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Blake A. Allan
University of Florida

Branton Shearer
Multiple Intelligence Research and Consulting, Inc.

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The Scale for Existential Thinking

Blake A. Allan
University of Florida
Gainesville, FL, USA

C. Branton Shearer
Multiple Intelligence Research and Consulting, Inc.
Kent, OH, USA

This study introduced the construct of existential thinking, which we defined as the tendency to explore the fundamental concerns of human existence and the capacity to engage in a meaning-making process that locates oneself in respect to these issues. We also assessed the psychometric properties of the 11-item "Scale for Existential Thinking" (SET). In two studies, we found the SET to have unidimensional factor structure and good reliability diagnostics in both student and adult samples. Moreover, the SET showed construct validity by correlating with meaning in life, curiosity, and other existential variables. Furthermore, we found meaning in life to mediate the relation of existential thinking and existential well-being, which supports our conceptualization of existential thinking as a meaning-making process.

Keywords: ***existential psychology, spirituality, religiousness, meaning in life, well-being***

Engaging with the fundamental questions of existence, such as the meaning of life and what happens after death, is a universal human experience, and most people have formed beliefs around existential issues. Furthermore, the ability to consider and make sense of ultimate issues is valued in every culture, especially in areas such as philosophy, the arts, theoretical science, and religion (Gardner, 1999), and several scholars have discussed the psychotherapeutic benefit of addressing existential issues (Frankl, 1963; Spinelli, 2005; Yalom, 1980). Therefore, considering existential issues and making sense of one's existence may be important for optimal human functioning. However, people differ considerably in how often they contemplate these core issues, and modern psychology would benefit from a measure of existential thinking that would allow us to assess its effects and correlates. Therefore, this study aimed to explore the concept of existential thinking and examine the reliability and validity of the Scale for Existential Thinking (SET).

The idea that people possess differing capabilities to explore and understand existential issues arose from research investigating multiple forms of intelligence. In his book *Intelligence Reframed*, Howard Gardner (1999), who had earlier proposed eight multiple intelligences, suggested a new intelligence: existential intelligence. Existential intelligence was a candidate for inclusion as a ninth intelligence, and Gardner (1983/2004) evaluated its fit with the eight criteria needed to be considered an intelligence. Although Gardner asserted that existential intelligence fit well with the criteria, evidence was too sparse to endorse its addition as a multiple intelligence. Therefore, we use the term existential thinking in place of existential intelligence. Gardner (1999) defined existential intelligence as the tendency, "to be concerned with 'ultimate' issues of life, …to engage in transcendental concerns…[and] the capacity to locate oneself with respect to the furthest reaches of the cosmos—the infinite no less than the infinitesimal—and the related capacity to locate oneself with respect to the most existential features of the human condition—the significance of life, the meaning of death, the ultimate fate of the physical and the psychological worlds, such profound experiences as love of another human being or total immersion in a work of art" (Gardner, 1999, p. 60).

Several aspects of this definition are worthy of note. Existential is used here in the sense of *pertaining*

to existence, rather than existential in the philosophical sense. Therefore, existential thinking has to do with considering issues related to one's personal existence. Gardner (1999) referred to these issues as *ultimate* and *transcendental*, which describes concerns above and beyond superficial matters. These *ultimate concerns* involve one's relation to the grand organization of the cosmos, such as the nature of reality, as well as the most fundamental, inescapable parts of the human condition, such as the meaning of life and the inevitability of death (Yalom, 1980). In this way, existential thinking is concerned with aspirations beyond the self (Hartelius, Caplan, & Rardin, 2007).

However, Gardner (1999) asserted that existential thinking also involves locating oneself in respect to existential issues. This implies that existential thinking includes a process whereby people determine their personal relationships to, and make meaning out of, larger existential issues. As described by Spinelli (2005), all people derive meaning from their lived experiences and reactions to stimuli in the world. In this way, meanings are tied to the individual, because they are constructed relationally. Similarly, existential thinking involves engaging with the ultimate concerns of the human condition and establishing meaning between these issues and oneself. For instance, when made to reflect on their deaths, people tend to report a greater sense of gratitude (Frias, Watkins, Webber, & Froh, 2011). Frias et al. (2011) explained that when people confront their mortality they see life as a limited and valuable resource, which increases their gratitude for their own life. In this example, people create meaning from their engagement with an existential issue (i.e., death) and apply it to themselves. However, since meanings are relational and constructed, they cannot be permanent or final (Spinelli, 2005). Similarly, as explained by Gardner (1999), existential thinking does not presuppose an ultimate truth or end point but instead describes a *process* of engagement with existential concerns. Therefore, following from Gardner's definition of existential intelligence and the discussion above, we define existential thinking as the tendency to engage with ultimate concerns and the capacity to carry out a meaning-making process that locates oneself in relation to these existential issues.

This raises the question as to how existential thinking fits with other existential and transpersonal constructs in the literature. Psychologists have developed many measures concerned with one's personal relationship to existential issues. Many of these have assessed the degree to which people have meaning in their lives (e.g., Schulenberg, Schnetzer, & Buchanan, 2011; Steger, Frazier, Oishi, & Kaler, 2006), which has also been measured within a number of spiritual and transpersonal constructs (MacDonald & Friedman, 2002). Other existential constructs have measured emotional-existential states, such as existential well-being, existential guilt, existential anxiety, and death anxiety (Cohen, Mount, Strobel, & Bui, 1995; Templer, 1970; Weems, Costa, Dehon, & Berman, 2004). Other measures have examined existential beliefs and values, such as the nature of reality (Narasimhan, Bhaskar, & Prakhya, 2010). Finally, more comprehensive assessments have measured the entirety of one's existential status in the world (Reker & Peacock, 1981; Thorne, 1973). For example, Reker & Peacock's (1981) Life Attitudes Profile measures life purpose, existential vacuum, life control, death acceptance, will to meaning, goal seeking, and future meaning to fulfill. However, none of these measures have directly assessed the degree to which people engage with existential issues. Perhaps the closest construct to existential thinking is existential quest. Existential quest is the willingness of people to reexamine and change their existential beliefs (Van Pachterbeke, Keller, & Saroglou, 2012). While similar to existential thinking, existential quest measures the flexibility of one's existential belief system, rather than one's tendency to consider existential issues.

Existential thinking has also been considered in relation to another of Gardner's (2000) proposed intelligences: spiritual intelligence. Authors have evaluated and defined spiritual intelligence in multiple ways (Emmons, 2000; King & DeCicco, 2009; Vaughan, 2002; Wolman, 2001). Emmons (2000) referred to spiritual intelligence as the ability to achieve transcendence, attain higher states of consciousness, sanctify everyday experiences, use spiritual resources, and engage in virtuous behavior. Others have defined spiritual intelligence as "the human capacity to ask ultimate questions about the meaning of life, and to simultaneously experience the seamless connection between each of us and the world in which we live" (Wolman, 2001, pp. 83-84), and as "a capacity for a deep understanding of existential questions and insight into multiple levels of consciousness" (Vaughan, 2002, p. 19). King and DeCicco (2009) described spiritual intelli-

gence 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, leading to such outcomes as deep existential reflection, enhancement of meaning, recognition of a transcendent self, and mastery of spiritual states" (p. 69). These definitions contain aspects of existential thinking, from asking ultimate questions to understanding existential issues deeply. However, unlike our conceptualization of existential thinking, these definitions of spiritual intelligence also include an experiential component that references expanded states of consciousness.

Indeed, Gardner (2000) rejected the inclusion of spiritual intelligence as one of the multiple intelligences within his model due to its emphasis on the attainment of affective and phenomenological states and its possible implication that certain spiritual truths or paths are correct. In contrast, existential thinking does not necessarily have an end goal or state, making it a more inclusive construct. For example, if one considers the Dalai Lama and Carl Sagan, only the Dalai Lama would be considered high in spiritual intelligence, while both would be considered high in existential thinking. In addition, although much of transpersonal psychology focuses on transcendent states of consciousness, it is often defined more broadly to include relevant behaviors and theory, which are perhaps more amenable to quantitative inquiry (MacDonald & Friedman, 2002). Regardless, when considering the discussion above, spiritual intelligence and existential thinking appear to be separate yet overlapping constructs (Halama & Strizenec, 2004). Despite this, no studies have compared these variables directly.

Just as existential thinking relates to spiritual intelligence, it may also relate to religiosity. In a recent review, la Cour and Hvidt (2010) suggested that spiritual, religious, and secular domains are separate but overlapping approaches to meaning-making. Examples of secular approaches to meaning-making include Yalom's (1980) *ultimate concerns* and Frankl's (1963) *will to meaning*. These ideas are part of a tradition of existential psychology that attempt to locate humanity in relationship to ultimate issues. This may suggest that existential thinking is primarily associated with secular thinking. However, since existential thinking is simply a process of considering existential issues and engaging in meaning-making, it should occur in secular, religious, and spiritual domains. Moreover, existential thinking would be likely to occur within religions, which are frameworks for meaning-making that supply global beliefs, general goals, situational meanings, and coherence to beliefs about ultimate issues (Simpson, 2002; Wortmann & Park, 2009). Specifically, religions may provide meanings and explanations for existential concerns. However, the degree to which people are invested in their religions may be more relevant for existential thinking. Particularly, existential thinking may be associated with intrinsic religiosity, which refers to a personal commitment to one's religion, and thereby increase time spent considering existential issues and engaging in meaning-making (Gorsuch & McPherson, 1989). For example, meaning-making coping strategies mediate the relationship between religiousness and psychological well-being (Park, 2005). Therefore, we expect existential thinking and religiosity to be separate yet overlapping constructs.

If existential thinking involves a meaning-making process, it may be a critical part of understanding how people establish, discover, or maintain a sense of meaning in their lives. However, two distinctions are needed to hypothesize about this process. First, Steger et al. (2006) distinguished between the presence of and the search for meaning in life. The presence of meaning in life reflects a felt sense that one's life has purpose, and the search for meaning reflects a quest to find meaning in life. Existential thinking likely overlaps with the search for meaning, because people who are looking for purpose and meaning in life would logically spend more time contemplating their life purpose or the meaning of life in general. However, Steger, Dik, and Duffy (in press) also distinguished between making sense of one's life and feeling that one's life is meaningful. These do not always go together. For example, a person could understand existence as a fortunate outcome of blind, impersonal evolution, which might make life seem ultimately meaningless. In our conceptualization, existential thinking primarily involves making sense of one's existence (Spinelli, 2005), which is what we refer to as meaning-making. However, this may only translate to life purposes or the felt experience of life's meaningfulness in some circumstances. For example, for some individuals, awareness of one's death can increase perceptions of meaning in life (Taubman-Ben-Ari, 2011). Taking these distinctions into consideration, existential thinking is likely related to both the search for and the presence of meaning in life.

Furthermore, if existential thinking is related to the presence of meaning in life in some situations, it may also relate to well-being. Several existential psychologists have suggested that addressing existential concerns is central to well-being, especially because doing so can create a sense of meaning in life (Frankl, 1963; Koehn, 1986; Spinelli, 2005; Yalom, 1980). Despite this, the literature exploring the relationship of existential thinking to mental health is essentially non-existent (la Cour & Hvidt, 2010). However, scholars have consistently linked the presence of meaning in life to well-being variables, such as self-esteem, life satisfaction, and lack of depression (e.g., Reker, 1997; Steger et al., 2006). Therefore, existential thinking may relate to well-being through the presence of meaning in life.

Initial Scale Development

The goal of the following two studies was to assess the reliability and construct validity of the Scale for Existential Thinking (SET) and examine the relathionship between existential thinking and other variables of interest. The SET was developed by Shearer (2006) in three studies. Shearer used the approach employed for the Multiple Intelligences Developmental Assessment Scales (MIDAS), which is an established, reliable, and valid measure of the multiple intelligences (Shearer, 2005, 2006; Wiswell, Hardy, & Reio, 2001; Wu, 2007; Yoong, 2001). In Study 1, Shearer used four domains of existential inquiry (Religious, Philosophical, Artistic, and Scientific) to generate items, which were reviewed by experts, including Gardner. The new 14-item measure was tested on a small group of teachers and students. Shearer found two primary factors representing existential thinking applied to philosophical concerns, and existential thinking applied to the self. In Study 2, Shearer recruited a large sample (N = 584) of participants ranging from teenagers to adults. He found a one-factor solution was the best fit for the entire sample. In Study 3, Shearer replicated results from his previous two studies. He also found the SET to have a test-retest reliability of .91. These studies found the SET to have internal consistencies ranging from α = .88 to α = .94. Shearer recommended that three items be removed due to redundancy, item missingness, and low item-scale correlations. This resulted in the current, 11-item scale.

Study 1

Study 1 had two main goals. First, we intended to assess the psychometric properties and factor structure of the SET in a student population. Given that the current version of the SET had not been formally assessed, these analyses were largely exploratory. Second, we examined convergent validity of the SET by correlating the scale to a number of theoretically related variables, including demographics and measures of intrinsic religiousness, life satisfaction, the search for meaning in life, and the presence of meaning in life. Given existential thinking's theoretical relationship to religiosity (la Cour & Hvidt, 2010) and meaning in life (Gardner, 1999; Spinelli, 2005), we expected existential thinking to positively relate to these variables.

Method

Psychology undergraduates completed the 11-item SET scale, as well as other measures, in an online survey format.

Participants. The participants were 379 undergraduate students recruited from a large Southeastern university in the United States. The sample had a mean age of 18.62 (SD = 1.50) and was 42.2% (n = 160) male and 57.8% (n = 219) female; 70.4% (n = 267) identified as White, 9.8% as Asian American (n = 37), 9.0% as African American (n = 34), 4.2% as Cuban (n = 16), 3.7% as Caribbean (n = 14), 3.7% as South American (n = 14), 2.9% as Puerto Rican (n = 11), 2.1% as American Indian (n = 8), 1.6% as Middle Eastern (n = 6), 1.3% as Central American (n = 5), 1.3% as Pacific Islander (n = 5), 0.3% as Mexican (n = 1), and 1.3% as Other (n = 5).

Procedure. The study was conducted via online survey. Participants were students who joined the study from the psychology undergraduate participant pool in the Fall 2010 semester and received course credit for their participation.

Instruments.

Measures included demographics, the SET, and scales assessing life satisfaction, meaning in life, and internal versus external religiosity.

Demographics. In the demographics section, we assessed gender, age, parental income, and parental level of education. Parental income was assessed with a single question: "On average, what do you estimate is your parents' combined yearly income over the last five years?" Participants responded on a 9-point scale ranging from *Less than $25,000 per year* to *$200,000+ per year*, with a final item *I don't know*. Parental level of education was assessed with two questions, "What is the highest level of education achieved by your mother/father?" which participants answered on a 7-point scale

ranging from *Grade school* to *Graduate school*, with a final item, *Not applicable/I don't know.*

Existential thinking. The current SET is an 11-item measure with scores ranging from 11 to 55 (Appendix A). Participants rate how often they engage in various existential thinking behaviors on a 6-point scale ranging from *no or every once and awhile* to *all the time*. The final item was *I don't know*. Sample items include, "Do you ever reflect on your purpose in life" and "Do you ever think about life's Big Questions?"

Life satisfaction. Life satisfaction was measured with the Satisfaction with Life Scale (SWLS), developed by Diener, Emmons, Larsen, and Griffin (1985), which consists of 5-items on 7-point scale ranging from *strongly disagree* to *strongly agree*. Sample items include, "I am satisfied with my life" and "The conditions of my life are excellent." Diener and colleagues (1985) found good internal consistency (α = .87) and test-retest reliability (r = .82). The scale correlated expectedly with other measures of well-being, including positive and negative affect. The internal consistency in the present study was α = .87.

Meaning in life. Meaning in life was assessed using the Meaning in Life Questionnaire (MLQ), which is a 10-item scale assessing the presence of and search for meaning in life (Steger et al., 2006). Responses are on a 7-point scale ranging from *absolutely untrue* to *absolutely true*. Sample items from the presence subscale include, "I understand my life's meaning," and "My life has no clear purpose." Samples from the search subscale include, "I am searching for meaning in my life" and "I am always searching for something that makes my life feel significant." Steger and colleagues reported good internal consistency (presence: α = .82; search: α = .87) and test-retest reliability (presence: r = .70; search: r = .73). The reliability in the current study was comparable (presence: α = .87; search: α = .88). Steger et al. (2006) also found presence of meaning to correlate in the expected directions with life satisfaction, depression, self-esteem, and other measures of life purpose. The search for meaning in life correlated negatively with these variables.

Intrinsic religiosity. Religiosity was measured with the Intrinsic/Extrinsic Revised Scale (I/E-R) developed by Gorsuch and McPherson (1989), which is an 8-item measure administered using a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*. Sample items include, "I enjoy reading about my religion" and "It is important to me to spend time in private thought and prayer". The scale has good internal consistency (α = .83) and is related to other measures of religiousness (Worthington et al., 2003). In the current study, the three negatively worded items did not load on the entire factor, so only the five positively worded items were used for analysis. The 5-item measure in this study had an internal consistency of α = .94.

Results

The factor structure of the 11-item SET was examined through an exploratory factor analysis. Principal axis factoring of the SET revealed a single factor with an eigenvalue over one, and the scree plot clearly indicated one factor. This factor explained 65.31% of the variance in SET scores (eigenvalue = 7.18), and all items loaded at .69 or above. Internal consistency as measured by Cronbach's alpha was excellent (α = .95). Therefore, the SET appears to be measuring a unidimensional construct with good internal reliability.

We summed items on the SET to create existential thinking scores. Responses answered "I don't know" were considered missing. The mean of the SET was 30.60 (*SD* = 11.16). The visually inspected distribution of SET scores appeared normal and had a skewness of .42 (*SE* = .13) and a kurtosis of -.46 (*SE* = .25). An independent samples t-test found no significant gender difference on SET scores, $t(377) = -.50$, *ns*. In addition,

Table 1. ***Descriptive information and correlations of existential thinking, meaning in life, life satisfaction, and intrinsic religiosity***

	1	2	3	4	5
1. Existential thinking	-				
2. Presence of meaning	**.25**	-			
3. Search for meaning	.21	.08	-		
4. Life satisfaction	**.12**	**.46**	-.05	-	
5. Intrinsic religiosity	**.25**	**.31**	.05	**.25**	-
M	30.60	23.79	24.25	25.96	28.88
SD	11.16	6.24	6.43	5.94	8.07

Note. Correlations in bold are significant ($p < .01$)

SET scores were not significantly correlated to age (r = .03, *ns*), parental income (r = .05, *ns*), father's level of education (r = .07, *ns*), or mother's level of education (r = .10, *ns*). Given the number of correlations conducted, the alpha level was adjusted to $p < .01$. As shown in Table 1, existential thinking was positively correlated with the presence of meaning in life, the search for meaning in life, and intrinsic religiosity. However, SET scores were not correlated with the measure of life satisfaction (SWLS).

Discussion

The first goal of Study 1 was to explore the factor structure and reliability of the SET in a student population. The scale showed variability, had excellent internal consistency, was normally distributed, and loaded on a single factor. Therefore, the SET appears to be a reliable assessment of existential thinking in college-aged students.

The next goal of the study was to establish convergent validity by correlating scores on the SET to several theoretically related constructs. As hypothesized, SET scores correlated positively with measures of the search for meaning in life and the presence of meaning in life, even though these two constructs often negatively correlate with one another (Steger et al., 2006). This suggests that existential thinking could play a role in both searching for, discovering, and/or maintaining meaning in life. As suspected, the SET also moderately correlated with a measure of intrinsic religiousness, which supports the notion that spending time engaged with one's religion is associated with considering existential issues. Contrary to our predictions, existential thinking was not related to life satisfaction. Therefore, a satisfactory life may not require regular thinking about existential issues.

Several limitations of this study prevented us from drawing conclusions regarding the validity of the SET and our follow-up analyses. First, the study only included college-aged students who may not be at a stage in their lives when they are thinking about and struggling with existential issues. Moreover, the limited age range restricted the generalizability of the results. Finally, the variables used for construct validity should be expanded to provide broader validation of the SET. This led to the development of Study 2.

Study 2

Study 2 had several goals. Specifically, we planned to confirm the unidimensional factor structure of the SET established in Study 1, assess the validity of the SET with a broader range of constructs, and establish the reliability of the SET in a diverse, adult sample. To establish construct validity, we correlated the SET to demographic, meaning, personality, and well-being variables. We also correlated the SET with a measure of spiritual intelligence and its critical existential thinking subscale.

In terms of demographic variables, it was predicted that existential thinking would be positively related to age. As people get older, they may consider existential issues more readily, perhaps due to the loss of loved ones (Kim, Kjervik, Belyea, & Choi, 2011). However, we did not expect existential thinking to be associated with gender, level of education, or income.

For the SET to have divergent validity, existential thinking must represent more than just a desire to gain knowledge or engage in complex thought. Some personality variables that reflect these tendencies include curiosity, the need for cognition, and openness to experience. Litman and Spielberger (2003) differentiated two types of curiosity: curiosity based on a joy of learning new things (Interest-type) and curiosity based on the avoidance of uncertainty and ignorance (Deprivation-type). Generally, I-type curiosity correlates with positive traits whereas D-type curiosity correlates with negative traits (Litman, 2008, 2010). While curiosity may predict some consideration of existential issues, it reflects a much broader and less specific search for knowledge. Therefore, we expected existential thinking to show small to moderate correlations with both types of curiosity, since people should pursue existential questions both out of intrinsic enjoyment and avoidance of uncertainty.

Similar to curiosity, we expected existential thinking to differ from the need for cognition, which refers to the tendency to enjoy complex and analytical thinking (Cacioppo, Petty, & Kao, 1984). Although a tendency to analyze complex issues may be associated with considering complex existential issues, the need for cognition is much broader and less specific than the tendency to consider core issues about one's existence. Therefore, we expected existential thinking to show a small to moderate correlation with the need for cognition. Finally, we predicted that existential thinking would differ from openness to experience. Openness to experience, a member of the big five personality traits, is similar to intellect but is defined more broadly to include

sensitivity to art and beauty, a need for variety, and a tendency toward unconventional thought (Donnellan, Oswald, Baird, & Lucas, 2006; McCrae, 1992). As mentioned by Garner (1999), existential thinking could involve profound experiences, like immersion in artwork, and a need for intellectual variety could relate to a quest for existential answers. However, openness to experience would not necessitate thoughts or experiences about existential issues specifically, so we predicted openness to experience and existential thinking to have a small to moderate correlation.

Building off of Study 1, measures of well-being were expanded to include both life satisfaction and existential well-being. Existential well-being is defined as the "perception of purpose, meaning in life, and the capacity for personal growth and transcendence" (Cohen et al., 1995, p. 208). Given both existential thinking's relation to meaning in life (Study 1) and meaning in life's relation to well-being (Steger et al., 2006), we expected existential thinking to relate to existential well-being through meaning in life. Therefore, the goal was to examine if existential thinking related to existential well-being and if meaning in life mediated the relationship between existential thinking and existential well-being. Similar effects have been observed for religious variables. For example, Steger and Frazier (2005) found meaning in life to mediate the relationship between religiousness and life satisfaction, and Park (2005) found meaning-making coping strategies to mediate the relationship between religiousness and psychological well-being. Therefore, if existential thinking leads to increases in meaning in life (la Cour & Hvidt, 2010), these findings may be replicable for existential thinking. Finally, despite the results from Study 1, we again predicted that existential thinking would correlate with life satisfaction in adults.

We also planned to assess the relationship between existential thinking and existential anxiety and death anxiety. In addition to citing the potential benefits of considering existential issues, some authors (e.g. Yalom, 1980) have suggested that awareness of ultimate concerns could lead to anxiety. Moreover, searching for meaning in life and thinking about death without a sense of life meaning is associated with general anxiety and death anxiety (Routledge & Juhl, 2010; Steger, Mann, Michels, & Cooper, 2009). Finally, existential anxiety, which is anxiety about the ultimate meanings of life and death, includes thoughts of death, meaninglessness, and guilt (Weems et al., 2004). Therefore, existential thinking may be associated with anxiety for some people, perhaps those without meaning in life. Therefore, we predicted small correlations between existential thinking and existential anxiety and death anxiety.

As previously discussed, spiritual intelligence and existential thinking are similar constructs, with spiritual intelligence emphasizing expanded states of consciousness and existential thinking emphasizing engagement with ultimate concerns in a meaning-making process. However, some authors have subsumed existential thinking under spiritual intelligence. King and DeCicco (2009) developed and factor-analyzed the Spiritual Intelligence Self-Report Inventory (SISRI-24), which measures four subscales: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. In this model, the authors defined critical existential thinking as the ability to contemplate existential issues critically and analytically. Although critical existential thinking was highly related to most other subscales, the authors did not conduct a higher order factor analysis to confirm that these subscales loaded onto a spiritual intelligence factor. Therefore, the authors did not provide evidence that critical existential thinking is part of spiritual intelligence. Regardless, given critical existential thinking's interrelationship with the other subscales of the SISRI-24, we predicted existential thinking to relate highly to spiritual intelligence. We also expected existential thinking to relate highly to the SISRI-24's critical existential thinking subscale.

Method

A diverse adult sample was recruited through social media, classified websites, and an online data collection service, and completed the 11-item SET scale and additional measures in an online survey format.

Participants. A total of 316 participants aged 18 to 81 completed the survey (M = 32.39, SD = 12.35). Of this group, 45.3% were male (*n* = 143) and 54.7% were female (*n* = 173); 56.3% identified as White (*n* = 178), 31.3% as Asian (*n* = 99), 3.8% as Multiracial (*n* = 12), 3.2% as Hispanic (*n* = 10), 2.2% as African American (*n* = 7), 1.3% as Other (*n* = 4), 0.9% as Middle Eastern (*n* = 3), 0.9% as Native American (*n* = 3), 0.6% as Pacific Islander (*n* = 2), and 0.6% were missing (*n* = 2). Of the participants, 50.6% were American (*n* = 160), 24.7% Indian (*n* = 78), 12.4% Canadian (*n* = 39), 2.5% British (*n* = 8), 2.5% Other Asian (*n* = 8), 2.2% Western European (*n* = 7), 1.6% Eastern European (*n* = 5), 1.3%

Australian (n = 4), 1.0% South American (n = 3), 0.6% Mexican (n = 2), and 0.6% South African (n = 2).

Procedure. In order to collect data from a diverse, adult sample we recruited participants in two ways. First, a link to the survey was posted on social networking and online classified websites. In this case, people volunteered to complete the survey. Other individuals joined the study through the online data collection service Mechanical Turk (MTurk). This service allows people from across the globe to be compensated for completing surveys online. Buhrmester, Kwang, and Gosling (2011) reviewed this form of data collection and concluded that samples from MTurk were more diverse than other internet survey methods but were equally valid and reliable. Participants who completed the survey this way received $0.40 for completing the survey. All participants were given the opportunity to include their email address for a one-month follow-up survey, which re-administered the SET for test-retest reliability. Participants were provided with informed consent and were able to drop out of the study at any time without penalty. In total, 51.58% (n = 163) of the participants joined from the first method, and 48.42% (n = 153) of the participants joined from MTurk.

Instruments. As in study 1, assessments measured existential thinking (SET; α = .93), the search for meaning (MLQ; α = .91), the presence of meaning (MLQ; α = .89), and life satisfaction (SLS; α = .89). Their corresponding internal consistencies for this study are in parentheses. In addition, the following constructs were also measured:

Demographics. The demographics section assessed gender, age, income, level of education, and the country in which participants were currently living. Income was assessed with a single question: "On average, what is the combined yearly income of your household?" Participants responded on a 9-point scale ranging from *Less than $25,000 per year* to *$200,000+ per year*. Level of education was assessed with a single question, "What is the highest level of education you achieved?" Participants answered on a 7-point scale ranging from *Grade school* to *Graduate school*, with a final item, *Not applicable.*

Spiritual intelligence. Spiritual intelligence was measured with the Spiritual Intelligence Self-Report Inventory (SISRI-24) developed by King and DeDicco (2009). The scale consists of four subscales: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. It is measured with 24-items on a 4-point scale ranging from *Not true of me* to *Completely true of me*. Sample items include "I recognize aspects of myself that are deeper than my physical body," and "I have developed my own techniques for entering higher states of consciousness or awareness." King and DeCicco reported good internal reliability (α = .97) and test-retest reliability (r = .89) and found spiritual intelligence to positively correlate with the presence of meaning, the search for meaning, mysticism, and religiosity. The internal consistency for the present study was α = .94.

Existential anxiety. Existential anxiety was assessed with the Existential Anxiety Questionnaire (EAQ) developed by Weems et al. (2004). The EAQ consists of 13 true-or-false statements on three subscales: fate/death, emptiness/meaninglessness, and guilt/con-demnation. Examples include, "I often think about death and this causes me anxiety," and "I often think that the things that were once important in life are empty." Weems and colleagues reported adequate internal consistency (α = .71-.76) and two week test-retest reliability (r = .72) and found that the scale predicted general anxiety and depression. The internal consistency for the present study was α = .73.

Death anxiety. Death anxiety was measured with Templer's (1970) Death Anxiety Scale (DAS). The scale consists of 15 true-or-false statements. Examples include, "I am very much afraid to die," and "The subject of life after death troubles me greatly." Templer reported an internal consistency of α = .76 and a test-retest reliability of r = .83. The measure correlated with general anxiety and other measures of death anxiety. The scale's internal consistency for the present study was α = .71.

Existential well-being. Existential well-being was measured with the 6-item existential subscale of the McGill Quality of Life Questionnaire (MQOL; Cohen et al., 1995; Cohen et al., 1997). Participants respond to statements by rating how close their answers fit with two separate poles ranging from 0 to 10. Examples include, "My life to this point has been... 0 = completely worthless/10 = very worthwhile," and "To me, every day seems to be... 0 = a burden/10 = a gift." Cohen and Mount (2000) reported internal consistencies of the subscale from α = .75 to α = .81 and a test-retest reliability of r = .76. Existential well-being correlated with other quality of life measures. The internal consistency in the present study was α = .86.

Depression. To assess depression, participants completed the 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Statements are answered based on the previous week on a 4-point scale ranging from *Rarely or none of the time (less than 1 day)* to *Most or all of time (5-7 days)*. Sample items include, "I felt lonely," and "I felt sad." Radloff reported internal consistency from $\alpha = .85$ to $\alpha = .90$ and a one-month test-retest of $r = .67$. The scale correlated in the expected direction with positive affect, negative affect, and other measures of depression. The internal consistency in this study was $\alpha = .90$.

Openness to experience. Openness to experiences was assessed with the intellect/imagination subscale of the Mini-International Personality Item Pool (Mini-IPIP; Donnellan et al., 2006). The subscale consists of 4 items rated on a 5-point scale ranging from *Very inaccurate* to *Very accurate*. Sample items include "Have a vivid imagination" and "Have difficulty understanding abstract ideas" (reverse coded). Donnellan and colleagues (2006) reported acceptable internal consistency ($\alpha = .65$) and good test-retest reliability ($r = .77$). The subscale positively correlated with imagination, artistic interest, emotionality, adventurousness, intellect, and liberalism. The internal consistency in the present study was $\alpha = .78$.

Need for cognition. Need for cognition was measured with the short form of the Need for Cognition Scale (NCS; Cacioppo et al., 1984). The NCS consists of 18 items on a 9-point Likert scale ranging from *Very strong disagreement* to *Very strong agreement*. Sample items include "I would prefer complex to simple problems," and "I prefer my life to be filled with puzzles that I must solve." Cacioppo et al. (1984) found an internal reliability of $\alpha = .90$. The internal reliability in the present study was also $\alpha = .90$.

Curiosity. Interest and deprivation curiosity was assessed with Litman and Spielberger's (2003) 10-item Epistemic Curiosity Questionnaire (ECQ). The ECQ is answered 4-point scale ranging from *Almost never* to *All the time*. Sample items include "I enjoy exploring new ideas," and "I feel frustrated if I can't figure out the solution to a problem, so I work even harder to solve it." Litman and Spielberger (2003) reported good internal consistency for both the interest subscale (α = .80-.81) and the deprivation subscale (α = .71-75). The corresponding reliabilities for the present study were α = .81 and $\alpha = .84$ respectively.

Results

To confirm the unidimensional factor structure found in Study 1, a confirmatory factor analysis was conducted using AMOS 18. For all models AMOS estimated missing data with Full Information Maximum Likelihood, which uses all available data to impute missing values. All items significantly loaded on the existential thinking factor at values of .59 and above ($p < .001$). The chi-square test suggested poor fit, $\chi^2(44) = 169.71$, $p < .001$, but this test is sensitive to multivariate non-normality and sample sizes over 200 (Tabachnick & Fidell, 2007). Although the Comparative Fit Index (.94) indicated good fit, the chi-square/df ratio (3.85) and the Root Mean Square Residual (.10, $p < .001$) indicated poor fit. We examined modification indices and found that several errors correlated with each other. Since the suggested item pairs shared similar content, we allowed the errors of the following item pairs to covary: 3 and 8; 2 and 9; 8 and 9; and 9 and 11. This substantially improved model fit: $\chi^2(40) = 83.98$, $p < .001$, chi-square/df ratio = 2.10, CFI = .98, and RMSEA = .06, *ns*. Therefore, evidence suggests that the one factor solution for the SET is a good fitting model.

However, as recommended by methodological experts (Martens, 2005), our model should be tested against a plausible alternative. Shearer (2006) found some evidence for a two factor model of existential thinking with one factor reflecting existential issues applied to philosophical concerns and another factor representing application of existential issues to one's personal life. For example, factor 1 (items 1, 2, 6, 7, 8, and 9) includes items about the meaning of life, what happens after death, and if there is a grand plan for humanity, whereas factor 2 (items 3, 4, 5, 10, and 11) includes questions about life's Big Questions and the nature of reality. This two factor model was tested in AMOS 18. We retained the correlated error variances from the one factor model to maintain continuity. This model had very similar fit to the one factor model: $\chi^2(39) = 83.59$, $p < .001$, chi-square/df ratio = 2.14, CFI = .98, and RMSEA = .06, *ns*. However, given that the one factor model is more parsimonious, we contend that this one best describes the factor structure of the SET.

Cronbach's alpha showed the SET to have good internal consistency ($\alpha = .93$). SET scores for each participant were created by summing each item. Items answered "I don't know" were considered missing. The scale was normally distributed with a skewness of .11 (*SE*

= .15) and a kurtosis of -.87 (*SE* = .30). The mean SET score was 33.96 (*SD* = 10.95). An independent samples t-test found no gender differences on the measure $t(257) = .49$, *ns*. Also, the SET did not correlate with age ($r = -.08$, *ns*), income ($r = -.12$, *ns*), or level of education ($r = .02$, *ns*). The diverse sample allowed investigation of regional differences in existential thinking, but due to low numbers in some groups, comparisons were only made between participants from the United States, Canada, Europe, and India. A one-way analysis of variance revealed significant differences in SET scores among geographic regions, $F(3, 239) = 7.24$, $p < .001$. Bonferroni adjusted post hoc tests found that SET scores were significantly higher in India ($M = 39.46$, $SD = 9.72$) compared to Canada ($M = 31.17$, $SD = 11.43$), $t(239) = 3.58$, $p < .01$, the United States ($M = 32.99$, $SD = 10.80$), $t(239) = 3.79$, $p < .001$, and Europe ($M = 28.71$, $SD = 11.23$), $t(239) = 3.48$, $p < .01$. The United States, Canada, and Europe did not differ significantly. Testing was done to determine whether the two sources of data (i.e., social networking sites and MTurk) differed in SET scores. There was a significant relation between source of data and SET scores, $\beta = .14$, $SE = 1.35$, $t(257) = 2.29$, $p < .05$. However, this effect was likely due to the fact that the majority of the MTurk sample was from India. After including a variable indicating if participants were from India or not, $\beta = .28$, $SE = 1.96$, $t(250) = 3.83$, $p < .001$, source of data ceased to have a relation with SET scores, $\beta = -.03$, $SE = 1.61$, $t(250) = -.35$, *ns*.

The significant difference in SET scores between people from India and those from the United States, Canada, and Europe could mean that the SET's factor structure does not hold for all groups. To test factorial invariance, we followed the guidelines of Little (2008). Little suggested the multiple group confirmatory factor analysis approach, which involves using AMOS to specify the same factor model simultaneously for multiple groups while gradually adding more constraints between the two groups. Changes in fit indices are evaluated at each level. Little proposed testing three levels of invariance: configural (pattern of fixed and free parameters are constrained to be the same), weak factorial (factor loadings are constrained across groups), and strong factorial (indicator means are constrained across groups). Given the limited numbers of participants in each group, we decided to compare only the largest two groups, those from the United States and India. The configural model is essentially an average between the two groups and showed good fit, $\chi^2(80) = 149.29$, $p < .001$, chi-square/df ratio = 1.87, CFI = .95, and RMSEA

Table 2. ***Descriptive information and correlations of existential thinking, spiritual intelligence, meaning variables, well-being variables, and personality variables.***

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Existential thinking	-												
2. Spiritual intelligence	**.67**	-											
3. Critical existential thinking	**.67**	**.82**	**-**										
4. Presence of meaning	**.37**	**.50**	**.29**	-									
5. Search for meaning	**.28**	**.28**	**.24**	-.16	-								
6. Life satisfaction	.15	**.29**	.10	**.51**	-.08	-							
7. Existential anxiety	.07	-.15	.01	**-.41**	**.24**	**-.38**	-						
8. Death anxiety	.10	-.09	.01	**-.24**	.07	-.18	**.50**	-					
9. Existential well-being	**.27**	**.41**	.16	**.66**	-.06	**.67**	**-.47**	-.18	-				
10. Openness to experience	.14	**.22**	**.27**	.15	-.15	-.00	-.10	-.10	.02	-			
11. Need for cognition	.07	.08	**.19**	.05	-.09	.04	-.16	-.11	-.02	**.61**	-		
12. Interest curiosity	**.20**	**.25**	**.32**	.12	.04	.05	-.09	-.08	.10	**.46**	**.65**	-	
13. Deprivation curiosity	**.35**	**.30**	**.28**	.08	**.20**	.02	.11	.03	.02	.05	**.27**	**.40**	-
M	33.96	52.92	16.51	24.64	23.06	23.03	4.67	6.72	17.91	15.72	18.23	15.94	12.71
SD	10.95	19.56	5.94	6.87	7.86	7.40	2.94	3.15	10.72	3.37	23.22	2.94	3.72

Note. Correlations in bold are significant (p < .001)

= .06, *ns*. In the weak factorial condition, factor loadings were constrained to be the same across groups. This slightly improved the fit of the model, $\chi^2(90) = 156.05$, $p < .001$, chi-square/df ratio = 1.73, CFI = .96, and RMSEA = .06, *ns*, but this change was not significantly different from the configural model, $\chi^2(10) = 6.76$, *ns*. The strong factorial model constrained the indicator means to be equal. This restriction degraded the fit of the model, $\chi^2(101) = 229.01$, $p < .001$, chi-square/df ratio = 2.27, CFI = .91, and RMSEA = .07, $p < .01$. This change was significantly different from the weak invariance model, $\chi^2(21) = 79.72$, $p < .001$.

Table 2 depicts the correlations amongst the study variables. As hypothesized, SET scores were significantly related to spiritual intelligence, critical existential thinking, the presence of meaning in life, the search for meaning in life, existential well-being, interest curiosity, and deprivation curiosity. However, contrary to our hypotheses, it was not correlated with measures of life satisfaction, existential anxiety, death anxiety, depression, openness to experience, or need for cognition. A total of 29 participants completed the test-retest follow-up survey at a one-month interval. Only the SET was included in the follow-up survey. The test-retest reliability was $r = .74$, and a paired samples t-test revealed that the mean SET scores did not differ significantly from time 1 ($M = 30.90$, $SD = 10.25$) to time 2 ($M = 28.62$, $SD = 8.58$), $t(28) = 1.76$, *n.s.*

Finally, a mediation analysis was conducted examining whether the presence of meaning in life mediated the relationship between existential thinking and existential well-being. Using the SPSS mediation macro developed by Preacher and Hayes (2008), a mediation analyses was performed based on 5000 bootstrapped samples using bias-corrected 95% confidence intervals. Existential thinking had significant, direct paths to presence of meaning in life ($\beta = .24$, $SE = .04$, $p < .001$) and existential well-being ($\beta = .26$, $SE = .06$, $p < .001$). Presence of meaning in life also had a significant direct path to well-being ($\beta = .99$, $SE = .08$, $p < .001$). When meaning in life was included in the model, existential thinking ceased to have a relation with existential well-being ($\beta = .02$, $SE = .05$, *ns*), and this indirect effect was significant ($SE = .04$, $CI = .16$-$.33$). Therefore, the presence of meaning in life fully mediated the relationship between existential thinking and well-being. The total model was significant ($F(2, 243) = 102.19$, $p < .001$) and explained 45.68% of the variance in existential well-being.

Discussion

The first goal of Study 2 was to investigate the SET's psychometric properties in an adult sample. As in the student sample, the measure demonstrated strong, unidimensional factor structure and excellent internal consistency. It also had good test-retest reliability. This provides evidence that the SET is a reliable measure of existential thinking in adults.

Next, we investigated existential thinking's relationship to demographic variables. Contrary to our hypothesis, SET scores were unrelated to age and, as expected, did not relate to gender, income, or level of education. Therefore, existential thinking does not appear to increase as people get closer to death, and gender and socioeconomic status do not seem to influence the level of existential thought. In terms of geographic differences, India had significantly higher levels of existential thinking than the United States, Canada, and Europe. This was corroborated by our test of factorial invariance between Americans and Indians. The model fit did not degrade significantly when SET items were restricted to load on the same, single factor with the same weights. This suggests that the factor structure may hold up across these two groups. However, when we restricted the SET's indicator means to be equal, the fit degraded. This again indicates that SET scores are different for Indians than Americans. The reason for this is unknown. However, spiritual or existential issues may be more central to Indian culture (Bhawuk, 2003), which would be associated with higher levels of existential thinking. Although the impact of culture on existential thinking is beyond the scope of this article, this finding opens up an interesting avenue for future research.

Our third goal was to establish construct validity by correlating SET scores to measures theoretically related to existential thinking. As predicted, SET scores highly correlated with spiritual intelligence and critical existential thinking. However, these correlations were not high enough to make the SET redundant, which supports the notion that existential thinking and spiritual intelligence are separate yet highly related constructs. Furthermore, critical existential thinking was highly related to existential thinking, although the two constructs showed a differing pattern of correlations with other variables. Namely, existential thinking was more related to meaning and existential well-being whereas critical existential thinking was more related

to personality variables, such as openness to experience and need for cognition. Existential thinking was more related to deprivation curiosity and less related to interest curiosity than critical existential thinking. However, these two measures may be reflecting the same underlying construct, and future research should explore this possibility. Regardless, the SET demonstrated convergent validity by correlating with spiritual intelligence and critical existential thinking.

In addition, SET scores showed small to moderate correlations with meaning in life, the search for meaning in life, interest curiosity, and deprivation curiosity. However, contrary to our hypotheses, it did not correlate with the need for cognition or openness to experience. Existential thinking's relationship to interest and deprivation curiosity is not surprising since a drive for knowledge should be somewhat related to a drive to understand existential dilemmas. However, the moderate correlation of SET with curiosity suggests that existential thinking reflects a focus on existential issues, rather than only representing general curiosity. Furthermore, although we expected need for cognition and openness to experience to be related to thoughts about existential problems, the lack of relationships here also suggest that existential thinking is different from the tendencies to enjoy cognitive endeavors or abstract ideas.

In terms of well-being, existential thinking was positively related to existential well-being but was unrelated to life satisfaction, death anxiety, or existential anxiety. Again, satisfaction with one's life seems to be unrelated to the degree of existential thinking. In addition, the relation of existential thinking to existential well-being was mediated by meaning in life. This generally supports the idea that existential thinking represents a process whereby people generate meaning in life by placing oneself in respect to ultimate concerns (Gardner, 1999; Spinelli, 2005). Establishing meaning in life may subsequently lead to well-being (Steger et al., 2009). These are preliminary results but provide initial support for the validity of our conceptualization of existential thinking as a meaning-making process. Contrary to our hypotheses, existential thinking did not relate to death anxiety or existential anxiety. This was somewhat surprising considering that these variables should be related to some thoughts about death and the purpose of existence. However, as previously discussed, existential thinking may only relate to anxiety when people have low meaning in life (Routledge & Juhl, 2010; Steger et al., 2009). Therefore, future research should explore if meaning in life moderates the relationship between existential thinking and anxiety.

General Discussion

This study introduced the concept of existential thinking, which we defined as the tendency to consider the core issues of human existence and the ability to engage in a meaning-making process that locates oneself in respect to ultimate concerns. We also assessed the reliability and validity of a measure for existential thinking, the 11-item Scale for Existential Thinking (SET). The SET demonstrated individual variability, unidimensional factor structure, good internal consistency, and good test-retest reliability in both student and adult samples. The SET also showed construct validity by correlating with conceptually related variables, including spiritual intelligence, critical existential thinking, meaning in life, intrinsic religiosity, existential well-being, and curiosity. These results suggest that the SET reliably assesses individual differences in the underlying construct of existential thinking.

The SET's psychometrics throughout the study, including a unidimensional factor structure, good internal consistency, and evidence of construct validity, suggest that existential thinking may represent a unique personality trait. This is in line with Gardner's (1999) assertion that existential intelligence may have a unique location in the brain and a distinct evolutionary history. One also sees exemplars of existential thinking in wider culture, including spiritual leaders and philosophers. However, why is considering existential issues different than considering other issues? What is special about issues related to one's personal existence? In some ways, this study has brought up more questions than it has answered. The construct of existential thinking is underdeveloped, and when more scholars and researchers begin exploring this topic with newly developed measures, an expanded and richer understanding of existential thinking can be established.

Although the concept existential thinking should be further explored and developed, study findings generally supported our conceptualization of existential thinking. SET scores correlated with measures of constructs that also assess an engagement with existential issues, such as spiritual intelligence and critical existential thinking. In addition, we showed that existential thinking represents more

than curiosity, openness to experience, and need for cognition. Moreover, both studies revealed a relation between existential thinking and meaning variables. However, the moderate correlations between existential thinking and meaning in life suggest that though existential thinking would involve making sense of ultimate concerns, this does not always translate into the presence of meaning in life. Rather, variables may moderate the relation between existential thinking and meaning in life such that some people are better able to translate existential thinking into concrete life purposes or meanings. For example, religiousness may act as such a moderator because religions provide a framework for understanding existential questions (Simpson, 2002; Wortmann & Park, 2009). In addition, existential thinking's relationship to existential well-being via meaning in life suggests that existential thinking could lead people to develop a sense of meaning in life, which subsequently relates to well-being.

Limitations and Future Directions

This study should be considered in light of a number of limitations that suggest directions for future research. All data were cross-sectional, so existential thinking's causal relationships to other constructs cannot be determined. In particular, our meditation results should be interpreted with caution. Both longitudinal data and controlled studies would reveal important information about the development and effects of existential thinking. For example, longitudinal data could be used to assess changes in existential thinking across the lifespan, because existential thinking may be heightened during life transitions or existential crises when people are more likely to consider their purpose in the world. In addition, experiments could directly assess the result of engaging in existential thinking. Specifically, people engaging in existential discussions may report an increase in meaning in life when compared to control groups. Such information would have important implications for therapists and other mental health practitioners.

Next, our internet sample was biased in that it was composed mostly of North Americans and Indians. Although the factor structure appeared to hold between Americans and Indians, the degradation of the model when we restricted indicator means to be equal suggests that Americans and Indians may have different patterns of relations between existential thinking and other variables. Therefore, future studies should consider the relations measured in our study possibly moderated. As a result, studies should validate the SET in representative North American samples as well as specifically explore cross-cultural differences.

Furthermore, in both studies, the validity of the SET was based only on questionnaires, and the SET only considered behavioral thought patterns. Therefore, we did not consider specific interests, skills, or tasks associated with existential thinking. Not only does restricting our methods to thinking behaviors and questionnaire methods create the possibility of inflated correlations between the SET and other variables, it also restricts our conceptualization of existential thinking. Future studies should address this concern by using SET scores to predict observed behavioral measures. Self-report ratings could also be corroborated with secondary informants. Finally, this study did not include measures of social desirability and response bias. Therefore, we cannot be sure if all participants' responses were reflecting true differences in existential thinking. Future studies should take this into account when further validating the SET.

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Appendix A

Scale for Existential Thinking

1= No or rarely.
2= Sometimes.
3= Often.
4= Almost all the time.
5= All the time.
6= I don't know.

Circle answers that best fit for you either now or in the past.

1. Do you ever reflect on your purpose in life?
2. Do you ever think about the human spirit or what happens to life after death?
3. Have you ever spent time reading, thinking about, or discussing philosophy or beliefs?
4. Do you have a philosophy of life that helps you to manage stress or make important decisions?
5. Do you think about ideas such as eternity, truth, justice and goodness?
6. Do you spend time in meditation, prayer, or reflecting on the mysteries of life?
7. Do you discuss or ask questions to probe deeply into the meaning of life?
8. Do you ever think about a "grand plan" or process that human beings are a part of?
9. Have you ever thought about what is beyond the "here and now" of your daily life?
10. Do you ever think about life's Big Questions?
11. Have you ever reflected on the nature of reality or the universe?

About the Authors

Blake Allan, MS, is currently attending the counseling psychology doctorate program at the University of Florida. In addition to working as a therapist and academic adviser within the university, he conducts research on the intersection of positive, existential, counseling, and vocational psychology. In particular, he investigates how having meaning and purpose in life relates to well-being and work-related outcomes. He may be reached at PO Box 112250, Department of Psychology, University of Florida, Gainesville, FL 32611-2250, Email: ballan3@ufl.edu, Phone: 352-246-5992.

Branton Shearer, PhD, is an internationally recognized authority on multiple intelligences assessment and its practical applications in academic settings. Dr. Shearer is a neuropsychologist whose work provides insights into how each person's strengths can be activated so as to

maximize success, achievement, and personal satisfaction. He created the *Multiple Intelligences Developmental Assessment Scales* (MIDAS™) in 1987, which has since been translated into 12 different languages and has a global reputation as the "gold standard" for providing a richly detailed understanding of a person's intellectual disposition. MIDAS™ profiles are now being used at all levels of education, in the workplace, and by the U.S. military. He has published numerous books and articles in English, Danish, Chinese, and Korean. His recently revised *The MIDAS Handbook for Multiple Intelligences in the Classroom* (Shearer, 2011) provides a wealth of practical examples for interpreting both individual profiles as well as whole class MI profiles. He is also a published poet.

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