

Connecting the Spiritual and Emotional Intelligences: Confirming an Intelligence Criterion and Assessing the Role of Empathy

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A viable model and self-report measure of spiritual intelligence were previously proposed and supported by King and DeCicco (2009). Despite such advances, evidence is needed demonstrating significant associations with other intelligences. The current study sought to test this criterion in relation to emotional intelligence. Among a sample of 420 Canadian adults, results demonstrated significant associations between spiritual intelligence and two self-report measures of emotional intelligence. Due to the suggestion by some theorists that empathy be included in a model of spiritual intelligence, associations with empathy were also investigated. Results bode well for the inclusion of a spiritual ability set in the broader framework of human intelligence, and further clarify the ways in which these two “alternative” intelligences intersect and digress. Key limitations, including the self-report nature of the current measures, are discussed.

Keywords: *intelligence, spiritual intelligence, emotional intelligence, spirituality, emotion, personal meaning, empathy, self-report*

Human intelligence has long been the subject of controversy among psychologists and non-psychologists alike (Cianciolo & Sternberg, 2004). One of the most frequently debated issues is that of multiple intelligences; specifically, whether intelligence is best conceptualized as a single factor (as measured by IQ) or an interrelated set of multiple intelligences. Of those who support the latter position, Howard Gardner (1983) may be the most well-known. His theory of multiple intelligences posits a variety of human ability sets, each representing key domains of human experience, from language to music. Given Gardner’s (1983) supplementary proposition of criteria for intelligence (including a set of interrelated mental abilities as opposed to behavioral tendencies), additional intelligences have since been suggested (Gardner, 1999). Some have received greater consideration than others, particularly those pertaining to the moral, existential, and spiritual domains of existence.

Although myriad interpretations of spiritual intelligence have been proposed in the past decade (e.g., Amram, 2007; Emmons, 2000; Nasel, 2004; Noble, 2000; Vaughan, 2002; Wolman, 2001; Zohar & Marshall, 2000), the notion of a spiritual intelligence has yet to fully satisfy leading intelligence theorists (e.g., Gardner, 1999, 2000; Mayer, Caruso, & Salovey, 2000). Recently, King and DeCicco (2009) have attempted to overcome preceding limitations and comply with popular psychological criteria for intelligence (e.g., Gardner, 1983; Mayer et al., 2000; Sternberg, 1997), defining spiritual intelligence as “a set of mental capacities which contribute to the awareness, integration, and adaptive application of the nonmaterial and transcendent aspects of one’s existence” (p. 69). Four core components have been proposed: (1) the capacity to engage in critical existential thinking, (2) the capacity to construct meaning and purpose in all physical and mental experiences, (3) the capacity to perceive transcendent dimensions of the self,

of others, and of the physical world (e.g., a transcendent self, nonmaterialism, holism, interconnectedness), and (4) the capacity to enter expanded or spiritual states of consciousness at one's own discretion (King, 2008; King & DeCicco, 2009). This model relied on definitions of spirituality as distinct from (but related to) religiosity (e.g., King, Speck, & Thomas, 2001; Koenig, McCullough, & Larson, 2000; Sinnott, 2002), in order to not limit the construct's universal application and to delineate it from preferred ways of behaving. The related development of a self-report measure, the Spiritual Intelligence Self-Report Inventory (SISRI-24), has revealed psychometric and statistical support for this four-factor model across two large university samples (King, 2008; King & DeCicco, 2009). Significant inter-subscale correlations have been confirmed (ranging from .42 to .61), supporting established criteria for intelligence (Gardner, 1983; Mayer et al., 2000; Sternberg, 1997). Although preliminary support for construct and criterion-related validity has also been obtained (King & DeCicco, 2009), little is known of the construct's relationship to other intelligences or ability sets, such as emotional intelligence.

Howard Gardner (1983) claimed that any intelligence should be autonomous and independent of other intelligences. In slight contrast to Gardner, who also suggested that intelligences should demonstrate some degree of association, Sternberg (1988) argued that "an intelligent system has to work together" (p. 78), suggesting that mental self-management would break down if ability sets were truly independent. This tends to be the popular perspective, so that psychometric investigations of interrelationships should reveal low to moderate correlations among intelligences (Mayer et al., 2000). Just as intra-relatedness within ability sets is a widely maintained criterion (Gardner, 1983; Mayer et al., 2000; Sternberg, 1997), inter-relatedness between various intelligences is equally important. As stated by Mayer et al. (2000), an intelligence should "be related to pre-existing intelligences, while also showing some unique variance" (p. 267), reflecting earlier notions of cognitive ability (e.g., Neisser et al., 1996). This represents an important condition that must be met in the validation of a newly proposed intelligence, but has yet to be confirmed in the case of spiritual intelligence.

Although empirical investigations are lacking, Zohar and Marshall (2000) have proposed a model of human intelligence in which spiritual intelligence is positioned at the top of a hierarchy, representing the

brain's integrative processes (as involved in meaning making, values, and moral reasoning). Below spiritual intelligence are the emotional and social intelligences, reflecting the brain's associative processes. At the bottom of the hierarchy are the rational intelligences (i.e., verbal, mathematical, spatial, logical) or those that are measured by the intelligence quotient (IQ). With the additional consideration of Gardner's (1983) bodily-kinesthetic intelligence at the hierarchy's lowest level, the ensuing model reflects a holistic approach to human intelligence, integrating factors on the physical, mental, emotional, and spiritual levels. Although lacking scientific consensus and investigation, it is one of the only theoretical models to date that describes the relationship between the spiritual and emotional intelligences, suggesting that of all the intelligences, emotional intelligence is the most closely linked to a spiritual ability set. In order to confirm the criterion of inter-relatedness among intelligences in the case of spiritual intelligence, an investigation of its association with emotional intelligence is a logical starting point.

Emotional Intelligence

Following Thorndike's (1920) use of the term *social intelligence* to describe one's ability to relate to other people, emotional intelligence was conceived by Payne (1985) as one's ability to relate creatively to fear, pain, and desire. The concept was thereafter expanded by Salovey and Mayer (1990) who formulated a model of emotional intelligence based on how people appraise, communicate, and utilize emotions. According to Salovey and Mayer, emotional intelligence is the capacity to both understand emotional information and reason with emotions. It is comprised of four primary abilities: (1) the capacity to accurately perceive emotions, (2) the capacity to use emotions to facilitate thinking, (3) the capacity to understand emotional meanings, and (4) the capacity to manage emotions. Although their linking of emotion and intelligence has been heavily criticized, Mayer and Salovey (1993) argued that many intellectual problems contain emotional information that must also be interpreted and processed. Mayer et al. (2000) have further demonstrated that the Salovey and Mayer (1990) model of emotional intelligence meets the standard criteria for intelligence. A similar model was proposed by Daniel Goleman (1995), who added the capacity to enter and sustain satisfactory interpersonal relationships.

The measurement of emotional intelligence varies greatly across studies. Emotional task performance

is often considered the most reliable indicator, as it measures one's emotional intelligence during its real-time manifestation. Emotional perception, for example, is usually measured using a series of emotional recognition tasks, in which participants are asked to identify emotions in a series of faces (Mayer et al., 2000). In contrast, written self-report questionnaires can be used to determine one's perceived emotional intelligence, the score from which is often referred to as one's emotional quotient (EQ). Although some have interpreted the finding that self-report measures of EQ are poorly related to performance tests (Brackett & Mayer, 2003; Goldenberg, Matheson, & Mantler, 2006) as suggesting a weakness in self-reports, this remains to be confirmed. Nevertheless, self-report measures have proven valuable to researchers in their affordability and efficiency, as some studies simply cannot accommodate performance-based testing. Of the self-report measures developed thus far, the Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) is one of the most widely employed. The TMMS measures three key components of intrapersonal emotional intelligence: attention to feelings, clarity, and repair (including emotional regulation). Other popular self-report measures include the Assessing Emotions Scale (AES; Schutte et al., 1998), which is also based on Salovey and Mayer's (1990) model, and the Bar-On Emotional Quotient Inventory (Bar-On, 1997).

Empathy

In their original model, Salovey and Mayer (1990) noted the important role of empathy in emotional intelligence, suggesting that empathy was a critical aspect in the appraisal of others' emotions. Although previously regarded as a dispositional tendency, the authors defined empathy as "the ability to comprehend another's feelings and to re-experience them oneself" (p. 194). Similarly, Goleman (1995) recommended the ability to read and be sensitive to others' emotions as a key component of emotional intelligence, reflecting Gardner's (1983) suggestion that individuals in the helping professions (e.g., therapists) demonstrate a high level of interpersonal intelligence. Indeed empathy appears to be an established facet of emotional intelligence, as it is also measured by items on the AES (Schutte et al., 1998) and the Bar-On Emotional Quotient Inventory (Bar-On, 1997). Such inclusion is somewhat intuitive, given that empathy requires the recognition and accurate identification of emotional responses in others (Mayer et al., 1990). Nevertheless, Caruso and Mayer (1998) developed a self-

report measure of emotional empathy for adolescents and adults, intended for the broader and multifaceted measure of empathy alone.

Despite theoretical recommendations, recent theorists (e.g., Amram, 2007; Amram & Dryer, 2007; Noble, 2000; Vaughan, 2002) have alternatively posited empathy as an integral part of spiritual intelligence. Noble (2000), for example, described empathy as a hallmark of spiritual intelligence, which was more recently supported by Amram's (2007) inclusion of empathy in the transcendence theme of his spiritual intelligence model. Vaughan (2002) further suggested that cultivating empathy was an important part of developing one's inner spiritual life, essentially connecting the emotional and spiritual ability sets. This perspective leaves a third possibility: that in addition to empathy as an exclusive component of either emotional or spiritual intelligence, it may be a factor that is common to both constructs. Although theory and research on emotional intelligence seem to confirm empathy as a key component, newly emerging theoretical models of spiritual intelligence beg for this issue to be clarified. It is equally possible that a high capacity for empathy is simply a correlate of spiritual intelligence, potentially representing an adaptive outcome of the construct. This would reflect recent path analyses by Huber and MacDonald (2011), which suggest that empathy is a product of spiritual development, particularly nonreligious experiences of self-transcendence. With the advent of a self-report measure of spiritual intelligence, the SISRI-24, a more precise examination of the relationship between spiritual intelligence and empathy is now possible.

Current Study

To date, no study has investigated the relationship between the spiritual and emotional intelligences. Given the recent boom in interest in a spiritual intelligence (e.g., Amram, 2007; Emmons, 2000; King, 2008; King & DeCicco, 2009; Noble, 2000; Vaughan, 2002; Zohar & Marshall, 2000), as well as established theoretical guidelines regarding the interrelationship of multiple intelligences (Mayer et al., 2000; Sternberg, 1988), examining spiritual and emotional intelligence together is a critical step in the theoretical and statistical investigation of this emerging construct. The initial purpose of this study was to investigate the strength of the relationship between these two intelligences. Because no performance measure of spiritual intelligence exists, self-report measures of emotional intelligence

were deemed most appropriate in order to offer a methodologically valid comparison of the constructs. Based on recommendations by Mayer et al. (2000), it was hypothesized that a low to moderate positive correlation would be observed between the emotional and spiritual intelligences, confirming the additional intelligence criterion of inter-relatedness among intelligences.

This study also sought to bring clarity to the issue of empathy as a potential component of spiritual intelligence. Empathy was not a clearly defined component of Salovey and Mayer's (1990) original model of emotional intelligence, which led to its absence in King and DeCicco's (2009) model of spiritual intelligence. Its absence in this model was also supported by the lack of broader definitions and conceptualizations of spirituality which include focused discussions of empathy. Nevertheless, empathy has been proposed by some theorists as relating to a spiritual ability set (e.g., Amram, 2007; Amram & Dryer, 2007; Noble, 2000; Vaughan, 2002).

Method

The current study aimed to investigate the relationship between empathy and spiritual intelligence, with the expectation that empathy would display a correlation of comparatively greater size and strength with emotional intelligence, reflecting Salovey and Mayer's (1990) original model. In particular, both the AES (Schutte et al., 1998) and the TMMS (Salovey et al., 1995) were employed as measures of emotional intelligence in the current study. The TMMS is strictly a measure of intrapersonal emotional capacities, thereby avoiding overlap between this measure and one of empathy (which is interpersonal). For similar reasons, items directly measuring empathic abilities on the AES were not considered when examining the scale's association with a separate measure of empathy. The lack of sufficient research and theory on empathy's relationship with spiritual intelligence prevented further speculation on this association. Examining empathy in the current study will aid in clarifying the relationship between the spiritual and emotional intelligences, adding to an understanding of how these two "alternative" intelligences intersect and/or digress.

Participants. Respondents were 420 (322 female, 98 male) adults, the majority of whom ($n = 362$) were Canadian university students enrolled in undergraduate psychology courses at Trent University and Durham College in Ontario, Canada. The study

was advertised to these students in their classes and as part of the psychology participant research pool. The remaining 58 participants were from the community and responded to advertisements at local community centers. No significant differences were observed between these two groups (university and community) on any of the included measures, although related conclusions were limited by the lack of comparable sample sizes. The mean age of participants was 26.3 years ($SD = 10.76$, range = 18 – 81).

Measures. Measures used included the Spiritual Intelligence Self-Report Inventory, the Trait Meta Mood Scale, the Assessment Emotions Scale, and the Multi-Dimensional Emotional Empathy Scale.

Spiritual Intelligence Self-Report Inventory (SISRI-24; King, 2008; King & DeCicco, 2009). The SISRI is a 24-item ($\alpha = .94$ in the current sample) self-report measure of spiritual intelligence. It is comprised of four subscales: critical existential thinking (i.e., the ability to critically contemplate existential issues such as life, death, reality, and existence), measured by 7 items ($\alpha = .85$); personal meaning production (i.e., the ability to construct meaning and purpose in all physical and mental experiences), measured by 5 items ($\alpha = .84$); transcendental awareness (i.e., the capacity to perceive transcendent dimensions of the self, of others, and of the physical world), measured by 7 items ($\alpha = .89$); and conscious state expansion (i.e., the capacity to enter expanded or spiritual states of consciousness at one's own discretion), measured by 5 items ($\alpha = .92$). Item responses ranged on a 5-point Likert scale from 0 ("not at all true of me") to 4 ("completely true of me"), with higher responses representing higher levels of spiritual intelligence. A total spiritual intelligence score can be calculated by summing across all subscales, with a total range of 0 to 96. Preliminary support for test-retest reliability and both construct and criterion-related validity has been obtained (King & DeCicco, 2009).

Trait Meta Mood Scale (TMMS; Salovey et al., 1995). The TMMS is a 30-item ($\alpha = .86$ in the current sample) self-report measure of intrapersonal emotional intelligence. It is designed to measure one's perceived ability to regulate and manage emotions. Participants rate their perceived ability on a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"), with higher scores indicating higher emotional intelligence (total range = 33-165). The measure includes three subscales: attention to feelings (i.e., how aware one

is of one's own moods), measured by 13 items ($\alpha = .80$); clarity of feelings (i.e., the ability to differentiate one's mood states), measured by 11 items ($\alpha = .86$); and mood repair (i.e., the ability to maintain good moods and repair negative mood states), measured by 6 items ($\alpha = .30$). These subscales were examined in the current study to more accurately account for the potential interrelationship between spiritual intelligence and emotional intelligence. Reliability and discriminant validity for each of the subscales were reported by Salovey et al. (1995).

Assessing Emotions Scale (AES; Schutte et al., 1998). Given that this was the first empirical investigation of the relationship between the emotional and spiritual intelligences, multiple measures of emotional intelligence were included in the current study in order to increase confidence in observed relationships. The AES is a 33-item ($\alpha = .90$ in the current sample) self-report measure of emotional intelligence and includes indicators of emotional awareness, management, and problem-solving (both intra- and interpersonal). This scale was designed to reflect Mayer and Salovey's (1993) model of emotional intelligence, and has been found to be a valid and reliable measure of the construct (Austin, Saklofske, Huang, & McKenny, 2004; Schutte et al., 1998). Respondents rate how well the items describe them using a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"), with higher scores indicating higher emotional intelligence (total range = 33-165). Schutte et al. (1998) reported positive correlations between the AES and the TMMS, supporting the construct validity of both measures of emotional intelligence.

Multi-Dimensional Emotional Empathy Scale (EES; Caruso & Mayer, 1998). The Emotional Empathy Scale is a 30-item ($\alpha = .87$ in the current sample) self-report measure of emotional empathy. Participants rate their perceived ability on a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"), with higher scores indicating greater empathic tendencies (total range = 33-165). Although six subscales have been proposed and supported (including suffering, positive sharing, responsive crying, emotional attention, feeling for others, and emotional contagion), the current study was primarily interested

in a total empathy score due to a lack of theoretical insight regarding these subscales and their relationship with other variables of interest. Good reliability and validity of the EES were reported by Caruso and Mayer (1998). When examining the relationship between the Assessing Emotions Scale and the Emotional Empathy Scale, one item ("When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.") was removed from the AES so as to avoid overlap (and therefore potential inflation of results) between the two scales.

Procedure

University IRB approval was granted prior to all data collection. Participation took place online (using a secure SSL enabled server on <http://www.surveymonkey.com>) at the convenience of participants and required approximately 30 minutes. Each participant was asked to read a consent form prior to participation ensuring confidentiality and the right to withdraw at any time without penalty. Retyping one's name following this consent form and clicking "I agree" was interpreted as providing consent to participate in the study. Basic demographic information (age, sex) was collected first, followed by the other aforementioned questionnaires.

Results

Descriptive statistics for all measures, as well as subscales of interest to the current study, are presented in Table 1. The current sample reported relatively moderate levels of spiritual intelligence and its components, with the exception of conscious state expansion, the mean of which was comparatively lower.

Table 1. Means, Standard Deviations, and Observed Ranges for Key Measures and Relevant Subscales

Measure: Variable	N	M	(SD)	Range
SISRI-24: Total Spiritual Intelligence	402	59.23	(18.68)	18-114
SISRI-24: Critical Existential Thinking	402	178.99	(6.57)	1-35
SISRI-24: Personal Meaning Production	402	13.19	(4.21)	2-25
SISRI-24: Transcendental Awareness	402	19.11	(6.05)	2-35
SISRI-24: Conscious State Expansion	402	8.94	(5.26)	0-25
AES: Total Emotional Intelligence	402	128.43	(13.93)	65-164
TMMS: Total Intrapersonal Intelligence	103	113.82	(12.39)	81-141
TMMS: Emotional Attention	103	51.00	(6.38)	30-63
TMMS: Emotional Clarity	103	41.58	(6.43)	24-54
TMMS: Emotional Repair	103	21.23	(2.85)	14-27
EES: Emotional Empathy	103	119.35	(12.74)	79-145

Participants scored somewhat higher on the remaining measures overall, with moderate-to-high sample means on the Assessing Emotions Scale (AES), the Trait Meta Mood Scale (TMMS), and the Emotional Empathy Scale (EES).

Bivariate correlational analyses (see Table 2) revealed significant correlations in the low to moderate range between the Assessing Emotions Scale and both total and subscale scores on the Spiritual Intelligence Self-Report Inventory ($r_s = .25-.49$). Weaker and less consistent correlations were observed between the TMMS and scores on the Spiritual Intelligence Self-Report Inventory (SISRI-24), with the critical existential thinking and conscious state expansion subscales demonstrating no significant relationships with the TMMS whatsoever. The correlation between the SISRI-24 and the TMMS was also lower than that between the SISRI-24 and the AES ($r = .26$ and $.40$, respectively). Of the TMMS subscales, total SISRI-24 scores only correlated significantly with emotional attention ($r = .30$), accompanied by varying and inconsistent correlations among SISRI-24 subscales and TMMS subscales. The correlation between the TMMS and the AES was higher ($r = .59$) than that between the SISRI-24 and either emotional intelligence measure ($r_s = .40$ and $.26$ respectively for the AES and TMMS). The EES, on the other hand, displayed no significant correlations with either total or subscale scores on the SISRI-24, which is in contrast to the scale's significant correlations (of equal size; $r_s = .37$) with both the AES

and the TMMS. The emotional attention subscale of the TMMS was the most highly related to the EES ($r = .47$), while emotional clarity displayed no significant relationship with empathy.

Discussion

With regard to a spiritual intelligence, the current study offers the first empirical support for the additional intelligence criterion of interrelatedness among intelligences, at least as the construct relates to emotional intelligence. This lends further support to the construct validity of the SISRI-24 (King & DeCicco, 2009) and, more generally, to the theoretical model of spiritual intelligence on which it was based. Both measures of emotional intelligence, the AES and the TMMS, displayed significant positive correlations with the SISRI-24 in the low-to-moderate range. These were comparatively lower than the correlation observed between the two emotional intelligence measures. This supports earlier suggestions by Sternberg (1988) and Mayer et al. (2000), who suggested that psychometric investigations of interrelationships should reveal low to moderate correlations among intelligences. Interestingly, a comparatively stronger correlation was revealed between the SISRI and the AES, a measure of both intrapersonal and interpersonal aspects of emotional intelligence. This may have occurred due to the ability of the AES to more accurately capture the full spectrum of emotional intelligence (versus the more limited intrapersonal focus of the TMMS), thereby resulting in a somewhat larger and more significant correlation with spiritual

intelligence. Although the precise reason cannot be determined from this study, correlations with both emotional intelligence measures support the intelligence criterion proposed by Mayer et al. (2000), which had not previously met empirical investigation, and lend additional support to spiritual intelligence as a valid component of human intelligence.

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Table 2. Bivariate Correlations among Key Measures and Relevant Subscales

Measure: Variable	6	7	8	9	10	11
SISRI-24: Total Spiritual Intelligence (1)	.40***	.26*	.30**	.11	.18	.14
SISRI-24: Critical Existential Thinking (2)	.25***	.07	.17	-.06	.06	.12
SISRI-24: Personal Meaning Production (3)	.49***	.43***	.31**	.35***	.41***	.17
SISRI-24: Transcendental Awareness (4)	.35***	.28**	.37***	.12	.13	.12
SISRI-24: Conscious State Expansion (5)	.31***	.11	.17	.01	.07	.05
AES: Total Emotional Intelligence (6)	—	.59***	.39***	.51***	.52***	.37***
TMMS: Total Intrapersonal Intelligence (7)	—	—	—	—	—	.37***
TMMS: Emotional Attention (8)	—	—	—	—	—	.47***
TMMS: Emotional Clarity (9)	—	—	—	—	—	.14
TMMS: Emotional Repair (10)	—	—	—	—	—	.24*
EES: Emotional Empathy (11)	—	—	—	—	—	—

Note. N = 402 for correlations between the SISRI and the AES. N = 103 for all other correlations.
* $p < .05$, ** $p < .01$, *** $p < .001$

intelligence, personal meaning production correlated most strongly with both measures of emotional intelligence. This observation may reflect the intimate connection between emotion and meaning, as it has been suggested that personal meaning arises from the reflection on and integration of one's emotional experiences (Greenberg, 2006). It is speculated that this is one key point of intersection between the spiritual and emotional intelligences. Specifically, it is proposed that one's ability to construct personal meaning may aid in the organization of one's emotions and, alternatively, that one's ability to accurately perceive and interpret emotions contributes to more efficient meaning making, at least as it relates to emotional experience. This would also appear to hold true on a strictly intrapersonal level, given that personal meaning production was the only component of spiritual intelligence to be consistently related to all three factors on the Trait Meta Mood Scale (i.e., attention, clarity, and repair). Of these, meaning production was most strongly related to emotional repair, extending support to the notion that the ability to make meaning is intimately tied to the ability to make sense of one's emotional experiences. Although not dependent, these capacities are likely reciprocal, in so much that they each contribute to the development of the other. These findings may further speak to the adaptive potential of a spiritual ability set.

All components of spiritual intelligence related significantly to emotional intelligence to some extent, at least as measured by the AES. A similar pattern did not emerge for the TMMS, which displayed significant relationships with personal meaning production and transcendental awareness only. Of the TMMS subscales, transcendental awareness correlated significantly with emotional attention. This association is likely related to the theoretical definitions (and their accompanying operationalizations) of these two capacities, both of which focus on abilities of perception and awareness. In particular, transcendental awareness includes the ability to perceive a transcendent or transpersonal self (what has been called a spiritual center), for which the perception of one's emotions is surely a supporting factor. This may be a second key point of intersection between the spiritual and emotional intelligences.

Empathy, on the other hand, displayed no significant relationships with either spiritual intelligence or any of its components, supporting its recent exclusion from a model of spiritual intelligence (King, 2008; King

& DeCicco, 2009). This is in contrast to suggestions made by Amram and Dryer (2007) and Noble (2000), who implicated empathy as an aspect of spiritual intelligence. These authors did not place their theories of spiritual intelligence within a broader intelligence framework, rather focusing only on experiential information and literature on spirituality. As a result, established criteria for intelligence were overlooked and spiritual intelligence was left as a broader reframing of spirituality. Although additional evidence is needed to fully explore a potential relationship between empathy and spiritual intelligence, current findings suggest that empathy is not related to the construct, further limiting its potential as an adaptive outcome of this ability set. Empathy was, however, significantly related to both measures of emotional intelligence in the current study, confirming its appropriate involvement in models of emotional intelligence (e.g., Salovey & Mayer, 1990). These findings also support the second hypothesis, which suggested that empathy would display a correlation of comparatively greater size and strength with emotional intelligence. These findings help to clarify recent suggestions in the spiritual intelligence literature, and further cast doubt on empathy's ability to connect the spiritual and emotional intelligences, as was suggested by Vaughan (2002). Indeed, current findings suggest that empathy is exclusive to the emotional capacities. While findings by Huber and MacDonald (2011) posit empathy as a product of spirituality, a distinction between spirituality and spiritual intelligence may explain these differential relationships.

This study attempted to broaden the scope of data collection beyond a university undergraduate sample, gathering additional responses from a small community-dwelling non-student population. Although future studies should attempt to replicate findings in larger and exclusively community-based samples, the current lack of statistical distinction between the two groups is promising in regards to generalizability. Clark and Watson (1995) have claimed, for instance, that student populations serve as appropriate participant pools for scale development. Nonetheless, readers are cautioned against generalizing current findings until such research has validated these relationships in non-university samples. All participants were also Canadian, resulting in the ongoing need for cross-cultural research on spiritual intelligence and its assessment. More equalized samples of male and female participants would further facilitate meaningful analyses of sex differences.

Statistically speaking, the current study may be perceived as lacking complexity. Although the statistical methods employed (i.e., correlations) may be very basic, they were the most suitable tools for examining the intelligence criterion suggested by Mayer et al. (2000). The value of meeting this criterion, however statistically simple, should not be underestimated. One of the primary difficulties in establishing spiritual intelligence as a valid construct worth scientific consideration is its seemingly inherent opposition to the basic notion of human intelligence (see Gardner's [2000] criticisms for more explanation). The model proposed by King and DeCicco (2009) attempted to overcome this opposition by offering a universal model of spiritual intelligence free of particular religious or cultural viewpoints and/or terminology. The current correlational analyses add greatly to the support for the validity of this model (and a spiritual intelligence more generally), for they suggest that spiritual intelligence is not some obscure esoteric concept that has no place in the intelligence literature; rather, spiritual intelligence appears to be connected to at least one other established intellectual component of the human mind, implicating it in the larger contemporary conceptualization of human intelligence. This is a noteworthy step in the validation of this construct.

The greatest limitation of the current body of research may be the use of self-report measures of intelligence. As was noted (King & DeCicco, 2009), no performance-based measure of spiritual intelligence currently exists. Although there is evidence to suggest that performance-based measures of intelligence are more valid than self-report measures (Brackett & Mayer, 2003; Goldenberg et al., 2006), too little is understood about spiritual intelligence to develop performance-based measures at this time. Indeed, such a task is reasonably easier when it comes to the verbal and mathematical abilities, for which objective criteria are well established. Nevertheless, as King and DeCicco (2009) have previously recommended, future research should strive to develop performance-based measures of the construct as additional information is gathered. Nevertheless, given the likelihood of self-report biases, the current body of research should be interpreted with caution and viewed as a step towards better understanding the viability of spiritual intelligence as an independent psychological construct.

Although Zohar and Marshall's (2000) hierarchical model posits spiritual intelligence above

emotional intelligence, the current study was unable to confirm such ranking in terms of associative mental processes. Nevertheless, the current study does not negate such a relationship, as a moderate association does appear to exist between the two intelligences. Future research should investigate the relationship between spiritual intelligence and more traditional forms of intelligence, such as verbal intelligence, mathematical intelligence, and IQ more generally, in order to extend support for the interrelatedness criterion. Based on Zohar and Marshall's model, one would expect spiritual intelligence to demonstrate comparatively stronger associations with emotional intelligence. From a conceptual perspective, the connection between the spiritual and emotional intelligences has been somewhat illuminated by the current findings. Personal meaning production and transcendental awareness were revealed as potentially key points of intersection between these two intelligences, while empathy appears to be a point of divergence. While these results bode well for the inclusion of a spiritual ability set in the broader framework of human intelligence, they do so from the potentially limited perspective of self-report measures. Further investigation, including that of a clinical nature, is needed to more accurately estimate the presence and/or constitution of a spiritual intelligence.

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The International Journal of Transpersonal Studies is a peer-reviewed academic journal in print since 1981. It is published by Floragrades Foundation, and serves as the official publication of the International Transpersonal Association. The journal is available online at www.transpersonalstudies.org, and in print through www.lulu.com (search for IJTS).