an ability that can be improved upon over time to help a person improve his or her leadership skills. Specific strategies could be addressed for improving one’s spiritual intelligence, and if desired, those improvements could be measured.

Due to the secular nature of these variables, and because these variables can be measured and improved upon over time, spiritual intelligence and mindfulness have great practical
potential within public higher education leadership. Given their potential practical implications, and the importance of these variables in the scholarly conversations about spirituality and leadership, it was important to know if spiritual intelligence and mindfulness were actually associated with transformational leadership when studied quantitatively. This research was not only able to fill an important gap in the literature, but it was also able to show that the theoretical similarities seen in the literature between spirituality and leadership, as well as between spiritual intelligence, mindfulness and transformational leadership specifically, were supported when the variables were studied quantitatively. Implications of these finding are discussed in the next section.

Implications

This research is grounded in the position that higher education leaders can use quantitative data incorporating spirituality to improve leadership in college and university settings, informing practice. One important way to do this is to incorporate secular and measureable components of spirituality-related characteristics, such as spiritual intelligence and mindfulness, into leadership training, overcoming the taboo of discussing spirituality in academia (and in public academia in particular). In terms of practice, these findings provide a useful framework for rethinking current recruitment, hiring, promotion, training, and development processes to include questions that speak to a potential leader’s level of mindfulness and spiritual intelligence.

Before spiritual intelligence and mindfulness can be incorporated into public higher education leadership however, empirical evidence was needed to suggest that these variables are in fact associated with transformational leadership; this study has provided that quantitative
evidence. The next step is to consider in more practical terms what implications these findings have on practice within higher education leadership.

It should be made clear that this studied analyzed only one particular type of leadership—transformational leadership. This leadership model was not chosen because it is the ideal form of leadership, or because it works in all leadership situations. Instead, transformational leadership was chosen because it continues to be the most frequently discussed leadership models within the higher education leadership literature (Argia & Ismail, 2013; Astin, 2004; Bashman, 2012; Bodla & Nawaz, 2010; Butcher, Bezzina, & Moran, 2011; Chipunza & Gwarinda, 2010; Hechanova & Cementina-Olpoc, 2013; Love, Trammell, & Cartner, 2010; Sadeghi & Pihie, 2012). Also, transformational leadership has been found to be particularly useful when working within organizations that have a system of shared governance, such as universities (Bamford-Wade, 2010). Because of systems like shared governance, higher education leaders are more likely to rely on credibility and relationship building than on formal authority, which aligns well with the principles of transformational leadership (Hechanova, 2013). Additionally, transformational leadership has been found to be very effective when leading change within educational settings (Bommer, 2005; Hallinger, 2003; Kull, 2003; Oreg & Berson, 2011; Ross & Gary, 2006).

While transformational leadership may not be the perfect leadership style in all situations, it’s important to look at the subfactors that comprise transformational leadership. If an organization is interested in its leaders possessing the characteristics and behaviors associated with idealized influence, inspirational motivation, intellectual stimulation, and individual consideration, then these findings are relevant, even if transformational leadership is not a perfect, one-size-fits-all leadership model. For many organizations, the behaviors associated
with transformational leadership continue to be valuable and worthy of further development. For those organizations, this research will be particularly valuable. Knowing that spiritual intelligence and mindfulness are associated with transformational leadership behavior, it is important to consider how these variables might be integrated into the recruitment, hiring, promotion, training, and development of future and current higher education leaders.

The first realm of potential implication for practice is in hiring and recruitment. If organizational leaders want to attract staff members that exhibit transformational leadership characteristics, addressing issues of spiritual intelligence and mindfulness during the recruitment and hiring process may be one strategy for accomplishing this goal. From the theoretical literature, and now from quantitative research in the area, we know that spiritual intelligence, mindfulness, and transformational leadership all share similar characteristics: a focus on mission and purpose, a tendency for outside-the-box thinking and risk taking, and a commitment to individuals and relationship building.

These characteristics are particularly important within the public higher education setting. In this setting, a commitment to the public service mission of an institution is critical for achieving both organizational goals, as well as state and local community goals. This commitment to a vision and purpose that aligns with the needs of the state is essential for an effective public university. Also, given the system of shared governance in higher education, the focus on individuals and on relationships is crucial. Change occurs through organizational members, and through a wide range of constituency groups, which requires organizational leaders to develop strong relationships among and within these groups. Finally, given the level of change being experienced in the higher education industry today, change will be nearly impossible without creative, out-side-the-box thinking and risk taking. For these reasons, the
common themes seen across spiritual intelligence, mindfulness, and transformational leadership are each critical for leaders within the public higher education setting.

Thus, when hiring a public higher education leader it would be beneficial to assess the characteristics of spiritual intelligence, mindfulness and transformational leadership, each of which enforces these general themes. While it might be difficult to bring up specific characteristics such as mindfulness and spiritual intelligence during an interview, it would be important to discuss these general themes and how a candidate tends to view these issues in his or her personal and professional life. Their answers would give the search committee important information about a candidate’s level of spiritual intelligence and mindfulness, and thus his or her ability to lead in a transformational manner.

This research also has additional implications for the manner in which employees are selected for promotion. If an organization is looking for a future leader with transformational leadership skills, it would be important to consider the elements of mindfulness and spiritual intelligence, particularly those areas of overlap that were discussed above: the focus on mission, values, and purpose, outside-the-box thinking and risk taking, as well as a commitment to the needs of others and relationship building. If transformational leadership were desired, it would be important to consider these elements when selecting employees for leadership positions knowing that these elements have a correlation with transformational leadership behavior. It would even be possible to use spiritual intelligence and mindfulness assessments to see how a person scored on these characteristics to inform a promotion decision.

Finally, training and development is another area in which this research shows great potential for practical implication. This research has provided a baseline understanding of how current leaders with the UMS scored on the characteristics of mindfulness, spiritual intelligence,
and transformational leadership. This information, and future assessments like it, could be used to identify points of weakness among current university staff. From there, trainings could be developed to build upon these important skills sets. For example, Mindfulness Based Stress Reduction (MBSR) training could be used to help improve the level of mindfulness among university leaders if it were found to be low among a number of leaders. This training, which already takes place in various settings around the world, could easily be incorporated into existing leadership programs. While the personal benefits of stress reduction are somewhat intuitive, the benefits of mindfulness for leadership are less well known. It would be important that training participants be given an opportunity to reflect on and discuss the potential benefits that mindfulness could bring to their leadership role within the university.

Spiritual intelligence could also be incorporated into leadership training and development in much the same way emotional intelligence has come to be incorporated into leadership training in recent years. This could begin with a general discussion of the benefits and characteristics of spiritual intelligence, tips and strategies for increasing one’s spiritual intelligence, as well as a discussion of how spiritual intelligence might impact a person’s leadership behavior. Spiritual intelligence leaves room for all faiths and beliefs, so conversations about spiritual intelligence could occur legally and appropriately within a public higher education context.

As this study has shown, mindfulness, spiritual intelligence, and transformational leaders share a similar focus on the importance of relationships and on the development of others. The more the characteristics of spiritual intelligence, mindfulness, and transformational leadership can be nurtured within existing leaders, the more likely it is that these leaders will take seriously the task of cultivating and developing new leaders to follow in their footsteps. This has
particularly important implications for higher education today, which is experiencing a leadership succession crisis (Fullan & Scott, 2009). As many university leaders retire from the field, new leaders will be needed to take their place. The characteristics of spiritual intelligence, mindfulness, and transformational leadership may help existing university leaders take on this task of cultivating future leaders from within their organization in a much more intentional way.

In conclusion, this research not only fills a gap within the literature, but it also has the potential to bring academic discussions about the importance of spiritual intelligence, mindfulness, and transformational leadership to the level of implementation and practice, potentially changing the way higher education leaders:

- recruit and hire future leaders,
- select employees for promotion into leadership positions,
- and use mindfulness-based training, and conversations about spirituality and spiritual intelligence, to improve and enhance leadership training and development.

Many people see themselves as spiritual beings, and a holistic approach to leadership that encompasses spirituality could be very beneficial for individuals and for the organization as a whole. As Braskamp, Trautvetter, and Ward (2006) wrote, “it takes a whole campus of whole persons to develop whole students” (p. 1). This holistic approach to leadership training may help create more whole leaders, having important implications across campus. Spiritual intelligence and mindfulness may provide a safe avenue to explore the topic of spirituality and leadership more deeply in practical, on-the-job settings.

**Limitations**

A number of limitations exist regarding the design of this research study. First, each of the major variables of interest in this study was measured using a self-report instrument.
Respondents were asked to rate themselves on the characteristics of spiritual intelligence, mindfulness, and transformational leadership. Self-report instruments require individuals to honestly and accurately answer questions about themselves. This is not always possible, as respondents might either have an unrealistic view of themselves, or social desirability bias may be in effect in which the respondent feels pressure to answer a question in a particular manner (Creswell, 2008). For these variables in particular, respondents needed a high level of self-awareness about themselves. It is possible that not all respondents had the necessary level of self-awareness to answer survey questions accurately. This topic also lends itself to self-selection bias (Fraenkel, Wallen, & Hyun, 2012) in which only those participants interested in the topic of spirituality and leadership would choose to participate, potentially skewing the results.

Another limitation of this study is that transformational leadership was measured only from the leader’s perspectives. Although the MLQ-5X does have an instrument that followers can use to rate their leader, that follower instrument was not used in this study for practical reasons. When studying leadership, it is always beneficial to capture follower descriptions of leaders and not only the leader’s self-assessment. It is possible that the follower will have a more accurate, and certainly at least complimentary, understanding of the leader’s leadership behavior. Having follower survey information would have added to this study’s validity.

Another limitation of this study is that it used a non-experimental design. When using non-experimental designs, there is a greater chance that an extraneous variable will impact the study’s results. With variables as complex as spiritual intelligence, mindfulness, and transformational leadership, it is possible that other variables could have been acting as intervening or extraneous variables. For logistical reasons, this study was limited in the number
of variables that could be measured. Thus, it is possible that an unmeasured variable was interacting in the study’s findings in some way. Another limitation of using an associational design is that the research cannot inform causality. Although correlations were found between variables, it cannot be said that one particular variable causes another.

Finally, this research was conducted within one university system in one state. It is not possible to say that the findings of this study can be generalized to other university systems within other states around the country and world. While the researcher included a diverse sample of universities in an attempt to ameliorate this issue (ranging from small liberal arts schools to larger research one universities), the sample was still comprised of universities from only one state. Perhaps the most limiting affect of using only Maine universities was that the study included a very homogenous racial group. In fact, 97.4% of respondents were white. These demographics are reflective of the state of Maine, which is why it would be ideal to repeat this study in other states and countries using different ethnic and racial groups. Additional opportunities for future research are presented in the following section.

**Future Research**

Based on the proceeding research, a number of recommendations are made for future research in this area. First, future studies should use the follower instrument of the MLQ-5X to measure transformational leadership from the follower’s perspective. It will be important to see if these positive associations hold up when using follower scores for transformational leadership as opposed to only the leader’s self-assessment scores. As Boorom (2009) found when studying spirituality and transformational leadership, leader and follower’s scores of a leader’s transformational leadership behavior are often inconsistent.
Next, it will be important that future research be replicated across more diverse populations and in a larger variety of university settings to determine the extent to which these variables impact findings. As was mentioned above, this study took place within one particular state, and a vast majority of participants were white. Replicating this study in more diverse settings would add to the validity of the study’s findings.

Another opportunity for future research would be to repeat this study using additional variables such as emotional intelligence and/or self-efficacy, to see if any of these variables might be acting as intervening or extraneous variables. The variables of interest in this study are quite complex and nuanced, which is why future research is needed to further deconstruct these complex concepts. Emotional intelligence would be of particular interest since scholars have linked emotional intelligence with transformational leadership within studies that also include an analysis of spirituality (Amram, 2009; Hartsfield, 2003). Future research should also further examine the relationship between mindfulness and spiritual intelligence with pre- and post-tests. If mindfulness is shown to improve levels of spiritual intelligence, mindfulness trainings could serve as a very useful tool for those interested in improving their level of spiritual intelligence.

Finally, in order to help organizational leaders understand the impacts of incorporating mindfulness and/or spiritual intelligence into leadership trainings, it would be beneficial to conduct research looking at pre- and post-test scores on these variables after particular leadership trainings designed to improve them. Mindfulness trainings such as Mindfulness Based Stress Reduction currently exist and are utilized in various settings. Mindfulness skills could be incorporated into leadership training with subsequent pre- and post-tests. Other trainings need to be developed that might improve spiritual intelligence for leaders. Then, future research should analyze the role mindfulness and spiritual intelligence play in leadership.
effectiveness or leadership outcomes, so that organizational leaders can fully come to understand the influence these variables have on leadership effectiveness.

**Conclusion**

Perhaps because we are all spiritual beings, or because many of us are motivated by a search for meaning and purpose in life, the topic of spirituality continues to grow in popularity and significance within the leadership literature and popular press. This study has sought to extend this important conversation by filling a critical gap in the literature – particularly within the higher education leadership literature. Until now, no studies have quantitatively examined the relationship between spiritual intelligence, mindfulness, and transformational leadership. While much of the theoretical and qualitative research in higher education leadership suggests a relationship between spirituality and leadership, there is little quantitative evidence supporting those relationships. Additionally, there is little to no research looking at the variables of spiritual intelligence and mindfulness specifically.

This quantitative approach has filled a deficiency in the literature by providing empirical support for the existing theoretical conversations about the importance of spirituality in higher education leadership (Hafner & Capper, 2005; Hoppe, 2005; Hoyle, 2002; Thom, Ma, & Ho, 2005; Woods, 2007; Woods & Woods, 2008), and has helped support the qualitative studies suggesting the importance of spirituality in higher education leadership (Blanton, 2008; Borger, 2007; Dussault, 2010; Moran & Curtis, 2004; Terrazas, 2005; Walker & McPhail, 2009). The theoretical similarities seen in the literature linking spiritual intelligence, mindfulness, and transformational leadership have now been confirmed quantitatively, helping to fill a gap in the literature. From a practical perspective, this research has the potential to bring academic discussions about the importance of spiritual intelligence, mindfulness, and transformational
leadership to the level of implementation and practice, potentially changing the way higher education leaders: recruit and hire future leaders, select employees for promotion into leadership positions, and use mindfulness-based training, and conversations about spirituality and spiritual intelligence, to improve and enhance leadership training and development.
References


Amram, Y. (2009). The contribution of emotional and spiritual intelligences to effective business leadership. ProQuest Information & Learning, US.


doi:10.1177/1073191107313003


doi:10.1177/1073191107313003


Borger, R. H. (2007). Spiritual leadership among community college leaders: The next evolution of transformational leadership. ProQuest Information & Learning, US.


Doetzel, N. (2004). Personal and professional spiritual development: Ten educational leaders share experiences and insights. ProQuest Information & Learning, US.


Hawkins, R. (2010). Capturing the emergent future: A grounded theory study to explore the processes by which mindful leaders engage others in organizational change. ProQuest Information & Learning, US.


doi:10.1037/1053-0479.12.2.139


Thom, D. J., Ma, Q., & Ho, K. K. (2005). Educational leadership in the spiritual way: “Whatever will be, will be.” New Horizons in Education, 52, 117-123.


doi:10.1037/1072-5245.14.2.188


Appendix A: The Spiritual Intelligence Self-Report Inventory (SISRI-24)

SISRI-24 The Spiritual Intelligence Self-Report Inventory 2008 D. King

Age? (in years) ______ Sex? (circle one) Male Female

The following statements are designed to measure various behaviors, thought processes, and mental characteristics. Read each statement carefully and choose with one of the five possible responses best reflects you by circling the corresponding number. If you are not sure, or if a statement does not seem to apply to you, choose the answer that seems the best. Please answer honestly and make responses based on how you actually are rather than how you would like to be. The five possible responses are:

0 – Not at all true of me | 1 – Not very true of me | 2 – Somewhat true of me | 3 – Very true of me | 4 – Completely true of me

1. I have often questioned or pondered the nature of reality. 0 1 2 3
2. I recognize aspects of myself that are deeper than my physical body. 0 1 2 3
3. I have spent time contemplating the purpose or reason for my existence. 0 1 2 3
4. I am able to enter higher states of consciousness or awareness. 0 1 2 3
5. I am able to deeply contemplate what happens after death. 0 1 2 3
6. It is difficult for me to sense anything other than the physical and material. 0 1 2 3
7. My ability to find meaning and purpose in life helps me adapt to stressful situations. 0 1 2
8. I can control when I enter higher states of consciousness or awareness. 0 1 2 3
9. I have developed my own theories about such things as life, death, reality, and existence. 0 1 2 3
10. I am aware of a deeper connection between myself and other people. 0 1 2 3
11. I am able to define a purpose or reason for my life. 0 1 2 3
12. I am able to move freely between levels of consciousness or awareness. 0 1 2 3
13. I frequently contemplate the meaning of events in my life. 0 1 2 3
14. I define myself by my deeper, non-physical self. 0 1 2 3
15. When I experience a failure, I am still able to find meaning in it. 0 1 2 3
16. I often see issues and choices more clearly while in higher states of consciousness/awareness. 0 1 2 3
17. I have often contemplated the relationship between human beings and the rest of the universe. 0 1 2 3
18. I am highly aware of the nonmaterial aspects of life. 0 1 2 3
19. I am able to make decisions according to my purpose in life. 0 1 2 3
20. I recognize qualities in people which are more meaningful than their body,
personality, or emotions.

21. I have deeply contemplated whether or not there is some greater power or force (e.g., god, goddess, divine being, higher energy, etc.).

22. Recognizing the nonmaterial aspects of life helps me feel centered.

23. I am able to find meaning and purpose in my everyday experiences.

24. I have developed my own techniques for entering higher states of consciousness or awareness.
Appendix B: The Five Facet Mindfulness Questionnaire

The Five Facet Mindfulness Questionnaire

Description:
This instrument is based on a factor analytic study of five independently developed mindfulness questionnaires. The analysis yielded five factors that appear to represent elements of mindfulness as it is currently conceptualized. The five facets are observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. More information is available in:

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

1 = never or very rarely true
2 = rarely true
3 = sometimes true
4 = often true
5 = very often or always true

1. I’m good at finding words to describe my feelings.
2. I can easily put my beliefs, opinions, and expectations into words.
3. I watch my feelings without getting carried away by them.
4. I tell myself I shouldn’t be feeling the way I’m thinking.
5. It’s hard for me to find the words to describe what I’m thinking.
Appendix C: The Multifactor Leadership Questionnaire (MLQ-5X)

Multifactor Leadership Questionnaire
Leader Form

My Name: ____________________________ Date: ____________
Organization ID #: __________________ Leader ID #: __________________

This questionnaire is to describe your leadership style as you perceive it. Please answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "others" may mean your peers, clients, direct reports, supervisors, and/or all of these individuals.

Use the following rating scale:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

1. I provide others with assistance in exchange for their efforts.................................................. 0 1 2 3 4
2. I re-examine critical assumptions to question whether they are appropriate ................................0 1 2 3 4
3. I fail to interfere until problems become serious........................................................................0 1 2 3 4
4. I focus attention on irregularities, mistakes, exceptions, and deviations from standards ...........0 1 2 3 4
5. I avoid getting involved when important issues arise.....................................................................0 1 2 3 4
6. I talk about my most important values and beliefs........................................................................0 1 2 3 4
7. I am absent when needed..................................................................................................................0 1 2 3 4
8. I seek differing perspectives when solving problems......................................................................0 1 2 3 4
9. I talk optimistically about the future...............................................................................................0 1 2 3 4
10. I instil pride in others for being associated with me ......................................................................0 1 2 3 4
11. I discuss in specific terms who is responsible for achieving performance targets.........................0 1 2 3 4
12. I wait for things to go wrong before taking action .........................................................................0 1 2 3 4
13. I talk enthusiastically about what needs to be accomplished ...........................................................0 1 2 3 4
14. I specify the importance of having a strong sense of purpose.........................................................0 1 2 3 4
15. I spend time teaching and coaching .................................................................................................0 1 2 3 4

Continued ➔
<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, If not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. I make clear what one can expect to receive when performance goals are achieved</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I show that I am a firm believer in “If it ain’t broke, don’t fix it.”</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>18. I go beyond self-interest for the good of the group</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I treat others as individuals rather than just as a member of a group</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I demonstrate that problems must become chronic before I take action</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. I act in ways that build others’ respect for me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. I concentrate my full attention on dealing with mistakes, complaints, and failures</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. I consider the moral and ethical consequences of decisions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. I keep track of all mistakes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. I display a sense of power and confidence</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. I articulate a compelling vision of the future</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>27. I direct my attention toward failures to meet standards</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. I avoid making decisions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. I consider an individual as having different needs, abilities, and aspirations from others</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. I get others to look at problems from many different angles</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. I help others to develop their strengths</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32. I suggest new ways of looking at how to complete assignments</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33. I delay responding to urgent questions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34. I emphasize the importance of having a collective sense of mission</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35. I express satisfaction when others meet expectations</td>
<td>0</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>36. I express confidence that goals will be achieved</td>
<td>0</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>37. I am effective in meeting others’ job-related needs</td>
<td>0</td>
<td>1</td>
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</tr>
<tr>
<td>38. I use methods of leadership that are satisfying</td>
<td>0</td>
<td>1</td>
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<td>3</td>
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</tr>
<tr>
<td>39. I get others to do more than they expected to do</td>
<td>0</td>
<td>1</td>
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<td>4</td>
</tr>
<tr>
<td>40. I am effective in representing others to higher authority</td>
<td>0</td>
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</tr>
<tr>
<td>41. I work with others in a satisfactory way</td>
<td>0</td>
<td>1</td>
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<tr>
<td>42. I heighten others’ desire to succeed</td>
<td>0</td>
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</tr>
<tr>
<td>43. I am effective in meeting organizational requirements</td>
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<td>1</td>
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<td>4</td>
</tr>
<tr>
<td>44. I increase others’ willingness to try harder</td>
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<td>3</td>
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</tr>
<tr>
<td>45. I lead a group that is effective</td>
<td>0</td>
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