Fall February 4th, 2016

Spirituality and Happiness of English-Speaking South African School Children: A Psychometric Analysis of Spirituality and Well-Being Instruments

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Dissertation

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Spirituality and Happiness of English-Speaking South African School Children: A Psychometric Analysis of Spirituality and Well-Being Instrument

by

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A dissertation submitted in partial fulfillment

of the requirement of the degree of

Doctor of Education

Seattle Pacific University

2016

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Date May 17, 2016

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Abstract

This study addresses the role of spirituality in student happiness among intermediate elementary students. Surveys addressing temperament, spirituality, and happiness were administered to a sample of South African students. There is a debate in the developmental literature on whether the effects of spirituality on happiness can be reduced to temperament in elementary school students. This study helps to establish the psychometric properties of several instruments and looks for a unique contribution of spirituality to happiness. The results indicate that most of the instruments used show good psychometric qualities and that spirituality possesses a statistically significant impact on happiness independent of temperament.

Chapter One: Introduction

Building on the earlier work of Holder, Coleman and Wallace (2010) and Cleveland (2013), the topic of this paper is spirituality, happiness, and temperament in intermediate elementary school children. This work is part of a larger endeavor known as the "Happiness and Meaning-Making Project", a data collection initiative aimed at replicating and extending Holder et al.'s (2010) study. This study is an ex post facto examination of the psychometric properties of several instruments and assesses for differences in patterns of spirituality and happiness in public and private school students in South Africa.

A child's happiness and sense of well-being is linked to positive social, academic, and interpersonal outcomes (Sink, 2014). Subjective well-being is a construct used to measure a child's sense of happiness as well as a partial measure of the presence of resilience. Spirituality has been found to be a source of resilience, but what aspect of resilience it influences needs further exploration to understand the spirituality and resilience connection (Crawford, Wright, & Masten, 2006; Kim & Esquivel, 2011; Masten, 2007). It is important to establish that resilience and the spirituality that has been linked with is not an intra-individual trait, the effect of personality or temperament (Holder et al., 2010). Replicating a study on the effects on happiness (via subjective well-being) of temperament and spirituality adds support to this body of work. The goals of this are study are 1) seek to validate the psychometric properties of instruments measuring subjective well-being, spirituality, and temperament, 2) test the for varying levels of measured attributes as well as invariance of the factor structures for boys and

girls, and 3) establish the unique contribution of spirituality over and above temperament on student happiness.

Terms and Definitions

As this is a psychometric study addressing the attributes and interrelationships of instruments attempting to measure vital constructs, the definitions of terms is necessarily pragmatic. Terms such as spirituality, temperament, and happiness are isomorphic with their measurement here. Any attempt to define these terms for purposes of this study is largely redundant, as they are used solely as instruments intended to approximate their respective constructs. However, a brief sketch of the terms follows to provide a general context for the instruments in the study.

One major term that needs consideration for proceeding in this study is *subjective well-being*. The growing research focus on resilience and strengths has generated the concept of subjective well-being largely understood as cognitive appraisals of happiness (Kashdan, 2004). Subjective well-being (and by association, happiness) is often evidenced by factors of levels of global life satisfaction, the general absence of negative emotions (anxiety, depression, etc.), and frequent, intense states of positive affect (Robbins, Francis, & Edwards, 2010). Upon reviewing the literature on subjective well-being, Cleveland (2013) offered a summative definition of subjective well-being as "composed of a set of affective and cognitive appraisals evaluating and individual's life" (p. 11). Happiness appraisals such as the ones featured in this study fall within this definition and offer a good proxy measure of subjective well-being.

One author described *spirituality* as a "glowing and useful term in search of a meaning" (Bregman, 2006, p. 5). As a concept, it is fuzzy due to its multiple uses and

fields that coopt and attempt to define it. Spirituality and religion are pitted as opposing phenomena in some literature and virtually identical in other writing (Pargament, 2013). Bregman again noted that its popularity is due to the fact that spirituality is a "non-contentious term somewhere between religion and scientific psychology" (p. 5). A full review of the uses, meanings, and connotations of spirituality across all fields would be interesting but ultimately unhelpful for the present study. To give the greater context of how spirituality is defined across the context of school counseling research, readers should consult the excellent overview in Sink and Hyun (2012) as well as Sink and Devlin (2011). For purposes of this study, the helpful schema of three primary ways that the relationship of spirituality and religion are understood from Sink and Hyun will be mentioned here. Sink and Hyun noted that "spirituality is intrinsic to all persons and (a) inextricably linked with religion; (b) a natural and nonreligious phenomenon; or (c) psychologically constructed, reflecting both one's personal and communal faith systems" (p. 21). The instruments in this study inhere within the third, constructivist understanding of spirituality, one that "suggests that spirituality is a concept broader than religion, largely formulated through individual and social processes and influences, and associated with enriching meaning-making activities" (Sink & Hyun, 2012, p. 22).

Temperament is a construct that is both written about and disagreed upon extensively. Intimately related with the concept of personality, philosophers and developmental psychologists alike have weighed in on the origin, influences, impacts, and trajectory of temperament in humans (Rothbart & Derryberry, 2000). In her review of four contemporary temperament researchers, Shiner (2012) noted some basic elements of consensus on temperament's definitional elements. In particular,

> (1) temperament consists of individual differences in extraversion, negative affectivity, and effortful control and is shaped by both genetic and environmental factors, (2) temperament influences children's experience of the environment, (3) temperament interacts with experiences to shape important life outcomes, and (4) although temperament shows stability, it can change both naturally and through intervention. (Shiner, 2012, p. 1)

Buss and Plomin (1984), the creators of the measure used in this study to assess temperament, defined temperament developmentally as "inherited personality traits present in early childhood" (p. 84). Temperament emerges as a child matures to reflect three definitional elements: emotionality, activity, and sociability. Emotionality refers to a child's tendency to become aroused or distressed; activity refers to all energy output (vigor and tempo behavioral responses); and finally, sociability is defined as the seeking out of others (Buss & Plomin, 1984).

Past Studies

Cleveland (2013) examined and demonstrated the psychometric properties of the Faces Scale (Andrews & Withey, 1976), the Oxford Happiness Questionnaire-Short Form ([OHQ-SF] Hills & Argyle, 2002), the Subjective Happiness Scales ([SHS] Lyubomirsky & Lepper, 1999), the Spiritual Well-Being Questionnaire ([SWBQ] Gomez & Fisher, 2003), the Practices and Beliefs Scale – Behaviors ([PBS-B] Holder et al., 2010), and the Emotionality, Activity and Sociability Temperament Survey ([EAS] Buss & Plomin, 1984) outlined in Holder et al. (2010) with data from a sample of older elementary students from US faith-based private schools. In this study, the results of Cleveland's (2013) exploratory factor analyses will be extended by examining a sample

of South African school students (English is language of learning). Instruments included in this analysis will include the Faces Scale (Andrews & Withey, 1976), the Oxford Happiness Questionnaire Short Form (OHQ; Hills & Argyle, 2002), the Subjective Happiness Scales (SHS; Lyubomirsky & Lepper, 1999), the Spiritual Well-Being Questionnaire (SWBQ; Gomez & Fisher, 2003), the Religious Practices and Beliefs Scale (PBS-B) based on the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS; Fetzer Institute, 1999), and the Emotionality, Activity, and Sociability Temperament Survey (EAS; Buss & Plomin, 1984). Exploratory factor analyses for each instrument will be run for the full sample of public and private school students to establish reliability and factorial validity of the instruments. As a follow up, confirmatory factor analyses will be run to assess the consistency of the factor structures across male and female students. Where applicable, factorial invariance will be assessed at incrementally more stringent levels across gender groups. Based on earlier work, it is theorized that girls will demonstrate higher levels of some forms of spiritual practices than boys (Seo, Sink, & Cho, 2011; Sink, Kim, Park, & Hyun, 2014). Finally, hierarchal linear regression models will be run to assess the independent contribution of religious and spiritual beliefs and practices on their happiness. These analyses will be performed to answer the following research questions:

1. Are the instruments psychometrically sound [reliability, factorial validity – Exploratory Factor Analysis (EFA)]
2. Do the overall scale scores differ by gender, and if so, how [Multiple Analysis of Variance (MANOVA)]?

3. Does the factor structure appear the same among boys and girls [Confirmatory Factor Analysis (CFA), factorial invariance]?
4. After controlling for temperament, do children's spiritual and religious practices predict their happiness [Hierarchal Multiple Regression (HMR)]?

Chapter Two: Literature Review

While academic learning is still firmly in the education spotlight with contemporary debates about Common Core standards and testing, there is another growing force in education. Social-emotional learning competence has been cited anecdotally over the years as lacking in many K-12 students, and a 2014 survey of US teachers' perceptions confirms this with empirical data (Scholastic and the Bill & Melinda Gates Foundation, 2014). There is an interest both domestically and abroad for schools to foster children's well-being and social-emotional learning (SEL) competence (Farrington et al., 2012; Payton et al., 2008). Educators are making vital connections between students' well-being and social-emotional competences and their ability to learn in the classroom (Scholastic and the Bill & Melinda Gates Foundation, 2014). Social emotional learning training in schools utilizes strengths-based school-wide programs like Response to Intervention (RTI; American Institiutes for Research National Center on Response to Intervention, 2014) and Positive Behavioral Interventions and Supports (PBIS; US Department of Education's Office of Special Education Programs, 2014). Approaches like PBIS and RTI can help lessen risk factors linked to school failure and help increase positive adjustment and emotions (Elbertson, Brackett, & Weissberg, 2009).

Subjective well-being (SWB) involves emotional and cognitive appraisals of happiness, and happiness and its measurement construct (SWB) are considered important to child development in the SEL and positive psychology literature (Holder, Coleman, & Singh, 2012; Kashdan, 2004; Nelson & Lyubomirsky, 2014). Subjective well-being is multifaceted and complex in its full complement. Well-being can pertain to political,

communal, and economic factors (King, Reno, & Novo, 2014). Subjective well-being is "subjective" in the sense that it looks at well being from the self-perceptions, and in this way it is related to happiness (if a person perceives him or herself as doing well, they can be construed as happy) (Diener, 2000; Kashdan, 2004). Subjective well-being (and by extension happiness) is commonly assessed by examining the following three domains: the overall absence of negative feelings (such as anxiety, depression), levels of global life satisfaction, and the frequency/intensity of experiencing states of positive affect (Argyle & Crossland, 1987; Kashdan, 2004; Robbins, Francis, & Edwards, 2010). Resilience, which pertains to protective factors that permit healthy functioning even amidst challenging circumstances, can be said to exist based on limited fluctuations of SWB.

South African Context

Authors that are part of the Happiness and Meaning-Making Project, of which this study and its analyses are a part, have examined the links between spirituality and subjective well-being in elementary students in American (Cleveland, 2014) and Korean (Sink et al., 2014) students. One of the key features of the Happiness and Meaning-Making Project is to assess this link, but of similar importance is to see how the relationship between spirituality and subjective well-being vary by national context. Hence, it is important to review what is known about spirituality, well-being, and the broader educational context in South Africa.

South Africans consistently report high levels of well-being (Møller, 2013). Perhaps more so than what is typically thought of traditional Western societies, South Africans draw a strong connection between social interaction and their perceived SWB (Westway, Olorunju, & Rai, 2007). This emphasis on community involvement is

ubiquitous in South Africa, and it is thought of as essential for ongoing SWB or happiness. Transcending the individual level, this "public happiness" (Roodt, 2014) resides in the society as a whole, benefiting individuals' sense of SWB via the collective. Møller (2013) noted that despite South Africans generally reporting high levels of SWB, they often also report contrasting low levels of hope that the future contains opportunities to grow and flourish. What then causes the high levels of reported SWB in the face of pessimistic views of the future? While temperament and personality have been investigated for their contribution to predicting SWB (DeNeve & Cooper, 1998), the explanation is far from complete. The results of this study will contribute to existing work to see what role spirituality may serve in explaining additional variance in SWB for South African schoolchildren.

South Africa is religiously diverse with widespread acceptance of the fact that spirituality is an essential aspect of existence (Mnyaka & Motlhabi, 2005). To illustrate this, *Ubuntu ngumntu ngabantu* is advanced as a common way of seeing life in South Africa. *Ubuntu* maintains that everything is spiritual and sacred, and that each person is therefore spiritually connected (Mnyaka & Motlhabi, 2005; Tutu, 1999). The dualism between the sacred and the secular is not recognized in the *Ubuntu* concept. While Ubuntu is difficult to define (even by South Africans), but it involves "the most important quality of a human being, which transcends the surface to the very essence of a person and how people relate with each other in community" (Sink, Blackshire, Osterdahl, & Hartman, 2015). Individual motivation to pursue each person's ultimate potential is motivated by the collective benefit in Ubuntu (Mnyaka & Motlhabi, 2005), and Tutu (1999) noted that a popular synopsis of Ubuntu is "I am because we are."

In a post-apartheid setting, South Africa has not settled on an approach to addressing spirituality in education. Children are culturally and religiously diverse (Christianity, 68%; Indigenous beliefs, 28%; Islam, 2%; and Hinduism, 2%; "South Africa: Country Review," 2015), lending credence to a non-denominational spirituality approach. Some authors (e.g., Jacobs, 2012) noted, in the spirit of *Ubuntu*, that spirituality should be retained in education in a manner that serves all. Roux (2007) suggested a social constructivist approach to addressing spirituality in education. Children under this approach would be motivated to understand themselves and others and to explore different religions, arriving at their own spiritual conclusions (Roux, 2007). This study can aid South African educators by illustrating the potential impact that developing non-denominational spirituality can have on students' sense of SWB.

Resilience Overview

Resilience is a construct that is used by multiple disciplines and across many different layers of research focus (Masten, 2011). Due to the disciplinary range of projects examining resilience, the construct has been variously and sometimes ambiguously defined (Barber, 2013). Resilience as a construct emerged as an outgrowth of von Bertalanffy's (1968) general systems theory. Bronfenbrenner's (1979) ecological theory of human development was foundational to the systemic focus and evolution of the definition of resilience.

The definition of resilience has seen various expansions and contractions over the past four decades (Masten, 2011). Initially, researchers characterized resilience as an inferential construct with a focus on two essential components: 1) positive adaptation by a person to a 2) risk or threat (Luthar & Ciccehetti, 2000; Masten & Coatsworth, 1998).

Early research was largely descriptive and focused on measuring the two aforementioned aspects, looking for idiosyncratic intrapersonal qualities of "resilient" people, and also describing their relational contexts in attempts to isolate differences in adaptation to adversity (Masten, 2011). Gradually, resilience research moved to a more dynamic, process-oriented criteria (Luther & Ciccheti, 2000; Masten, Best, & Garmezy, 1990). This move toward dynamism and process orientation was required to achieve integration in defining the resilience construct. Multiple disciplines conduct studies across myriad levels and types of systems and without an integrated definition, resilience was in jeopardy of becoming untenable as a concept (Masten, 2011).

Due to the current state of the field, then, any credible definition of resilience must pay credence to "integrated constructs and the shared context of dynamic systems theory" (Masten, 2011, p. 494). Masten (2011), as one of the most significant contributors to the field of resilience research, recently offered the following definition: "The capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development" (p. 494). While many of the sources consulted for this study discussed the problems in defining the construct of resilience (Barber, 2013; Bornstein, Hahn, & Suwalsky, 2013; Jones, 2012), very few attempted such a concise definition and instead focused on laying out various components of the construct. Masten's (2011) definition captures what is most essential across the bulk of the research examined.

A recent summary of resilience research (Ungar, Ghazinour, & Richter, 2013) noted that the majority of studies are dominated by a systems approach. This is true regardless of whether the unit of analysis is an individual person or a swath of their larger

social ecology (Ungar et al., 2013). The origin of this focus can be traced back to von Bertalanffy's (1968) general systems theory (Masten, 2011). However, von Bertalanffy's work was adapted for human development by Bronfenbrenner throughout the 1970s (Bronfenbrenner, 1974; Bronfenbrenner, 1976; Bronfenbrenner, 1977) culminating in the landmark book, *The Ecology of Human Development* (Bronfenbrenner, 1979). Bronfenbrenner's theory has expanded subsequently, with the final exposition of his theory published posthumously (Bronfenbrenner & Morris, 2006). The final adaptation of Bronfenbrenner's theory culminated in what is credited as the most comprehensive account of contextual influences on human development, bio-psycho-social-ecological systems theory (Berk, 2006).

Spirituality and Spiritual Well-Being

Spirituality and religion have been found to be resilience factors offering potential protective elements at the individual, family, and community levels like other resilience elements (Kim & Esquivel, 2011). While various theorists define religion and spirituality as constructs that are separate or overlapping to various degrees (see Sink & Hyun, 2012), the definition in this analysis is embedded in the administered instruments. For instance, Gomez and Fisher (2003) utilized a non-religious conceptualization of spirituality as the backbone the Spiritual Well-being Questionnaire (SWBQ). This definition reflects a spirituality that is "the affirmation of life in a relationship with God, self, community and environment that nurtures and celebrates wholeness" (National Interfaith Coalition on Aging [NICA], 1975, p. xiii). Bregman (2006) described spirituality as a "glowing and useful term in search of meaning" (p. 5); this paper only

takes up the meaning of spirituality from a pragmatic perspective, as it is used in the instruments measuring spirituality.

In the age cohort studied here, it is anticipated that there may be statistically significant gender differences in ratings of spirituality and happiness. Based on findings from previous studies (Sink & Hartman, 2014; Sink et al., 2014), it is anticipated that girls of this age cohort will rate themselves more highly on measures of happiness and spirituality. While the previous studies examined students in differing cultural contexts, the results were consistent across them and used the same survey instruments used in this study.

Resilience and Spirituality

The field of resilience research has long considered and validated religion and spirituality as factors associated with resilience (Werner, 1984). As Dillen (2012) noted, "Resilience can be seen as a specific form of agency possessed by children, although it is at the same time highly influenced by other conditions of the ecological context of children (e.g., family, church, society, culture, etc.)" (p. 62). Accordingly, researchers distilled spiritual and religious protective aspects at each of these ecological levels (Crawford et al., 2006). A contemporary definition of resilience (see above) is used in this study that includes, but does not limit, the protective aspects of religiosity and spirituality to some innate or even individualized characteristics. The resilience afforded by spirituality and religiosity, in that spirituality has to do with meaning making and meaning is typically bound up in relationships, must be viewed from an ecological/systems perspective. Despite the fact that the unit of analysis for this study is

individual students, it would be misguided to conflate the unit of analysis with the location of the potential protective effects of religiosity and spirituality.

While spirituality and religiosity are frequently identified as resilience factors, it is important to examine the theorized mechanisms inherent in spirituality and religiosity that make them so. Crawford et al. (2006) theorize four ways spirituality and religiosity may enhance resilience: attachment relationships, general social support, guidelines for conduct and moral values, and personal growth and development. Crawford et al. also cite human adaptational systems that seem to facilitate adaptation (and hence, resilience): "attachment, self-regulation, motivation for learning and engaging successfully with the environment, beliefs that life has meaning and hope, a sense of belonging, opportunities to learn from prosocial peers and adults, social support, and the benefits afforded by social order and cohesion" (p. 357). The four ways that Crawford et al. proposed that religion and spirituality can enhance resilience are clearly seen in these adaptational systems.

Smith (2003) also proposed a framework of causal factors by which religion (and by extension some forms of spirituality) may promote prosocial outcomes. Religion "may exert positive, constructive influences in the lives of American youth through nine distinct but connected and potentially reinforcing factors" (Smith, 2003; p. 19). These nine factors are grouped in threes under three subheadings: moral order, learned competencies, and social/organizational ties. Below is a list of Smith's (2003) factors:

I. Moral Order

1. Moral directives
2. Spiritual experiences

3. Role models

II. Learned Competencies

4. Community and leadership skills

5. Coping skills

6. Cultural capital

III. Social and Organizational Ties

7. Social capital

8. Network closure

9. Extra-community links

Qualitative analysis of mechanisms by which spirituality is seen by adolescents as promoting resilience overlap quite well with the factors or mechanisms promoted by Crawford et al. (2006) and Smith (2003). Raftopoulos and Bates (2011) performed in-depth interviews with adolescents about the role spirituality played in their lives. The interview data were analyzed to isolate dimensions of spirituality reflected in the adolescents' statements. The authors further questioned how these dimensions fostered resilience. The three dimensions of spirituality the authors isolated were: a transcendental perspective (i.e., a relationship with God or a higher power), a sense of meaning, and a connection with the inner self. Raftopolous and Bates (2011) found that these dimensions of spirituality promoted resilience by equipping the adolescents with "1) a sense of protection, 2) a sense of meaning, coherence, and optimism; and 3) the opportunity for increased self-awareness and self-efficacy" (p. 151).

Subjective Well-Being Questionnaire

Intended to measure spiritual well-being, the Spiritual Well-Being Questionnaire (SWBQ) comprised of twenty questions representing four different spiritual domains. The four domains theorized to be assessed in the SWBQ are personal, environmental, communal, and transcendental, according to the original SWBQ study by Gomez and Fisher (2003). Gomez and Fisher (2003: 2005: 2005b) and others demonstrated good internal consistency (α = .76 to .94) both for the subscales and the entire instrument (American Psychological Association, 2013; Cleveland, 2013; Rowold, 2011; Sink et al., 2014). Cleveland (2013) found the measure to have good validity, both with children and adolescents (Moodley, Esterhuyse, & Beukes, 2012). Researchers have established both construct validity (using factor analysis – Gomez & Fisher, 2003; 2005b) and discriminant validity (Sink et al., in press; Rowold, 2011) of the SWBQ. The SWBQ has been held up as promising in a recent review of spirituality measures (de Jager Meezenbroek et al., 2012). However, de Jager Meezenbroek et al. (2012) also encourage caution regarding the validity and some items of the SWBQ, noting a need for greater breadth in samples used to assess the SWBQ.

Gomez and Fisher (2003; 2005a; 2005b) established the SWBQ through a rigorous psychometric process. In their initial study, Gomez and Fisher (2003) piloted a 64-item version of the SWBQ with samples of 248 Australian secondary school students (age range 11-16 years; M = 13.8, SD = 1.33) from public, Catholic, Christian Community, and other independent schools. Using exploratory factor analysis (EFA) with principal components analysis (PCA) and Oblimin rotation, Gomez and Fisher (2003) found a four-factor solution. The authors retained the five highest loadings on the four factors, rendering twenty questions of the present SWBQ (Gomez & Fisher, 2003).

Subsequently, Gomez and Fisher (2003) established the presence of a second-order spiritual well-being dimension (which they did not reestablish in subsequent work – see 2005a; 2005b) over the four subscales through PCA and a follow up confirmatory factor analysis (CFA).

Oxford Happiness Questionnaire – Short Form

The Oxford Happiness Questionnaire – Short Form (OHQ-SF; Hills & Argyle, 2002) is derivative of the full Oxford Happiness Questionnaire (OHQ; Hills & Argyle, 2002), which is in turn based on the Oxford Happiness Inventory (Argyle, Martine, & Crossland, 1989). The full OHQ contains 29 items scored on a six-point Likert scale, while the OHQ-SF condenses the measures down to eight items. The OHQ has been tested on more diverse age groups and cultural backgrounds proving both reliable and valid across varied samples (Aghili & Kumar, 2008; Hadinezhad & Zaree, 2009; Rezvan, Ahmadi, & Abedi, 2006; Robbins, Francis, & Edwards, 2008; Robbins, Francis, & Edwards, 2010; Singh, 2009). The OHQ has also shown useful in studies addressing happiness and religion/spirituality (Abdel-Khalek & Lester, 2012; Halama, Martos, & Adamovová, 2010). Cruise, Lewis, and McGukin (2006) upheld the internal consistency of the OHQ-SF. Using a small sample, the OHQ-SF showed good test-retest reliability ($r = .69$), with no statistically significant differences in means scores. Cleveland (2014) and Sink et al. (2014) also demonstrated good internal consistency ($\alpha = .79$ & $.81$, respectively) and unidimensionality when subjecting the OHQ-SF to exploratory factor analysis. Detractors of the OHQ-SF argue that its measures are more related to psychological well-being than subjective well-being (Lewis, Maltby, & Day, 2005). In

sum, while the OHQ-SF shows promise and is simpler to administer (particularly for younger samples), more work is needed to establish its psychometric properties.

Subjective Happiness Scale

The unidimensional Subjective Happiness Scale (SHS) is four-item scale measuring global subjective happiness (Lyubomirsky & Lepper, 1999). Initially put forward as thirteen items, the developers ran a PCA on a sample of college students (N=97) and identified one interpretable factor with four items loading onto it (Lyubomirsky & Lepper, 1999). These four items were put forward as a composite measure of SWB. The developers indicated that the SHS demonstrated good internal consistency (Cronbach's alphas from .79 to .94). Test-retest reliability was also good at one month, three month, and one year follow up administrations (r = .85, .61, .55, respectively) (Lyubomirsky & Lepper, 1999b). Various related instruments were used and successfully demonstrated convergent, factorial, and discriminant validities of the SHS (Lyubomirsky & Lepper, 1999b; Mattei & Schaefer, 2004). Cleveland (2014) performed an EFA with a sample of almost 500 third to sixth graders, and the fourth item of the SHS ("I want to be happier") failed to load above .12 on the single generated factor. Removing the fourth item and retaining the first three also improved the Cronbach's alpha from .60 to .75. Given the similar ages of the present sample, it will be important to establish the performance of this fourth item.

Faces Scales

The Faces Scale is a single item that measures general levels of happiness, and it was created by Andrews and Withey (1976). Respondents are asked "How do you usually feel?" The response format of the Faces Scale involves seven drawings of faces

depicting a successive range of emotions from "very unhappy" (represented by a down-turned mouth) to "very happy" (represented by an upward-turned mouth). The middle face is "neutral", and it is represented by face with a straight-line mouth. To lessen ambiguity and increase response consistency for child respondents, the number of faces was reduced to five. The Faces Scale has been shown useful with children (Holder & Klassen, 2010; MacDonald, Kirkpatrick, & Sullivan, 1996), but its overall reliability with children is not rigorously established (Cleveland, 2013).

Religious Practices Scale

The Religious Practices Scales (RPS) is derived from multiple sources. The three items in this scale originally appeared as items on the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS; Fetzer Institute/NIA, 1999). A working group formed in 1997, a collaboration between National Institute on Aging (NIA) and the Fetzer Institute, was tasked with examining possible impacts of religiousness on health outcomes. This working group took on a task of creating a brief, multidimensional measure of traditional religiousness and non-institutional spirituality and the scales were intended to be able to used separately to measure sub-aspects of religiousness/spirituality (Idler et al., 2003). The BMMRS resulted in 38 items organized by religious and spiritual dimensions (Fetzer/NIA, 1999).

Holder et al. (2010) developed the Practices and Beliefs Scale (PBS) for a study of the relationship between children's spirituality, happiness, and religiousness. Holder et al. (2010) eliminated BMMRS items that were deemed developmentally inappropriate for children aged 8-12. Of the eleven remaining BMMRS items that composed the PBS, Holder et al. (2010) modified the wording of the items to make them interpretable to

children aged 8-12. The PBS items assessed children's belief in a higher power (4 items), global perception of religiousness/spirituality (1 item), practice of religious/spiritual beliefs (3 items), and the role of spirituality in helping the children cope in everyday life (3 items) (Holder et al., 2010). Cleveland (2014) appropriated one domain of the PBS, the domain focused on how children practiced (or did not practice) their beliefs. Sink et al. (2014) utilized the SWBQ, an overall good measure of children's spirituality, but modified the PBS subscale into the RPS to ensure that religiousness was also captured. In modifying the three RPS items, Sink et al. (2014) reduced the 7-point Likert response scale of the BMMRS and PBS to a 5-point Likert scale (ranging from strongly disagree to strongly agree) to help aid score consistency with child respondents.

Emotionality Activity and Sociability Temperament Survey

The Emotionality Activity and Sociability Temperament Survey (EAS) was developed by Buss and Plomin (1984). The twenty-item EAS assesses four proposed dimensions of temperament (Emotionality, Activity, Shyness, and Sociability), with each dimension theoretically measured by five items. The EAS theoretically yields a global temperament score in addition to the four subscale scores (Buss & Plomin, 1984). The EAS was created to be a brief, parent-generated report of their children's temperament. It has typically demonstrated good reliability and validity (Holder & Klassen, 2010; Masi et al., 2003).

However, the factor structure and the composition of the proposed dimensions has been debated across the last 40 years leading to several iterations of the scale by Buss and Plomin (Cleveland, 2013). The initial four dimensions of temperament Buss and Plomin (1975) proposed were Emotionality, Activity, Sociablity, and Impulsivity. The original

instrument was consequently named the EASI (Emotionality, Activity, Sociablity, and Impulsivity), but the authors found high intercorrelations between items on Activity and Impulsivity scales, and the Emotionality and Impulsivity scales (Windle, 1989). Altering items on both the Emotionality & Activity scales, Buss and Plomin modified the EASI and coined the new version the EASI-II (Windle, 1989). The Impulsivity scale did not reliably feature in a host of subsequent factor analyses in the developmental literature, leading Buss and Plomin to remove the Impulsivity scale from the EASI-II (Boer & Westenberg, 1994; Rothbart & Bates, 1998). There was also an EASI-III (Nærde, Røysamb, & Tambs, 2004).

In conjunction with the development of another childhood temperament measure, the Colorado Childhood Temperament Inventory (CCTI; Rowe & Plomin, 1977), the EASI-II, now reduced to three scales, underwent further revision (Routhbart & Bates, 1998). Based on the CCTI results, Buss and Plomin modified the items measuring the Emotionality, Activity, and Sociability dimensions; the revised version was simply referred to as the EAS (Routhbart & Bates, 1998).

The next wave of modifications centered on inconsistent results and conceptualization of Sociability. Buss and Plomin (1986) noted that initially Sociability and Shyness were thought to be the opposing poles of a single dimension. However, the results of CCTI empirical analyses support a case for their conceptual distinctiveness (Cheek & Buss, 1981). Under this updated conceptualization, "Shyness was considered a tendency to be inhibited with people unfamiliar to the individual, while Sociability was defined as tendency to prefer the company of other people" (Clevaland, 2013; p. 31). The resulting current version (still retaining the acronym EAS) measures four dimensions

(Emotionality, Activity, Shyness, and Sociability), but the Sociability items are still considered to be experimental (Boer & Westenberg, 1994; Mathiesen & Tambs, 1999).

The EAS demonstrated good reliability and validity across gender, age, and culture (Boer & Westernberg, 1994; Masi et al., 2003; Cleveland, 2013). Cronnbach's alpha values reflect variation but appear consistently in the acceptable to strong range across studies (Boer & Westenberg, 1994; Bould, Joinson, Sterne, & Araya, 2013; Mathiesen & Tambs, 1999). However, Sociability and Shyness tend to not behave predictably across studies. Boer and Westenberg's (1994) results bolster Buss & Plomin's (1984) idea of a three-factor structure of temperament, as Sociability items distributed across Activity and Shyness dimensions. Researchers often test a three-factor and a four-factor (adding Sociability) model; sometimes a fourth factors is viable and sometimes it is not (Boer & Westenberg, 1994; Boström, Broberg, & Hwang, 2010; Mathiesen & Tambs, 1999). The age of the child is apparently related to the emerging factor structure/dimensionality of the EAS in EFA studies; Sociability and Shyness may be indistinguishable in children in infancy to around five years of age (Boer & Westenberg, 1994; Boström et al., 2010; Mathiesen & Tambs, 1999). Factor structures have ranged from three to five factors (Activity, Sociability, and three subdimensions of Emotionality: Anger, Distress, & Fearfulness; Nærde et al., 2004). These results point to the need for further psychometric development of the EAS, particularly as it pertains to understanding the social aspects of children's temperament.

Chapter Three: Research Methodology

As referenced in the first chapter, the goals of this are study are to 1) seek to validate the psychometric properties of instruments measuring subjective well-being, spirituality, and temperament, 2) test the for varying levels of measured attributes as well as invariance of the factor structures for boys and girls, and 3) establish the unique contribution of spirituality over and above temperament on student happiness. To address these goals, the analysis below will answer four related research questions:

1. Are the instruments psychometrically sound?
2. Do the overall scale scores differ by gender, and if so, how?
3. Does the factor structure appear the same among boys and girls?
4. After controlling for temperament, do children's spiritual and religious practices predict their happiness?

To answer the first question, the data are subjected to exploratory factor analysis (EFA). Multiple analysis of variance (MANOVA) and analysis of variance (ANOVA) are used to address the second research question. Confirmatory factor analysis (CFA) is used to address the third question. Finally, the third question is addressed by a sequence of hierarchal regression models (HRM).

Sample and Sampling Procedures

As a background, the dataset gathered is part of a larger study called the Happiness and Meaning-Making Project (hereafter HP). Targeting children in later elementary school grades, the HP examines the relationships between children's spiritual wellbeing, temperament, and their sense of happiness. The HP has collected data on children from several countries, and its sampling strategy is both purposeful and convenient, as it involves assessing children within both public (state-funded) and

private, faith-based school settings. Classroom teachers administer the survey instruments to their classes, and teachers also assess student temperament and subjective happiness for triangulation.

The data for this study involve intermediate elementary students (grades 3-6) and their classroom teachers from four elementary schools in South Africa. Three of the schools were faith based (Christian; designated Elementary Schools 1, 3, and 4 below) and one was not faith based (School 2). All of these schools featured English as their language of learning. Students ranged in age from 8 to 16 (only 3 students were over the age of 14). The total number of students was 883. In terms of gender, 48% of the sample identified as male, and 52% identified as female. By grade level, 31% of the respondents were in 3rd grade, 27% in 4th grade, 25% in 5th grade, and 17% in 6th grade (See Table 1).

Table 1

Gender by School and Grade

	Grade			
	3	4	5	6
Elementary School 1				
Male	20	24	13	6
Female	23	11	10	9
			Total	**116**
Elementary School 2				
Male	23		6	
Female	33		17	
			Total	**79**
Elementary School 3				
Male	75	89	63	45
Female	72	77	73	63
			Total	**557**
Elementary School 4				
Male	11	18	14	13
Female	14	19	19	17
			Total	**125**

Instrumentation

A thorough review of the instruments, including their extant psychometric evidence, was featured in the previous chapter. As such, it will not be repeated here. Part of the psychometric validation in this study tests not only the included instruments but also revisions made to make them more developmentally appropriate for elementary students. The EAS, SWBQ, and RPS featured rephrasing (third-person perspective was changed to first person; phrasing was made more simplistic and literal). Additionally, student response presentation was made uniform, with students making circles around numbers on Likert scales for each instrument. There are three constructs salient to this analysis - happiness, spirituality, and temperament. For happiness, the Faces Scale (Andrews & Withey, 1976), SHS (Lyubomirsky & Lepper, 1999), and OHQ-SF (Hills & Argyle, 2002) were used. To measure temperament, the EAS (Buss & Plomin, 1984) was used. Finally, to assess spirituality, the SWBQ (Gomez & Fisher, 2003) was used and it was supplemented with the RPS (Sink et al., 2014) to capture elements of traditional religious spirituality.

Survey Procedure

Students were able to opt out of completing the survey packet at any time. No students opted out of attempting the survey. All surveys were administered and completed in the students' classrooms. Teachers oversaw the administration and collection of the surveys; no members of the Happiness Project research team were involved. In the course of one class period, students completed the EAS, RPS, OHQ-SF, SWBQ, and the Faces Scale. Additionally, the students' classroom teachers completed

the EAS and Faces Scale for each participating student. This differs from Holder et al. (2010), as they had the students' parent(s) fill out these two items. The decision to include teacher input was driven by the possibility that younger children might only reflect school behaviors in their answers, making the teachers' perspective possibly align more meaningfully. Gender, age, and grade level were the primary demographic characteristics collected.

Statistical Procedures

Data screening. The data were screened for patterned missing data and irregular response patterns. Given that teachers oversaw administration the missing data were (a) less than 5% and (b) apparently non-systematic. Those students with missing data were dropped from subsequent analyses if they lacked complete data on the relevant instrument. Data were examined for parametric assumptions relevant to suitability for factor analysis (Fabrigar & Wegener, 2012; Pett, Lackey & Sullivan, 2003). Mean, standard deviation, skewness/kurtosis (both numerical and graphical methods were utilized) to ensure data were reasonably well suited for factor analysis. Additionally, inter-item correlation matrices and statistics were assessed prior to conducting EFAs.

Hierarchal multiple regression. Based on the general linear model, hierarchal multiple regression (HMR) enters predictor variables in blocks. Field (2013) recommended that researchers begin with blocks of predictors that have been established in the research or are theoretically valid for inclusion. Researchers will enter the primary experimental variables of interest in subsequent blocks. The objective of HMR is to isolate and examine the impact of one set of variables and seeing if adding another set increases the predictive ability (in terms of variance explained) of the model (Field,

2013). The difference in R^2 between each block is examined to see if there is a significant increase in the amount of variance explained. This method is helpful for studies such as this where arguments exist that the effects of spirituality can really be reduced to temperament in children.

Exploratory factor analyses. The dimensionality of the instruments was established using EFA. Many of these feature principal components analysis (PCA) and orthogonal rotation of the factors. This choice may be justified on the grounds of simplicity as Costello & Osborne (2005) pointed out that these are the default option in SPSS, a popular statistical software package. However, it is methodologically less appropriate. Principal components analysis, by its nature, is not designed for isolating meaningful underlying constructs in groups of variables, but condensing large amounts of variables into smaller components (Fabrigar & Wegener, 2012; Mvududu & Sink, 2012). Principal axis factoring (PAF) is considered optimal, as the study involves identification of meaningful latent constructs, there is likely some measurement error (rendering PCA's assumption of no unique variances), and there is some likely overlap in the factor constructs (Field, 2013; Pett et al., 2003). Also, this study used oblique factor rotation to allow for correlation between factors (Field, 2013; Mvududu & Sink, 2013; Pett et al., 2003).

The decision to retain factors was supported by a variety of indicators. Traditional indicators such as eigenvalues and scree plots were considered. However, given the relative importance of retaining factors to the overall EFA results (Hayton, Allen, & Scarpello, 2004), parallel analysis was utilized as it is generally recognized as superior to the "Kaiser rule" (retain factors with eigenvalues greater than one (Kaiser,

1960) or Cattell's (1966) scree plot test. Parallel analysis (Horn, 1965) is a Monte Carlo simulation process comparing observed eigenvalues that are extracted from the correlation matrix with eigenvalues from simulated normal random samples. The assumption of parallel analysis is that eigenvalues of the sample data, if nontrivial, should exceed mean eigenvalues from iterated sets of generated, random correlation matrices. To ensure an accurate comparison, the generated correlation matrices are assigned the same sample size and number of variables (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Item and reliability analysis. In addition to the process above for arriving at a factor structure through EFA for each instrument, the derived factors were assessed by items and overall internal consistency. These post hoc analyses generated Cronbach's alpha values to ensure good internal consistency for the derived factors. The results of these analyses will be presented in the next chapter alongside the complete results.

Explaining Factorial Invariance

To provide context for EFA, CFA, and testing for factorial invariance, a brief review of the concept of validity is needed. Messick (1989) helpfully pointed out that contemporary validity is understood as the *unified construct-based model of validity*. Messick (1989) defined this unified construct based model of validity as "an integrative evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (p. 13). Elaborating further, Messick (1995) outlined six aspects of this unified conception of construct validity: content, substantive, structural, generalizability, external, and consequential.

Confirmatory factor analysis and factorial invariance address different aspects of construct validity. Confirmatory factor analysis (and EFA) gathers evidence about the structural aspect of validity. According to Dimitrov (2010), CFA appraises "the fidelity of the scoring structure to the structure of the construct domain" (p. 123). Factorial invariance, on the other hand, moves beyond the fidelity of structure and assesses the generalizability aspect of validity. Factorial invariance seeks to find the extent that properties on scores of a construct generalize across population groups, various settings, and tasks (Messick, 1995).

Factorial invariance, put simply, is a way of seeing if the parameters associated with each factor in one population behave the same way in other populations. This is also referred to as multi-group invariance. Both EFA and CFA frameworks are able to test for factorial invariance, but CFA offers more stringent tests of invariance that enable more robust inter-group comparisons (Dimitrov, 2010). Where EFA can examine similarity of factor patterns across multiple groups, CFA can test for factor patterns/loadings, mean comparisons, and the precision of measurement across groups (Dimitrov, 2010). These varying levels of factor invariance stringency afforded by CFA can offer greater assurance of psychometric reliability of measures.

Testing for factorial invariance in CFA models involves assessment of configural, measurement, and structural invariance (Byrne, 2004; Cheung & Rensvold, 2002). These are incremental levels of invariance. Configural invariance (or form invariance) identifies a *baseline model*, the most parsimonious, best fitting, and substantively meaningful model that works across groups under consideration (Dimitrov, 2010). Subsequent, more stringent tests of measurement invariance rely on the ability to

establish configural invariance and compare restricted models to the baseline model (Byrne, 2004; Byrne et al., 1989). Measurement invariance of a CFA model involves testing for the following three possible levels of factorial invariance: *metric* (weak measurement), *scalar* (strong measurement), and *invariance of item uniqueness* (complete measurement invariance – this is largely considered impractical and unnecessary) (Dimitrov, 2010). Structural invariance moves beyond consideration of the stability of factor loadings, patterns, means, and error variances and covariances across groups; it refers to the invariance of the variances and covariances of the factors themselves (Dimitrov, 2010).

Invariance

For this study, factorial invariance testing was limited to configural and measurement invariance. The analyses will proceed in the forward approach to multiple-group confirmatory factor analysis (Byrne, 2004; Joreskog, 1971). Using maximum likelihood estimation, the forward approach is based on a chi-square difference test ($\Delta\chi^2$) between two nested models. One model is constrained (with invariance assumed) and the other model is unconstrained (no invariance assumed) for parameters such as factor loadings (metric invariance), intercepts (scalar invariance), etc. Parameters being tested are considered invariant if the difference in chi-square values ($\Delta\chi^2_{\text{constrained}} - \Delta\chi^2_{\text{unconstrained}}$) is not statistically significant (Byrne, 2004; Joreskog, 1971). The analysis is called forward because it moves from the least constrained solution (no invariance) to subsequently creating and comparing models with heightened levels of parameter restrictions for equality across groups (i.e., configural → metric → scalar → invariance of item uniqueness). This series of parameter restrictions creates a series of nested

models that enable the use of a chi-square test (Byrne, 2004; Joreskog, 1971). For each more stringent test of invariance, invariance at a lower level is assumed. For example, testing for metric invariance assumes that an adequate fitting baseline model was established (configural invariance), and the constrained (metric model) is compared to the unconstrained baseline model (Byrne, 2004; Joreskog, 1971).

Confirmatory factor analysis models are evaluated by *goodness of fit* statistics and are tested within the framework of structural equation modeling (SEM). The factor loadings are estimated using maximum likelihood estimation (typically by a statistical software package - M*plus*, LISREL, AMOS, or EQS) to minimize discrepancies between the sample covariance matrix for the observed variables and a hypothesized population covariance matrix implied by the model (Dimitrov, 2010). If a solution can be reached where the discrepancies are sufficiently minimal, the model is deemed to provide an adequate or good fit to the supplied data. CFA data fit is valid if underlying SEM assumptions of multivariate normality are met for each variable considered; goodness of fit statistics may be distorted if normality is violated (see Curran, West, & Finch, 1996 for a detailed explanation).

Assessing goodness of fit for CFA models requires the computation and consideration of multiple goodness-of-fit indexes (Hu & Bentler, 1999). Relying solely on the chi-square value alone is not advised, as it is susceptible to sample size. The chi-square value tends to overly support model fit in smaller sample sizes and to reject model fit in large samples (Dimitrov, 2010). Hu and Bentler (1999) indicated that a joint evaluation that consults measures such as the comparative fit index (CFI; Bentler, 1990), the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) and root mean square error of

approximation (RMSEA; Steiger, 1990). These measures are reported in addition to the chi-square value to assess constrained models for factorial invariance. The good, or optimal fit of a proposed model is supported when CFI ≥ .95, TLI ≥ .95, and RMSEA ≤ .06 (Hu & Bentler, 1999). Model fit is considered adequate when CFI ≥ .90, TLI ≥ .90, and RMSEA ≤ .08 (Byrne, 2009).

Partial invariance. It should be noted that due to the stringent requirements of the hypotheses behind invariance that invariance should truly be considered a matter of degree if full invariance cannot be reached at a certain level (Byrne et al., 1989). Each statistics package provides *modification indices* with CFA output (Byrne, 2009). The modification index (MI) for each parameter gives the "expected drop in the model's chi-square value if this parameter is freely estimated" (Dimitrov, 2010; p. 127). Parameters are to be freed one at a time, starting with the highest MI value item (greater than 3.84) that makes theoretical and empirical sense (Byrne, 2009). If the parameter with a high MI value is freed and does not render the difference in chi-square values between unconstrained and constrained values insignificant, further high MI value parameters can be freed one at a time. After each parameter is freed, the $\Delta\chi^2$ statistic should be reviewed to see if the model changes are no longer significant (Byrne, 2010). Generally, up to 20% of parameters in a CFA model can be freed in claiming partial invariance (Byrne et al., 1989; Levine et al., 2003).

However, even if partial invariance is reached at a certain level, partial invariance does not warrant a researcher for testing invariance at a higher level. For example, suppose a researcher finds that factor loadings do not support full metric invariance. The researcher then consults the modification indices and frees loadings to vary that possess a

high MI value, and partial metric modification is achieved. Due to the nested nature of models in invariance testing and the assumption full, progressive invariance, the researcher would not be warranted in testing for scalar invariance based on partial metric invariance.

Chapter Four: Results

To determine the measures' psychometric properties, the data were first screened for irregularities. Thirty-one (3%) of the student surveys (public school, $n = 17$; private school, $n = 14$) were invalid due to substantial missing information or unusual response patterns. In terms of skewness and kurtosis, Field (2013) notes that the general rule of thumb criterion for skewness and kurtosis indices (absolute values greater than 1.0, ratio of statistic to standard error of the statistic exceeding a ratio of 2:1 or 3:1, etc.) are acceptable for most quantitative methods (Field, 2009). However, there is a growing consensus suggesting that these parameters are insufficient for exploratory factor analyses. Guidelines of skewness not exceeding $\left|2\right|$ and kurtosis not exceeding $\left|7\right|$ are considered more reasonable for conducting exploratory factor analyses (EFA; Fabrigar & Wegener, 2012; Fabrigar et al., 1999). Only three items (SWBQ items 2, 6, and 12) demonstrated kurtosis or skew indices exceeding ± 2.0. With only a few atypical items, all scores were entered into the PAFs. KMO estimates ranged from .75 (Student EAS) to .91 (SWBQ). Bartlett's tests were significant ($p < .001$), suggesting that the intercorrelation matrices were factorable.

Addressing Negative Skew

The data featured some non-normal distributions as well as some missing data (see Table 2). Normality was more of an issue with several indicators from SWBQ. For the missing data, after investigating for any patterns, the missing data did not appear systematic. This enables the substation of item means for missing data. One way to investigate impact of missing data is to compare CFA results between a model featuring missing data and a model with item means replacing missing data (Sink & Bultsma,

2013). Maximum Likelihood Estimation (MLE) can easily handle missing data (Enders, 2010), so the two comparison CFAs were generated with MLE. The results were virtually identical. The same comparison method was employed to check for the impact of non-normal items in the SWBQ. However, to adjust for the negative skew, a reflected Log10 transformation was performed (Osbourne, 2002; Roberts, 2008) on SWBQ items with skewness scores lower than -1.5. These transformations resulted in distributions all falling between +/-1. Comparing a CFA model that used the transformed variables with one that used the raw data, the results were again virtually identical. Raw data results are presented.

Table 2

Descriptive Statistics for SWBQ (Spirituality Scale)

	N	Mean	Std. Deviation	Skewness	Kurtosis
Item 1: I l*ove other people*	782.00	4.17	0.94	-1.42	2.28
Item 2: *I feel close to God*	740.00	4.53	0.84	-2.22	5.26
Item 3: *I forgive other people*	816.00	3.87	1.10	-1.05	0.65
Item 4: *I enjoy nature*	798.00	4.36	0.94	-1.81	3.34
Item 5: *I really know myself*	807.00	4.44	0.88	-1.90	3.70
Item 6: *I worship God*	718.00	4.57	0.79	-2.36	6.41
Item 7: *I feel joyous when I am outside*	798.00	4.20	0.96	-1.47	2.21

Item 8: *I trust other people*	821.00	3.25	1.21	-0.33	-0.67
Item 9: *I learn about myself*	817.00	4.35	0.88	-1.70	3.27
Item 10: *I like being in nature*	815.00	4.34	0.96	-1.69	2.62
Item 11: *I feel close to God*	825.00	4.23	1.02	-1.47	1.75
Item 12: *I feel peaceful in nature*	726.00	4.54	0.84	-2.40	6.38
Item 13: *I am at peace with God*	808.00	4.10	1.04	-1.30	1.33
Item 14: *I am joyful*	736.00	4.37	0.93	-1.82	3.31
Item 15: *I pray*	817.00	4.05	1.02	-1.10	0.91
Item 16: *I am peaceful*	812.00	4.22	0.97	-1.44	1.92
Item 17: *I respect other people*	816.00	4.28	0.95	-1.44	1.82
Item 18: *I have meaning in life*	816.00	4.12	1.02	-1.25	1.18
Item 19: *I am kind to other people*	815.00	4.32	0.98	-1.69	2.63

Table 3

Descriptive Statistics - FACES, OHQ, SHS

	N	Mean	Std. Deviation	Skewness	Kurtosis
Student FACES	806	6.31	1.271	-2.529	6.885
I feel happy with the way I am	809	4.44	.910	-2.006	4.072
I feel that life is rewarding	794	4.05	1.062	-1.059	.533
I feel comfortable with my life	798	4.09	1.122	-1.256	.841
I think I look attractive	794	3.96	1.164	-.994	.153
I see beauty around me	805	4.07	1.127	-1.206	.660
I have time to do what I enjoy	803	4.17	.988	-1.340	1.514
I pay attention	816	3.99	1.022	-.855	.211
I have happy memories of the past	798	4.10	1.107	-1.180	.687
I am usually happy	829	3.99	1.069	-1.031	.497
I am happier than most kids I know	817	3.91	1.057	-.801	.112
I enjoy life most of the time	823	4.21	.977	-1.378	1.668
I want to be happier	804	4.26	1.012	-1.553	2.024

Table 4

Descriptive Statistics for EAS (Temperament Scale)

	N	Mean	Std. Deviation	Skewness	Kurtosis
I like to be with people	818	4.00	1.019	-1.042	.752
I usually seem to be in a hurry	804	3.48	1.264	-.501	-.714
I am easily frightened	806	3.27	1.375	-.265	-1.158
I am usually stressed	803	3.32	1.317	-.363	-.954
I let people know when I am unhappy	805	3.58	1.299	-.608	-.721
I often feel alone	812	3.40	1.355	-.462	-1.009
I like to be busy	809	3.83	1.263	-.893	-.274
I get angry easily	805	3.48	1.376	-.497	-1.002
I feel frustrated a lot	809	3.34	1.269	-.340	-.875
I am always doing things	810	3.96	1.114	-1.062	.472

I feel nervous about things that happen every day	808	3.47	1.283	-.479	-.807
I usually feel confident	807	3.77	1.139	-.756	-.084
I get annoyed easily	766	3.55	1.275	-.545	-.796
I panic when I get scared	795	3.52	1.309	-.511	-.878
I like to work with other people	804	4.04	1.109	-1.114	.554
I get upset easily	810	3.36	1.345	-.373	-1.036
I have a lot of energy	794	4.08	1.116	-1.182	.643
It takes a lot to upset me	806	3.51	1.254	-.528	-.688
I only have a few fears	791	3.66	1.186	-.693	-.284

Table 5

Inter-Item Correlations - SHS

	I am usually happy	I am happier than most kids I know	I enjoy life most of the time	I want to be happier
I am usually happy	1	.388	.396	.265
I am happier than most kids I know		1	.267	.285
I enjoy life most of the time			1	.298
I want to be happier				1

Table 6

Inter-Item Correlations - SWBQ

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	.220	.337	.232	.213	.287	.215	.144	.207	.194	.278	.291	.250	.247	.236	.189	.224	.277	.227
2		1	.206	.346	.406	.440	.293	.116	.274	.335	.272	.405	.248	.405	.287	.313	.262	.272	.318
3			1	.232	.260	.217	.243	.240	.133	.225	.288	.228	.270	.183	.239	.257	.205	.223	.189
4				1	.327	.364	.315	.171	.213	.359	.261	.299	.179	.290	.226	.226	.258	.209	.302
5					1	.354	.278	.112	.282	.255	.140	.346	.212	.265	.232	.269	.281	.222	.243
6						1	.329	.107	.210	.300	.251	.418	.206	.427	.253	.285	.239	.332	.312
7							1	.112	.166	.385	.327	.251	.252	.213	.242	.195	.223	.258	.314
8								1	.097	.138	.158	.100	.223	.143	.195	.213	.147	.195	.162
9									1	.304	.286	.398	.309	.372	.299	.307	.313	.319	.291
10										1	.458	.458	.341	.394	.325	.374	.387	.327	.405
11											1	.384	.399	.379	.388	.333	.338	.318	.376
12												1	.369	.506	.439	.434	.459	.391	.431
13													1	.328	.460	.328	.339	.326	.322
14														1	.352	.418	.376	.391	.415
15															1	.425	.421	.452	.345
16																1	.346	.501	.397
17																	1	.349	.413
18																		1	.349
19																			1

Table 7

Inter-Item Correlations - EAS

	1	2	3R	4R	5	6R	7	8R	9R	10	11R	12	13R	14R	15	16R	17	18	19	20
1	1	.158	.154	.081	.281	.061	.214	.056	.072	.219	.110	.230	.108	.163	.324	.125	.218	.189	.214	.213
2		1	.271	.352	.211	.222	.203	.273	.274	.255	.152	.191	.177	.234	.132	.262	.177	.192	.209	.251
3R			1	.293	.245	.275	.162	.246	.254	.269	.284	.168	.233	.366	.115	.268	.088	.204	.147	.102
4R				1	.221	.367	.150	.260	.365	.176	.287	.123	.269	.236	.159	.258	.106	.196	.245	.180
5					1	.167	.194	.112	.159	.282	.196	.242	.093	.174	.197	.158	.119	.163	.267	.176
6R						1	.034	.276	.311	.191	.293	.094	.253	.181	.081	.243	.107	.205	.182	.171
7							1	.059	.091	.281	.122	.233	.141	.100	.241	.104	.269	.214	.220	.227
8R								1	.398	.224	.253	.137	.407	.241	.066	.497	.175	.081	.159	.183
9R									1	.151	.324	.121	.360	.238	.096	.384	.141	.119	.207	.174
10										1	.167	.345	.145	.189	.267	.195	.267	.190	.207	.152
11R											1	.115	.248	.252	.130	.252	.120	.195	.194	.096
12												1	.140	.168	.273	.128	.300	.206	.221	.119
13R													1	.284	.143	.392	.180	.090	.191	.162
14R														1	.133	.291	.142	.170	.194	.141
15															1	.099	.270	.189	.224	.276
16R																1	.115	.088	.141	.196
17																	1	.223	.231	.232
18																		1	.256	.205
19																			1	.115
20																				1

The inter-item correlation matrices (Tables 5-7) for each instrument do not raise concern for computing factor analyses on the data. There are no negative inter-item correlations, and there are none that are so large in magnitude to suggest serious multicollinearity or redundant items (Pett et al., 2003). While some inter-item correlations are low, this is not considered problematic for EFA (Pett et al., 2003).

Internal consistency analyses indicated that the alpha coefficients for OHQ-SF, two dimensions of the SWBQ (Environmental and Transcendental), and two dimensions of the EAS (Sociability and Anger were adequate ($\alpha \geq .70$). The alphas for RPS and SHS (.64 and .65, respectively) were lower but not far off the .70 threshold (see Table 9). The RPS is only three items, and as such, the lower internal consistency score is unsurprising. The EFA results for these instruments and the lower performing dimensions of EAS and SWBQ provide insight into the respective alpha values.

Table 8

Range of Inter-Item Correlations for Instruments

SWBQ	0.097	0.506
RPS	0.359	0.394
OHQ	0.19	0.378
SHS	0.265	0.396
EAS	0.034	0.497

Psychometric Analyses

Principal axis factoring (PAF) extraction was used on all of the instruments. The FACES scales consist of only one item and were not subjected to factor analysis, as factor analysis is meant as a reduction technique. PAF results and scree plot analyses offered empirical support that PBS, OHQ-SF, and SHS were unidimensional. All of the instruments subject to PAFs demonstrated significant values for Bartlett's test of

sphericity ($p < .001$), indicating that this is not an identity matrix and appropriate for factor analysis (Field, 2013). KMO estimates ranged from .65 (RPS) to .92 (SWBQ) (see Table 10). High KMO values represent that the correlations are relatively compact (0.5-0.7 mediocre but acceptable; 0.7-0.8, good; 0.8-0.9, great; 0.9-1.0, superb), and this range indicates that these data are appropriate for factor analysis (Field, 2013).

Table 9

Cronbach's Alphas – Internal Consistency

RPS		0.64
OHQ		0.78
SHS		0.65
EAS	Full Scale	0.84
	Sociability	0.75
	Anger	0.74
	Distress	0.63
SWBQ	Full Scale	0.88
	Environmental	0.73
	Transcendental	0.74
	Personal	0.77

Table 10

Indices of Sampling Adequacy

Measure	KMO	χ^2
SHS	.70	394.25**
OHQ	.86	996.07**
EAS	.88	2413.30**
SWBQ	.92	2643.35**
RPS	.65	266.28**

Note. KMO = Kaiser-Meyer-Olkin Measure of Sampling Adequacy; $\chi 2$ = Bartlett's approximate Chi-square value; **

Student EAS. Simple structure emerged using PAFs and oblimin rotations (δ = -0.2). Items 11 ("I feel nervous about things that happen every day") and 14 ("I panic when I get scared") were omitted due to extremely low communality and factor loadings (< .25). Three interpretable factors were extracted. Eigenvalues and percentages of common variance explained by each factor were: factor 1, Λ = 4.80 (22%) factor 2, Λ = 2.00 (7%), and factor 3, Λ = 1.14 (3%). Based on Buss and Plomin (1984) and item content analysis, the three factors were labeled Sociability (S; items 12, 15, 17, 1, 7, 10, 5, 18, 20, 19); loadings ranged from .33 [item 19: "I only have a few fears"] to .56 [item 12: "I usually feel confident"), Anger (A; 8, 16, 13, 9); loadings ranged from .44 [item 9: "I feel frustrated a lot"] to .73 [item 8: "I get angry easily"), and Distress (D; items 4, 6, 3, 2); loadings ranged from .34 [item 2: "I usually seem to be in a hurry"] to .56 [item 4: "I am usually stressed], respectively. Whereas the A and D items indicated a respondent's level of emotionality, items comprising the S factor assessed a child's ability to interact positively. Alpha coefficients were acceptable for each dimension (αs = .75, .74, and..63 for S, A, and D, respectively). Items related to shyness loaded on the Sociability dimension.

Teacher EAS. Simple structure emerged using PFAs and oblimin rotations. Four interpretable factors were extracted. Eigenvalues and percentages of common variance explained by each factor were: factor 1, Λ = 4.54 (21%) factor 2, Λ = 3.58 (16%), factor 3, Λ = 1.80 (7%), and factor 4, Λ = 1.14 (3%). Based on Buss and Plomin (1984) and item content analysis, the four factors were labeled Anger (A; items 16, 8, 18, 13, 9); loadings ranged from .58 [item 9: "I feel frustrated a lot"] to .82 [item 16: "I get upset easily"), Sociability (S; items 15, 1, 20, 12, 5); loadings ranged from .36 [item 5: "I let

people know when I am unhappy"] to .68 [item 15: "I like to work with other people"), Distress/Fear (D; items 3, 11, 14, 4, 6); loadings ranged from .42 [item 6: "I often feel alone"] to .70 [item 3: "I am easily frightened], and Activity (X; items 10, 7, 17); loadings ranged from .46 [item 17: "I have a lot of energy"] to .79 [item 10: "I am always doing things"], respectively. Whereas the A and D items indicated a respondent's level of emotionality, items comprising the S factor assessed a child's ability to interact positively. Alpha coefficients were low to acceptable for each dimension (αs = .77, .74, .60, and .54 for D, X, S, and A, respectively). Items related to shyness loaded on the Sociability dimension.

SWBQ. The final aggregated results suggested that the SWBQ consisted of three factors rather than four as predicted. Eigenvalues and percentages of common variance explained by the factors were as follows: factor 1, $\Lambda = 5.56$ (36%); factor 2, $\Lambda = 1.16$ (4.3%); factor 3, $\Lambda = 1.1$ (3.2%). Based on previous SWBQ investigations and item content analysis, the three spiritual well-being factors were labeled Environmental (E), Transcendental (T), and Personal (P), respectively. The social dimension present in the original English-language SWBQ failed to emerge as a viable factor. A few of this dimension's items loaded on the Personal factor, which comprised 5 items (15, 18, 16, 13, 17); loadings ranged from -0.33 [item 17: "I have meaning in life"] to -0.67 [item 15: "I am peaceful"]). The Environmental factor comprised five items (10, 11, 7, 19, 4); loadings ranged from 0.39 [item 4: "I enjoy nature"] to 0.55 [item 10: "I like being in nature"]). The Transcendental factor (items 6, 2, 14, 12) loadings ranged from 0.41 [item 12: "I am at peace with God"] to 0.71 [item 6: "I worship God"]) reflected the respondent's sense of "connectedness with a Higher Power." Internal consistency

estimates for each dimension were strong (αs = .73, .74, and .78, for E, T, and P, respectively).

Table 11

SWBQ Factor Inter-Correlation Matrix

Factor	1 (E)	2 (T)	3 (P)
1 (E)		.49	.48
2 (T)			.43
3 (P)			

Note. E = Environmental; T = Transcendental; P = Personal.

Table 12

Rotated SWBQ Factor Matrix (oblimin)

	Factor			
	Environmental	Transcendental	Personal	h^2
Item				
10	0.55			0.47
11	0.53			0.48
7	0.52			0.31
19	0.40			0.28
4	0.39			0.30
6		0.71		0.55
2		0.56		0.44
14		0.44		0.47
12		0.41		0.45
15			-0.67	0.52
18			-0.61	0.46
16			-0.61	0.49
13			-0.43	0.35
17			-0.33	0.33
Eigenvalue	5.55	1.16	1.1	
% of variance	35.7	4.3	3.2	

OHQ-SF. Simple structure was achieved with seven items loading onto a single reliable factor (α = .76; Λ = 3.02; explained variance = 34%; loadings ranged from .52 [item 6: "I have time to do what I enjoy."] to .62 [item 1: "I feel happy with the way I

am."). Item 7 was eliminated because of a weak factor loading (> .30) and it failed to contribute to the scale's internal consistency.

Table 13

OHQ Extracted Factor Loadings

Item	Factor
Item 1: *happy with way I am*	.62
Item 3: *feel comfortable w/ my life*	.61
Item 2: *life is rewarding*	.60
Item 5: *see beauty around me*	.60
Item 4: *think I look attractive*	.56
Item 8: *happy memories of the past*	.55
Item 6: *have time to do what I enjoy*	.52
Eigenvalue	3.02
% of variance	33.67

Note. PAF.

SHS. The PFA computed on the four items generated a highly reliable unidimensional measure ($\alpha = .64$; $\Lambda = 2.00$; explained variance = 32.3%) (see Table 14). Simple structure was achieved with four items loading onto a single reliable factor; loadings ranged from .45 [item 4: "I want to be happier."] to .69 [item 1: "I am usually happy.").

Table 14

SHS Extracted Factor Loadings

Item	Factor 1
Item 1: *usually happy*	.69
Item 2: *happier than most kids*	.56
Item 3: *enjoy life most of time*	.56
Item 4: *want to be happier*	.45
Eigenvalue	2.00
% of variance	32.34

Note. PAF.

RPS. With only three items, PBS-B did not meet the minimum criteria of at least four items to conduct a meaningful PAF (Costello & Osborne, 2005). However, inter-item correlations were moderate (*rm* = .38), varying from .36 (*r*items 1, 3) and .40 (*r*items 2, 3). The Cronbach alpha for the RPS was satisfactory (α = .64), suggesting that the RPS items measured a relatively similar construct (i.e., religious practices).

Scale Comparisons by Gender

To determine whether there were significant Gender differences on the scales (research question 2), participants' factor scores for each measure were computed. For multidimensional measures (Student EAS, Teacher EAS, SWBQ), the factor scores for each dimension were included as dependent variables in a multiple analysis of variance (MANOVA) and gender was included as the grouping variable. If a significant main effect was found for gender, subsequent univariate analyses were consulted for statistically significant differences by gender on each dependent variable. For unidimensional measures, a one-way analysis of variance (ANOVA) was run with the factor score as the dependent variable and gender as the group variable. As there were only two groups (female=1, male =0), a significant main effect indicated a difference between male and female students.

Student and Teacher EAS. Using the PFA derived S, A, and D factors (Student EAS data) as dependent variables, a MANOVA produced a significant main effect for Gender (Wilks' Λ = .97, $F[3,613] = 4.52$, $p < .005$, ηp2 = .02). Subsequent analyses yielded significant differences between boys and girls on the S ($F[1,615] = 8.48$, $p < .001$, ηp2 = .02) and A ($F[1,615] = 4.19$, $p < .05$, ηp2 = .01), and D ($F[1,615] = 5.73$, $p < .005$, ηp2 = .01) dimensions. Girls scored themselves significantly higher on all three

dimensions.

The MANOVA computed on Teacher EAS mean ratings revealed a significant main effect for Gender, Wilks' $\Lambda = .95$, $F[4,812] = 10.56$, $p < .001$, $\eta p2 = .05$. Subsequent, univariate analyses yielded significant differences between boys and girls on the A ($F[1,816] = 17.34$, $p < .001$, $\eta p2 = .02$), S ($F[1,816] = 11.35$, $p < .001$, $\eta p2 = .01$), and X ($F[1,816] = 5.34$, $p < .05$, $\eta p2 = .01$) dimensions. Girls scored themselves significantly higher on all three dimensions.

SWBQ. Using the PFA derived P, E, and T factors (SWBQ data) as dependent variables, a MANOVA produced a significant main effect for Gender (Wilks' $\Lambda = .97$, $F[3,580] = 6.15$, $p < .001$, $\eta p2 = .03$). Subsequent, univariate analyses yielded significant differences between boys and girls on the T ($F[1,582] = 8.34$, $p < .005$, $\eta p2 = .014$) and P ($F[1,582] = 8.43$, $p < .001$, $\eta p2 = .02$) dimensions. Girls scored themselves significantly higher on both dimensions.

RPS. An ANOVA was computed on the single dimension RPS, generating significant main effects for Gender ($F[1,705] = 22.9$, $p < .001$, $\eta p2 = .03$). Girls perceived themselves as being significantly more religiously active than the boys.

OHQ-SF. The ANOVA was computed on the unidimensional OHQ-SF, producing a significant main effect for Gender, $F(1,711) = 12.02$, $p < .001$, $\eta p2 = .02$. GIrls viewed themselves as significantly happier than the boys.

SHS. The ANOVA was computed on the 3-item SHS, producing a significant main effect for Gender, $F(1,776) = 9.84$, $p < .003$, $\eta p2 = .01$. Females again viewed themselves as significantly happier than the males.

Student and Teacher Faces Scale. On these single item happiness scales, student

and teacher ratings were dependent variables and Gender was the independent factor. The MANOVA produced a significant effect for Gender, Wilks' $\Lambda = .96$, $F[2,772] = 16.17$, $p < .001$, $\eta p2 = .04$. Females again rated themselves (or were rated) more highly on happiness.

Hierarchical Multiple Regressions

To respond to the fourth research question—After controlling for temperament (student and teacher ratings), do children's spirituality and religious practices predict their happiness?—hierarchical multiple regressions (HMRs) were computed on OHQ-SF, SHS, and Student FACES. Initial bivariate correlations among all scales for the entire sample are presented in Table 15 below. The correlations were mostly significant, and their magnitude ranging from low-moderate to strong.

Teacher Faces Scale was dropped as a criterion variable due to its weak correlations with the SWBQ dimensions and RPS. As Table 16 shows, for each HMR analysis, the salient demographic variables (School Type and Gender) were entered as a block first, followed by Student EAS, and then by Teacher EAS. The final block included spiritual well-being (SWBQ) and religiousness (RPS) measures.

OHQ-SF. Student EAS accounted for 35% of the shared variance in OHQ-SF. Spirituality explained 23% of the variance in this measure beyond any variance explained by School Type, Gender, and Temperament. The Personal, Environmental, and Transcendental domains were found to be significant predictors of student happiness.

SHS. Student temperament explained 34% of the shared variance in SHS. Only Personal spirituality significantly explained a sizable percent (14%) of the variance in SHS after controlling for temperament.

Student Faces Scale. Student temperament explained 26% of the variance in Student Face Scale. Spirituality explained 6% of the shared variance in SHS after controlling for student temperament. The personal and transcendental domains were significant predictors of happiness.

Invariance Results

Having identified the factor structure of each instrument using PFA, it was important to next see if the same factor structure held across different groups. Given the limited meaningful grouping variables in the data, gender was selected for a multi-group CFA to test for the factorial invariance of the student SWBQ, EAS, and OHQ-SF factor structures. These results answer the third research question: Does the factor structure appear the same among boys and girls? As a reminder, RPS was not subjected to invariance testing as it only comprised three items, and the SHS did not exhibit good fit for the configural model. The breakdown of gender included 421 males and 458 females (N=879; four students failed to indicate their gender). The gender groups featured an N well in excess of the 100 recommended for invariance testing (Keith, 2006). Multicollinearity was also not an issue, as bivariate item correlations were largely low to moderate (no correlation exceeded .61). Missing data were present in less than five percent of the sample population, and those with missing data simply quit taking the survey. Given that there was no apparent pattern to the survey quitters and the low overall rate, those with missing data were dropped from the multi-group CFA.

Table 17 shows that the configural model encompassing both gender groups indicated adequate fit for the SWBQ, EAS, and the OHQ. For the SWBQ , the CFI was .933, the TLI was .904, and the RMSEA was .041 (90% CI = .036 to .046). For the EAS,

Table 15

Correlations Between Factor Scores

	Sociability	Anger	Distress	Teacher EAS Anger Score	Teacher EAS Sociability Score	Teacher EAS Distress Fearfulness	Teacher EAS Activity Score	Environmental	Transcendant	Personal	RPS Factor Score	OHS Factor Score	SHS Factor Score	Student FACES	Teacher FACES
Sociability	1	-.355**	-.519**	-.086*	.120**	-.065	.121**	.490**	.467**	-.604**	.532**	.617**	.598**	.301**	.150**
Anger		1	.607**	-.162**	.002	-.126**	.041	-.244**	-.186**	.239**	-.251**	-.220**	-.196**	-.084*	.081*
Distress			1	-.073	-.029	-.119**	.022	-.243**	-.237**	.335**	-.392**	-.278**	-.320**	-.167**	.067
Teacher EAS Anger				1	.072*	.410**	-.010	-.057	-.061	.150**	-.112**	-.131**	-.098**	-.077*	-.369**
Teacher EAS Sociability					1	-.099**	.645**	.006	.068	-.044	.047	.063	.064	.090*	.470**
Teacher EAS Distress/Fearfulness						1	-.241**	-.045	.014	.038	.007	-.114**	-.062	-.019	-.350**
Teacher EAS Activity Score							1	.040	.091*	-.073	.074	.083*	.053	.084*	.398**
Environmental								1	.683**	-.675**	.496**	.642**	.533**	.172**	.152**

Transcendent	1	-.603**	.576**	.576**	.504**	.176**	.167**
Personal		1	-.599**	-.670**	-.654**	-.245**	-.197**
RPS Factor Score			1	.582**	.523**	.184**	.124**
OHS Factor Score				1	.615**	.218**	.221**
SHS Factor Score					1	.229**	.168**
Student FACES						1	.114**
Teacher FACES							1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 16

Hierarchal Regression Model Results

Criterion	Step	Predictors	β	p	R^2	ΔR^2
OHQ-SF					0.02	0
	1	Gender	0.15	.00**		
	2	Student Temperament (EAS)			0.38	0.36
		Sociability	0.62	.00**		
		Anger	-0.09	0.08		
		Distress	0.08	0.17		
	3	Teacher Temperament (EAS)			0.41	0.03
		Anger	-0.06	0.19		
		Sociability	0.02	0.76		
		Distress/Fearfulness	-0.12	.01*		
		Activity	-0.05	0.36		
	4	Spirituality (SWBQ)			0.57	0.16
		Environmental	0.24	.00**		
		Transcendental	0.10	0.04		
		Persnoal	-0.23	.00**		
SHS					0.03	0.00
	1	Gender	0.17	.00**		
	2	Student Temperament (EAS)			0.40	0.37
		Sociability	0.61	.00**		
		Anger	-0.05	0.27		
		Distress	0.03	0.56		
	3	Teacher Temperament (EAS)			0.41	0.01
		Anger	-0.06	0.19		
		Sociability	0.03	0.55		
		Distress/Fearfulness	0.01	0.84		
		Activity	-0.07	0.16		
	4	Spirituality (SWBQ)			0.55	0.15
		Environmental	0.02	0.65		
		Transcendental	0.08	0.08		
		Persnoal	-0.41	.00**		
Student Faces					0.02	0.00
	1	Gender	0.14	.00**		
	2	Student Temperament (EAS)			0.08	0.06
		Sociability	0.24	.00**		
		Anger	0.03	0.60		
		Distress	-0.04	0.54		
	3	Teacher Temperament (EAS)			0.10	0.02
		Anger	-0.13	0.02		
		Sociability	0.06	0.32		

	Distress/Fearfulness	0.07	0.19		
	Activity	0.07	0.25		
4	Spirituality (SWBQ)			0.12	0.02
	Environmental	-0.05	0.53		
	Transcendental	-0.01	0.84		
	Personal	-0.19	0.01		

the CFI was .888, the TLI was .855, and the RMSEA was .035 (90% CI = .031 to .039). For the OHQ-SF, the CFI was .976, the TLI was .952, and the RMSEA was .031 (90% CI = .018 to .044).

The next step in testing for invariance was to assess metric invariance by constraining factor loadings to be equal across the two gender groups. For the SWBQ and EAS, the metric model exhibited adequate fit in relation to the configural model, but the change in chi-square was statistically significant ($p < .05$; see Table 17), indicating that the factor loading structure was not equivalent across boys and girls. For the OHQ, the metric model exhibited adequate fit in relation to the configural model, the change in chi-square was not statistically significant ($p > .05$; see Table 17), and the change in CFI was less than .01 (Byrne, 2010). This finding lends support to the existence of metric invariance across boys and girls for the OHQ.

Next, in addition to the factor loadings, the OHQ item intercepts were constrained to be equal across groups to test for scalar, or intercept, invariance. Scalar invariance was not supported for the gender groups, as the $\Delta\chi^2$ was statistically significant ($p = .000$ The possibility of partial scalar invariance, the existence of a majority of invariant item intercepts, was also considered. None of the modification indices suggested an item that, if freely estimated, would yield scalar invariance.

Table 17

Fit Statistics for Gender Group Invariance Tests

SWBQ								
Model	**χ2**	**df**	**Δχ2**	**Δ df**	***p***	**RMSEA**	**CFI**	**TLI**
1. Configural Invariance	364.27	148				0.04	0.93	0.90
2. Metric Invariance	391.46	162	27.19	14	0.020	0.04	0.93	0.91
EAS								
Model	**χ2**	**df**	**Δχ2**	**Δ df**	***p***	**RMSEA**	**CFI**	**TLI**
1. Configural Invariance	546.57	264				0.04	0.89	0.86
2. Metric Invariance	590.26	282	43.69	11	0.001	0.04	0.88	0.85
OHS								
Model	**χ2**	**df**	**Δχ2**	**Δ df**	***p***	**RMSEA**	**CFI**	**TLI**
1. Configural Invariance	52.04	28				0.03	0.98	0.95
2. Metric Invariance	64.13	35	12.09	7	0.098	0.03	0.97	0.95
3. Scalar Invariance	94.19	42	30.06	7	0.000	0.04	0.95	0.93

Chapter Five: Summary and Discussion

Introduction

The primary purpose of this study was to investigate the psychometric properties of instruments measuring children's spirituality, happiness, and temperament. Once establishing these psychometric properties (with varying degrees of validity), the instruments were employed to examine the relation of temperament and spirituality to a child's appraisal of their happiness. In this way, the study partially replicates the framework of Holder et al. (2010) and adds to the psychometric base of utilizing these instruments with child populations. To restate, the discussion that follows stems from three research questions:

1. Are the instruments psychometrically sound?
2. Do the overall scale scores differ by gender, and if so, how?
3. Does the factor structure appear the same among boys and girls?
4. After controlling for temperament, do children's spiritual and religious practices predict their happiness?

These questions were addressed in the analyses sequentially. An exploratory factor analysis (EFA) was used in the initial step to test the reliability and factorial validity of the instruments. The individual scale scores of boys and girls were compared (using multiple analysis of variance [MANOVA]) to see if there was a statistical difference across groups. Then the factor structure derived from the EFA was tested across two meaningful groups for spirituality and happiness, boys and girls. confirmatory factor analysis based invariance testing was used for these analyses. Finally, to isolate the independent effects of temperament and happiness, hierarchal multiple regression (HMR) was used to introduce blocks of variables and assess for improvements of model fit.

Comparing Results with Existing Literature

The FACES Scale

The FACES scale is unique in that it possesses only one item, a global assessment of happiness. As such, only descriptive statistics were computed. The data for this study revealed a heavy negative skew (> 2), large kurtosis value (> 6), and overall reflects a non-normal distribution. A full two-thirds of South African school children rated themselves as "Happy" or "Very Happy" (see Table 18 below). Holder et al. (2010) found a similar distribution. However, both Cleveland (2013) and Holder and Klassen (2010) found that the FACES distribution was within respectable limits for normality assumptions (*M, SD*, skew, kurtosis). The FACES scale was used only as dependent variable in this study. Due to the lack of consistent performance in the literature and the overall lack of psychometric information, the FACES scale can only be commended for use as a research tool in elementary schools.

Table 18

Comparison of Percentages of Ratings – Faces Scale

	Present Study	Cleveland (2013)	Holder et al. (2010)
Very Unhappy	2.50	0.23	0.00
Unhappy	0.50	1.83	0.00
Somewhat Unhappy	0.30	3.21	3.00
Neutral	4.30	13.30	7.00
Somewhat Happy	7.00	29.82	19.00
Happy	17.20	37.16	47.00
Very Happy	59.50	14.45	24.00

Oxford Happiness Questionnaire – Short Form (OHQ-SF)

The EFA (PAF) conducted on the OHQ-SF upheld the theorized unidimensionality of the scale (Hills & Argyle, 2002). Only seven of the eight items were retained in the PAF, as item 7 had a low factor loading (< .30) and reduced the Cronbach's alpha value for the scale. The Cronbach's alpha value was .76, indicating adequate reliability, and it was similar to the alpha of .79 that Cleveland (2013) reported. These Cronbach's alpha values are on the higher end of values compared to previous studies using the OHQ-SF that ranged from .58 to .75 (Cruise et al., 2006; Lewis et al., 2005). Additionally, the shared variance explained by the one-factor model (34%) was identical to the percentage found by Cleveland (2013) with similarly aged children. Previous studies sampled adults when considering the OHQ-SF (Cruise et al., 2006; Lewis et al., 2005), and Hill and Argyle developed it using PCA on the full 29-item Oxford Happiness Inventory with a sample featuring a wide age range (ages 13 to 68). Considering Cleveland's previous findings and the inclusion of some early teenagers in Hill and Argyle's study, the results here support the use of the OHQ-SF to assess happiness in late elementary age students.

Emotionality Activity and Sociability Temperament Survey (EAS)

The EFA (PAF) in the present study did not support Buss and Plomin's theorized four-factor structure. Items 11 ("I feel nervous about things that happen every day") and 14 ("I panic when I get scared") were omitted due to extremely low communality and factor loadings (< .25). The resulting three factors approximated the theorized dimensions of Sociability, Anger, and Distress. Whereas the Anger and Distress items indicated a respondent's level of emotionality, items comprising the S factor assessed a

child's ability to interact positively. Alpha coefficients were acceptable for each dimension (αs = .75, .74, and .63 for S, A, and D, respectively). Items related to shyness loaded on the Sociability dimension. Cleveland (2013) found only one comparable factor, Sociability, in his two-factor solution, and it yielded a Cronbach's alpha of .64. The finding of a three-or-four-factor solution is fairly typical as is a wide range of reliability scores (Boer & Westenberg, 1994; Bould et al., 2013; Mathiesen & Tambs, 1999; Stringaris et al., 2010). The EAS has demonstrated enough variation in the literature to question the empirical stability of the theorized factors, and it appears to lack adequacy in its existing form to measure temperament in children.

Subjective Happiness Scale (SHS)

Unlike Cleveland (2013), all four items of the SHS loaded on a single dimension in this EFA (PAF) analysis. Item 4 was the lowest loading item (like Cleveland's study), but the loading was satisfactory (.45) and did not raise the Cronbach's alpha (.64) when dropped. This indicates less than adequate reliability, and it is a much lower Cronbach's alpha value than those reported in other studies (.79 to .94) (Extremera, Salguero, & Fernández-Berrocal, 2011; Kashdan & Yuen, 2007); Lyobomirsky & Lepper, 1999; Tse, Lueng, & Ho, 2012). One critical distinction that may explain the discrepant reliability values was the aforementioned studies' use of high school age and older participants. However, unlike Cleveland's study, these other SHS studies also retained the fourth item in composing a single factor. The single factor derived from the PAF in this study accounted for 32.3% of the shared variance, lower than the 39% reported by Cleveland. While investigators may have to examine the utility of item 4 when analyzing their data,

the SHS seems to be a reasonable tool for assessing happiness across a broad age range of students.

The Spiritual Well-Being Questionnaire (SWBQ)

Unlike previous studies with child, adolescent, and adult populations, the SWBQ failed to replicate its theorized four-factor structure in EFA (PAF with oblique rotation) here (Cleveland, 2013; Gomez & Fisher, 2003, 2005a, 2005b; Rowold, 2011). The EFA conducted in the present study resulted in a three-factor solution with results largely mirroring the theorized Environmental, Transcendental, and Personal dimensions (Gomez & Fisher, 2003). The items for the Communal dimension either had low loadings or loaded onto the Personal dimension, which was a majority of the theorized Personal dimension items. The extracted three-factor model only accounted for 45.5% of the shared variance, lower than Cleveland's (2013) four-factor model that accounted for 51.5% and Gomez and Fisher's (2003) four-factor PCA with adults (56%). The reliability of three factors was adequate with Cronbach's alpha values of .73, .74, and .78 for Environmental, Transcendental, and Personal dimensions, respectively. While the Transcendental and Environmental aspects showed good distinction as factors, the prima facie relation between Communal and Personal dimensions blurred their theorized distinctiveness. Based on the findings of this study, use of the SWBQ should be used with caution but shows overall promise.

Religious Practices Scale (RPS)

No true comparison can be made between this dissertation's findings and Holder et al. (2010). As theorized, the EFA (PAF) in this study supported the theorized unidimensionality of the RPS. Unfortunately, Holder et al. offered no factor analytic

findings for the PBS (from which the RPS is derived). The PBS is derived from the 33-item BMMRS, and Holder et al. used eleven items from multiple BMMRS dimensions, with RPS representing three religious practices items from the eleven. Coupled with the lack of factor analytic findings, it renders an inability to compare the findings from this study.

Cleveland (2013) proceeded with a PAF, whereas this study observed criteria of having four items to conduct a PAF. Like Cleveland's correlational results (.24 to .33), the inter-correlations between the three items were low. Additionally, both this study (α = .61) and Cleveland's (α = .54) demonstrated low Cronbach's alpha values for the RPS. The lack of items and low alpha values cast doubt on the utility of this scale to measure religious practices. Items should be expanded (and perhaps some of the original items replaced) to expand the psychometric properties and measurement insightfulness of the RPS. It cannot be recommended in its present form based on the weight of available evidence.

Gender Differences

The role of gender was assessed in two ways relative to the instruments used in this study. The first question about gender was to the overall averages of scale scores on the various instruments: is there a significant difference in levels by gender on any scales? The second question was one of the stability of the factor structures of the various instruments across groups: did the same factor structure provide a good fit, and if so, to what extent? As a reminder the RPS (only three items) and the SHS (poor fit for the configural model) were not tested for invariance. The findings of these two questions are summarized below.

Emotionality Activity and Sociability Temperament Survey (EAS)

The MANOVA results indicated an overall effect for gender on the student EAS scores. Subsequent analyses examining the relationship of gender to the Sociability, Anger, and Distress dimensions demonstrated statistically significant differences between boys and girls on each dimension. Across all three dimensions, girls reported higher levels of each dimension. When subjected to invariance testing, the student EAS scores showed a statistically significant change in chi-square value between the metric (the least stringent level of invariance examining the uniformity of factor loadings across groups) and the configural (baseline) models. The statistically significant difference did not support invariance at the metric (or factor loading) level, and subsequent levels of more stringent invariance were not tested.

The Spiritual Well-Being Questionnaire (SWBQ)

The MANOVA results also indicated an overall effect for gender on the student SWBQ scores for Personal, Environmental, and Transcendental dimensions. Subsequent univariate analyses assessing the relationship between gender and scores on each of the three scales revealed a statistically significant difference in boys and girls' score on the Transcendental and Personal dimensions but not on the Environmental dimension. In both instances, girls reported a higher level. When subjected to invariance testing, the SWBQ scores showed a statistically significant change in chi-square value between the metric and the configural (baseline) models. The statistically significant difference did not support invariance at the metric (or factor loading) level, and subsequent levels of more stringent invariance were not tested.

Oxford Happiness Questionnaire – Short Form (OHQ-SF)

As a unidimensional measure yielding a single scale score, a univariate ANOVA was used to assess for gender differences. There was a statistically significant difference between the two genders with women reporting higher levels of happiness. For the OHQ, the metric model exhibited adequate fit in relation to the configural model, and the change in chi-square was not statistically significant. The change in CFI was also less than 1, lending support to the existence of metric invariance across boys and girls for the OHQ. Next, in addition to the factor loadings, the OHQ item intercepts were constrained to be equal across groups to test for scalar, or intercept, invariance. Scalar invariance was not supported for the gender groups, as the $\Delta\chi^2$ was statistically significant. None of the modification indices suggested an item that, if freely estimated, would yield scalar invariance.

Subjective Happiness Scale (SHS) and Religious Practices Scale (RPS)

ANOVAs were used to assess the relationship between gender and both SHS scores and RPS scores. In both instances, there was a statistically significant main effect for gender. Also in both instances, girls rated themselves more highly than boys on both happiness and religious practices as measured by the SHS and RPS, respectively. Neither of these scales was subjected due to invariance testing, as the SHS was only three items (not ideal for CFA), and the RPS did not possess good configural invariance.

Spirituality, or Just Temperament?

The fourth research question brought the ultimate issue into focus. Does a child's spirituality and religious practices contribute to their sense of happiness, or is it really a product of his or her temperament? To address this question, three measures of happiness in the study (OHQ-SF, SHS, and Student FACES) were entered as dependent variables in

separate hierarchal multiple regression (HMR) models. Independent variables were entered in blocks; the initial block contained demographic variables, the second block included temperament (Student and Teacher EAS, and the final block included spirituality measures (SWBQ and RPS). By looking at the difference in variance explained by introducing a new block of variables, researchers can confirm or disconfirm the statistical significance of each block of introduced variables.

Looking at the HMR results, an interesting picture emerges. In predicting OHQ-SF, spirituality accounted for 23% of unique variance over and above Student EAS (which accounted for 35%). The Personal, Environmental, and Transcendental domains were found to be significant predictors of student happiness. When it came to predicting SHS, student temperament explained 34% of the shared variance. Of the SWBQ factors, only Personal spirituality significantly explained a sizable percent (14%) of the variance in SHS after controlling for temperament. For the Student Faces scale, student temperament explained 26% of the variance in Student Face Scale. Spirituality explained 6% of the shared variance in SHS after controlling for student temperament. The personal and transcendental domains were significant predictors of Student Faces happiness ratings.

Implications for Practice

A few of the instruments tested in this study show good promise for further use with children. The FACES scale show promise, as it is fairly universal and straightforward to administer. However, given the relative paucity of correlational and predictive validity research, it should likely be used mostly in an exploratory capacity and not in research studies. The OHQ-SF shows promise, but the fourth item has proven to

lack utility to most researchers. Continued revision of the fourth item is advised, however the first three items seem to be helpful in assessing children's happiness. The SHS also finds the fourth item to be a source of weakness, but it fared better in this study than in previous studies. The original item asked, "Some people are generally not very happy. Although they are not depressed, they never seen as happy as they might be. To what extent does this characterization describe you?" (Lyubomirsky & Lepper, 1999). While this is clearly not developmentally appropriate for 4th to 6th grade students, the simplified version used here – "I want to be happier" – may have lost some of the original psychometric utility due to oversimplification. Like the OHQ-SF, researchers need to consider the limitations that can correspond with going below the threshold of four items in a scale. The SWBQ, although it yielded a three-factor solution here as opposed to four in this study, seems worthy of use for 4th to 6th grade students. The weight of existing research finds that the factors are fairly stable and perform reasonably well.

Conversely, a few of the instruments seem less fruitful for research work with this age cohort. The Student EAS has presented a fairly divergent factor structure across the research literature. Given the iterations of development outlined in Chapter 2 above, it seems that the instrument has always been plagued by questions over the correct number of factors measured and the stability of how indicators load. To be fair, the field of childhood temperament is a fractious one with dispute ongoing over the proper dimensions that compose temperament (Strelau & Zawajzki, 2008). Researchers may do well to use individual dimensions that have performed better across time. The RPS also should be used with caution. Low factor loadings and reliability coupled with a relatively

small percentage of shared variance indicated that the RPS may be less than optimal for use with this age cohort.

Application to South African Educational Context

Findings from this paper can help frame the existing discussion in South Africa on how spirituality could be infused in a religiously and culturally diverse educational context. There are voices in South Africa calling for spirituality to remain in schools in a way that serves the totality of students (Jacobs, 2012). The social constructivist approach to infusing spirituality in education proposed by Roux (2007) is in accord with the findings of this paper. Religious and spiritual concepts and backgrounds could be delivered in a constructivist manner, emphasizing parity and instrumental utility of spirituality as part of a larger picture of well-being. Spirituality is seemingly of high value in South Africa, and the broad, nonsectarian conceptualizations of spirituality embedded in the study measures are informative.

Educators in South Africa would do well to look at the elements of spirituality that showed impact on student happiness in this study. In particular, transcendence is a useful concept. Schoolchildren can be taught about the value of transcendence in a non-directive, nonsectarian manner. The social and emotional aspects of spirituality also predicted student happiness. There is a large literature on social-emotional learning and competencies in the UK and the USA that could be of assistance in aiding South African educator to enhance this aspect of spirituality (and consequently, happiness).

Limitations of the Study

There are several limitations that must be considered when viewing the results of this study. The first issue that readers should be aware of is a lack of generalizability.

Second, lack of researcher involvement in data collection leaves questions about data quality. Third, some of the instruments proved to be problematic from a psychometric perspective, especially the EAS instrument. Each of these concerns will be discussed in greater detail below.

Regarding generalizability, the sample used here is small, not representative of any population, and utilizes convenience sampling. While the sample is sufficient for performing factor analytic work, the overall size is an issue in light of the fact that it is not a representative sample. The sampling frame was the sum total of a miniscule portion of South African schoolchildren, and no effort was made to match the sample to any known demographic data. Any extrapolation of results to even broader South African elementary school contexts must be made with caution and circumspection. The sample here was generated on the criteria of having a few schools that self-selected into the study. The researcher did not select them for their representativeness or for any other strategic purpose.

Classroom teachers administered and collected the instrument protocols during normal class hours. It is not clear the substance or amount of training that the teachers received from the primary investigator or her team. While the research design met IRB requirements of the primary investigator's university, as a secondary research analysis, it is unclear how the data were safeguarded for any bias in administration and collection. While this is not likely a matter of serious concern, it is mentioned here because it cannot truly be assessed.

The EAS, and to a lesser degree, the RPS, also are a concern for their dubious psychometric properties. Regarding the EAS, this is hardly a new concern. As described

in Chapter 2, the development history of the EAS has resulted in several versions and varying theorized factor structures (EAS, EASI, EASI-II, etc.). The version used in this study was selected to attempt to replicate the one used by Holder et al. (2010). The Holder et al. version included four domains (Emotionality, Activity, Sociability (experimental), and Shyness) as outlined by Buss and Plomin (1984). However, the version used here was not the Buss and Plomin version, but it was another iteration designed for child self-report administration. It was composed of Emotionality, Activity, and Sociability domains, with the Emotionality domain consisting of twelve items (Activity and Sociability had only four apiece). It appears that these twelve items represent three theorized sub-dimensions of Emotionality outlined by Buss and Plomin: fearfulness, distress, and anger. The factor solution here identified factors approximating the anger and distress sub-dimensions of Emotionality (in addition to Sociability). The Sociability domain items were also a source of confusion, as it was unclear if they actually represented items from the Shyness domain postulated in some EAS versions. The unclear source and version of the full set of EAS indicators is problematic in comparing to other studies utilizing the EAS. The RPS also should be used with caution as it lacks explanatory power as it pertains to happiness, and its items yield low factor loadings.

Application to School Counseling Practice

Spirituality has long been theorized and proven to be a source of resilience across ecological levels of a child's existence (Dillen, 2012; Werner, 1984). Resilience and social-emotional learning are the province of school counselors, and as such, school counselors should be attuned to the types and levels of spirituality that students possess.

This study extends the tradition of findings linking spirituality and resilience (as indicated by measures of children's happiness). The contribution of spirituality to happiness could not be reduced to variations in children's temperament. This finding opens the door for school counselors to build interventions that enhance students' ability to make meaning as well as to enhance their sense of connectedness and transcendence.

School counselors undoubtedly have some reticence about addressing spirituality with children due to the misconception that discussing religion or spirituality in public schools is legally prohibited (MacDonald, 2004). However, the nonsectarian framework for spirituality provides broad leeway for school counselors to use this empirically proven asset to healthy student development (James, Fine, & Turner, 2012). Furthermore, the multicultural mandate of the ASCA Ethical Standards for School Counselors (2010) that states ethical school counselors must pay attention to student and family religious and spiritual concerns. Due to established links the positive benefits of spirituality for broad health indicators (mental/physical health, resiliency, and reduced risk behaviors), the school counseling profession has increasingly called for student spirituality to be integrated within core curricula (Briggs & Rayle, 2005; Sink & Richmond, 2004).

Recommendations for Future Research

Researchers should take up the issue of validity (both convergent and divergent) in future research using the instruments in this study. The instruments should be able to correlate highly with areas of theorized influence to indicate convergent validity. Divergent (or discriminant) validity tests for the *absence* of a relationship with another variable or construct, and it affirms by validity by showing very low or no correlation with a construct at theorized odds with the one in question. Increasing use of regression

models should be used to reveal patterns of predictive influence on subsets of variables and prosocial outcomes.

Confirmatory factor analysis is also an under utilized approach in testing the psychometric properties of the instruments in this study. As data for the Happiness & Meaning-Making Project continue to grow in number of respondents and countries surveyed, CFA testing would be especially valuable. It would be of great empirical interest to demonstrate if there are factor structures that provide a good fit to a broad diversity of students. If such a result could be reached, it would provide a sketch of what might be a universal way to conceptualize developmental spirituality for intermediate elementary-aged students.

Toward the end of universality and international comparison, invariance testing could be used to see how and to what extent one sample of students possesses a similar factor structure. In current spirituality research, cross-national comparisons are rare for children's spirituality. The Happiness & Meaning-Making Project provides a useful study design for this task. Data are now available for students from multiple countries, and researchers could make side-by-side comparisons of invariance on a factor structure established by EFA. Instruments could also be modified based on comparisons from cross-national samples of students.

Finally, researchers should consider whether there are certain spirituality profiles that are predictive of various prosocial and antisocial outcomes. Discriminant analysis (not to be confused with discriminant validity) is a tool that can take a selection of predictors and examine for combinations within them that predict the probability of group membership (associated with possessing/not possessing a certain status or trait). This

would help school counselors develop interventions that could isolate key spirituality dimensions for interventions based on their ability to predict certain statuses or traits. The broad point should also be made that these instruments need to be collected along with a broader set of demographic and behavioral variables to facilitate this kind of work.

Conclusion

The series of research questions began with the baseline of establishing the psychometric qualities of the study instruments. The OHQ-SF, SHS, and SWBQ all proved to be useful measures for assessing elementary-age children. They demonstrated adequate factorial validity and reliability. The RPS and EAS both proved to be problematic, but in different ways. The RPS did not register adequate psychometric properties to recommend it for use. For the EAS, the issue was a muddled factor structure relative to unclear hodgepodge of EAS versions; it did not faithfully replicate factor structure congruent with a previously published EAS version. The single-item FACES scale is good for quick, one-time measures of affect or mood, but it is not useful as a static indicator in scientific work.

The results of the remaining research questions were more straightforward. Regarding research question two, the overall trend of summative scale scores across instruments was for girls to show a higher level of spirituality or happiness than boys. Upon using CFA for conducting invariance tests, the factor structure of most instruments (with the exception of OHQ-SF) varied across boys and girls. This finding addressed the third research question. Finally, the fourth and culminating research question looked at spirituality's unique contribution to students' appraisals of their happiness. On all of the happiness outcomes, spirituality factor scores proved to largely have some statistically

significant impact on perceived happiness levels. These results show promise for spirituality as a source of resilience and offer a challenge to researchers to better understand the differential spiritual development of elementary-aged boys and girls.

References

Abdel-Khalek, A. M., & Lester, D. (2012). Constructions of religiosity, subjective well-being, anxiety, and depression in two cultures: Kuwait and USA. *International Journal of Social Psychiatry*, *58*(2), 138-145.

Aghili, M., & Kumar, G. (2008). Relationship between religious attitude and happiness among professional employees. *Journal of The Indian Academy of Applied Psychology*, *34*, 66-69.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York, NY: Plenum Press.

Argyle, M., & Crossland, J. (1987). The dimensions of positive emotions. *British Journal of Social Psychology, 26*, 127–137.

Argyle, M., Martin, M., & Crossland, J. (1989). Happiness as a function of personality and social encounters. In J. P. Forgas, & J. M. Innes (Eds.), *Recent advances in social psychology: An international perspective* (pp. 189–203). North-Holland: Elsevier.

Barber, B. K. (2013). Annual research review: The experience of youth with political conflict - challenging notions of resilience and encouraging research refinement. *Journal of Child Psychology & Psychiatry, 54*(4), 461-473.

Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago, IL: University of Chicago Consortium on Chicago School Research.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238–246.

Berk, L. E. (2006). *Development through the lifespan*. Needham Heights, MA: Allyn and Bacon.

Boer, F., & Westenberg, P. (1994). The factor structure of the Buss and Plomin EAS Temperament Survey (Parental Ratings) in a Dutch sample of elementary school children. *Journal Of Personality Assessment*, *62*(3), 537-551.

Bornstein, M. H., Hahn, C., & Suwalsky, J. T. D. (2013). Developmental pathways among adaptive functioning and externalizing and internalizing behavioral problems: Cascades from childhood into adolescence. *Applied Developmental Science, 17*(2), 76-87.

Boström, P. P., Broberg, M. M., & Hwang, C. P. (2010). Different, difficult or distinct? Mothers' and fathers' perceptions of temperament in children with and without intellectual disabilities. *Journal of Intellectual Disability Research*, *54*(9), 806-819.

Bould, H., Joinson, C., Sterne, J., & Araya, R. (2013). The Emotionality Activity Sociability Temperament Survey: Factor analysis and temporal stability in a longitudinal cohort. *Personality And Individual Differences*, *54*(5), 628-633.

Bregman, L. (2006). Spirituality: A glowing and useful term in search of meaning. *OMEGA, 53*(1-2), 5-26.

Briggs, M., & Rayle, A. (2005). Incorporating spirituality into core counseling courses:

Ideas for classroom application. *Counseling and Values*, *50,* 63-75.

Bronfenbrenner, U. (1974). Developmental research, public policy, and the ecology of childhood. *Child Development, 45*(1), 1-5.

Bronfenbrenner, U. (1976). The experimental ecology of education. *Educational Researcher, 5*(9), 5-15.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513-531.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R.M. Lerner & W. Damon (Eds.), *Handbook of child psychology* (6th edition), (pp. 793–828). Hoboken, NJ: John Wiley & Sons.

Buss A. H. & Plomin, R. (1975) *A temperament theory of personality development*. Wiley-Interscience, Oxford.

Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale: Lawrence Erlbaum Associates.

Buss, A. H., & Plomin, R. (1986). The EAS approach to temperament. In R. Plomin & J. Dunn (Eds.), *The study of temperament: Changes, continuities and challenges*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Byrne, B. M. (2004). Testing for multigroup invariance using AMOS graphics: A road less traveled. *Structural Equation Modeling, 11*, 272–300.

Byrne, B. M. (2009). *Structural equation modeling with AMOS: Basic concepts,*

applications, and programming. New York: Routledge.

Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*, 456-466.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245-276.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41*, 330-339.

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*, 233–255.

Cleveland, R. E. (2014). *Psychometric reanalysis of happiness, temperament, and spirituality scales with elementary-age children*. (Unpublished doctoral dissertation). Seattle Pacific University, WA.

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, & Evaluation,10*(7). Available online: http://pareonline.net/getvn.asp?v=10&n=7

Crawford, E., Wright, M., & Masten, A. S. (2006). Resilience and spirituality in youth. In E. C. Roehlkepartain, P. E., King, L. Wagener., & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence* (pp. 355-370). Thousand Oaks, CA: Sage.

Cruise, S., Lewis, C., & McGukin, C. (2006). Internal consistency, reliability, and temporal stability of the Oxford Happiness Questionnaire short-form: Test-retest data over two weeks. *Social Behavior and Personality*, *34*(2), 123-126.

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*, 16–29.

de Jager Meezenbroek, E., Garssen, B., van den Berg, M., van Dierendonck, D., Visser, A., & Schaufeli, W. B. (2012). Measuring spirituality as a universal human experience: A review of spirituality questionnaires. *Journal of Religion And Health*, *51*(2), 336-354.

DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*(2), 197-229.

Diener, E. (2000). Subjective well-being: the science of happiness, and a proposal for a national index. *American Psychologist, 55*, 34–43.

Dillen, A. (2012). The resiliency of children and spirituality: A practical theological reflection. *International Journal of Children's Spirituality, 17*(1), 61-75.

Dimitrov, D. M. (2010). Testing for factorial invariance in the context of construct validation. *Measurement and Evaluation in Counseling and Development, 43*(2), 121-149.

Elbertson, N. A., Brackett, M. A., & Weissberg, R. P. (2009). School-based social and emotional learning (SEL) programming: Current perspectives. In A.

Hargreaves, A. Lieberman, M. Fullan, & D. Hopkins (Eds.), *Second international handbook of educational change* (pp. 1017-1032). New York, NY: Springer.

Extremera, N., Salguero, J., & Fernández-Berrocal, P. (2011). Trait meta-mood and subjective happiness: A 7-week prospective study. *Journal of Happiness Studies*, *12*(3), 509-517.

Fabrigar, L. R., & Wegener, D. T. (2012). *Exploratory factor analysis.* New York, NY: Oxford University Press.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, *4*, 272-299.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago, IL: University of Chicago Consortium on Chicago School Research.

Fetzer Institute (1999). Multidimensional measurement of religiousness/spirituality for use in health research: A report of the Fetzer Institute/National Institute on Aging Working Group. Kalamazoo, MI: John E. Fetzer Institute.

Field, A. (2013). *Discovering statistics using SPSS* (4th ed.). Thousand Oaks, CA: Sage.

Gomez, R., & Fisher, J. W. (2003). Domains of spiritual well-being and

development and validation of the Spiritual Well-Being Questionnaire. *Personality and Individual Differences, 35*(8), 1975-1991.

Gomez, R., & Fisher, J. W. (2005a). Item response theory analysis of the spiritual well-being questionnaire. *Personality and Individual Differences*, *38*(5), 1107-1121.

Gomez, R., & Fisher, J. W. (2005b). The spiritual well-being questionnaire: Testing for model applicability, measurement and structural equivalencies, and latent mean differences across gender. *Personality and Individual Differences*, *39*(8), 1383-1393.

Hadinezhad, H., & Zaree, F. (2009). Reliability, validity, and normalization of the Oxford Happiness Questionnaire. *Psychological Research*, *12*(1-2), 62-77.

Halama, P., Martos, T., & Adamovová, L. (2010). Religiosity and well-being in Slovak and Hungarian student samples: The role of personality traits. *Studia Psychologica*, *52*(2), 101-116.

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, *7*(2), 191-205.

Hills, P., & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences, 33*, 1073-1082.

Holder, M. D., Coleman, B., & Wallace, J. M. (2010). Spirituality, religiousness, and happiness in children aged 8–12 years. *Journal of Happiness Studies, 11*(2), 131-150.

Holder, M. D., Coleman, B., & Singh, K. (2012). Temperament and happiness in children in India. *Journal Of Happiness Studies*, *13*(2), 261-274.

Holder, M. D., & Klassen, A. (2010). Temperament and happiness in children. *Journal Of Happiness Studies*, *11*(4), 419-439.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*, 179-185.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.

Idler, E. L., Musick, M. A., Ellison, C. G., George, L. K., Krause, N., Ory, M. G., Pargament, K. I., Powell, L. H., Underwood, L. G., & Williams, D. R. (2003). Measuring multiple dimensions of religion and spirituality for health research: Conceptual background and findings from the 1998 General Social Survey. *Research on Aging*, *25*(4), 327-365.

Jacobs, A. C. (2012). South African teachers' views on the inclusion of spirituality education in the subject Life Orientation. *International Journal of Children's Spirituality, 17*, 235-253.

James, A. G., Fine, M. A., & Turner, L. J. (2012). An empirical examination of youths' perceptions of spirituality as an internal developmental asset during adolescence. *Applied Developmental Science*, *16*, 181-194.

Jones, L. (2012). Measuring resiliency and its predictors in recently discharged foster youth. *Child & Adolescent Social Work Journal, 29*(6), 515-533.

Jöreskog, K. G. (1971). Simultaneous factor analysis in several populations.

Psychometrika, 36, 409–426.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141-151.

Kashdan, T. B. (2004). The assessment of subjective well-being (issues raised by the Oxford Happiness Questionnaire). *Personality and Individual Differences, 36*, 1225-1232.

Kashdan, T., & Yuen, M. (2007). Whether highly curious students thrive academically depends on perceptions about the school learning environment: A study of Hong Kong adolescents. *Motivation and Emotion*, *31*(4), 260-270.

Kim, S., & Esquivel, G. B. (2011). Adolescent spirituality and resilience: Theory, research, and educational practices. *Psychology in the Schools, 48*(7), 755-765.

King, M. F., Renó, V. F., & Novo, E. M. L. M. (2014). The concept, dimensions and methods of assessment of human well-being within a sociological context: A literature review. *Social Indicators Research,116*(3), 681-698.

Levine, D. W., Kaplan, R. M., Kripke, D. F., Bowen, D. J., Naughton, M. J., & Shumaker, S. A. (2003). Factor structure and measurement invariance of the women's health initiative insomnia rating scale, *Psychological Assessment, 15*, 123–136.

Lewis, C., Maltby, J., & Day, L. (2005). Religious orientation, religious coping and happiness among UK adults. *Personality and Individual Differences*, *38*(5), 1193-1202.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: A critical

evaluation and guidelines for future work. *Child Development, 71*(3), 543-562.

Lyubomirsky, S., & Lepper, H. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46*, 137-155.

Lyubomirsky, S., & Lepper, H. (1999b). *Subjective Happiness Scale* [Database record]. Retrieved from PsychTESTS. Retrieved from: http://psychnet.apa.org/doi/10.1037/t0158 8-000

MacDonald, P. M., Kirkpatrick, S. W., & Sullivan, L. A. (1996). Schematic drawings of facial expressions for emotion recognition and interpretation by preschool-aged children. *Genetic, Social, and General Psychology Monographs*, *122*(4), 373-388.

MacDonald, D. (2004). Collaborating with students' spirituality. *Professional School Counseling, 7*, 293-300.

Masi, G., Mucci, M., Favilla, L., Brovedani, P., Millepiedi, S., & Perugi, G. (2003). Temperament in adolescents with anxiety and depressive disorders and in their families. *Child Psychiatry and Human Development, 33*, 245–259.

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2*, 425–444.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*(2), 205-220.

Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology, 23*(2), 493-506.

Mathiesen, K. S., & Tambs, K. (1999). The EAS Temperament Questionnaire—factor structure, age trends, reliability, and stability in a Norwegian sample. *Journal of Child Psychology and Psychiatry*, *40*(3), 431-439.

Mattei, D., & Schaefer, C. E. (2004). An investigation of validity of the Subjective Happiness Scale. *Psychological Reports*, *94*(1), 288-290.

Messick, S. (1989). Validity. In R. L. Linn (Ed.), Educational measurement (3rd ed., pp. 13–103). New York, NY: American Council on Education.

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist, 50*, 741–749.

Mnyaka, M., & Motlhabi, M. (2005). The African concept of Ubuntu/Botho and its socio-moral significance. *Black Theology: An International Journal, 3*(2), 215-237.

Møller, V. (2013). South African quality of life trends over three decades, 1980-2010. *Social Indicators Research*, *113*(3), 915-940.

Moodley, T., Esterhuyse, K. G. F., & Beukes, R. B. I. (2012). Factor analysis of the Spiritual Well-being Questionnaire using a sample of South African Adolescents. *Religion & Theology, 19*, 122-151.

Mvududu, N. H., & Sink, C. A. (2013). Factor analysis in counseling research and practice. *Counseling Outcome Research and Evaluation, 4*(2), 75-98.

Nærde, A., Røysamb, E., & Tambs, K. (2004). Temperament in adults-reliability, stability, and factor structure of the EAS Temperament Survey. *Journal of Personality Assessment*, *82*(1), 71-79.

Nelson, S. K., & Lyubomirsky, S. (2014). Finding happiness. In M. M. Tugade, M. N. Shiota, L. D. Kirby (Eds.), *Handbook of positive emotions* (pp. 275-293). New York, NY: Guilford Press.

Pargament, K. I. (2013). Spirituality as an irreducible human motivation and process. *The International Journal for the Psychology of Religion, 23*, 271-281.

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students: Findings from three scientific reviews*. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning. Retrieved from http://www.lpfch.org/sel/casel-narrative.pdf

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. Thousand Oaks, CA: Sage.

Raftopoulos, M., & Bates, G. (2011). 'It's that knowing that you are not alone': The role of spirituality in adolescent resilience. *International Journal of Children's Spirituality, 16*, 151-167.

Rezvan, S. S., Ahmadi, S. A., & Abedi, M. R. (2006). The effects of metacognitive training on the academic achievement and happiness of Esfahan University conditional students. *Counselling Psychology*

Quarterly, *19*(4), 415-428.

Robbins, M., Francis, L. J., & Edwards, B. (2008). Prayer, personality and happiness: A study among undergraduate students in Wales. *Mental Health, Religion & Culture*, *11*(1), 93-99.

Robbins, M., Francis, L. J., & Edwards, B. (2010). Happiness as stable extraversion: Internal consistency reliability and construct validity of the Oxford Happiness Questionnaire among undergraduate students. *Current Psychology: A Journal For Diverse Perspectives on Diverse Psychological Issues*, *29*(2), 89-94.

Roodt, V. (2014). On public happiness. *South African Journal of Philosophy, 33*(4), 459-471.

Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon (Ed.), *Handbook of child psychology*, *Vol. 3*. *Social*, *emotional and personality development* (5th ed.) (pp. 105-176). New York: John Wiley.

Rothbart, M. K., & Derryberry, D. (2000). *Temperament in children*. Presented as a State of the Art lecture at the 26th International Congress of Psychology, July, 2000, Stockholm, Sweden. Retrieved from http://www.bowdoin.edu/~sputnam/rothbart-temperament-questionnaires/cv/publications/pdf/2002_Temp_%20in_Children _Rothbart-Derryberry.pdf.

Roux, C. (2007). Hermeneutics and religion teaching and learning in the context of social constructivism. *Scriptura, 96*, 469-485.

Rowe, D. C., & Plomin, R. (1977). Temperament in early childhood. *Journal of Personality Assessment, 41*(2), 150-156.

Rowold, J. (2011). Effects of spiritual well-being on subsequent happiness, psychological well-being, and stress. *Journal of Religion and Health*, *50*(4), 950-963.

Scholastic and the Bill & Melinda Gates Foundation. (2014). Primary sources: America's teachers on teaching in an era of change (3rd ed.). Seattle, WA: Bill & Melinda Gates Foundation. Retrieved from http://www.scholastic.com/primarysources/PrimarySources3rdEditionWithAppendix.pdf

Seo, M., Sink, C. A., & Cho, H. (2011). Korean version of the Life Perspectives Inventory: Psychometric properties and implications for high school counseling. *Professional School Counseling, 15*(1), 15-33.

Shiner, R. L. (2012). The impact of temperament on child development: Comments on Rothbart, Kagan, Eisenberg, and Schermerhorn and Bates. Rev ed. Rothbart MK, topic ed. In: Tremblay, RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development; 2012: 1-5. Retrieved from: http://www.child-encyclopedia.com/temperament/according-experts/impact-temperament-child-development-comments-rothbart-eisenberg-kagan Accessed November 20, 2015

Singh, K. (2009). NEO-PI-R factor structure in college students. *Journal of the Indian Academy of Applied Psychology*, *35*(1), 17-25.

Sink, C. A., Blackshire, A., Osterdahl, S. & Hartman, D. (2015). Happiness,

spiritual well-being, and temperament in South African elementary-age children. (Unpublished manuscript).

Sink, C. A., & Devlin, J. M. (2011). Student spirituality and school counseling: Issues, opportunities, and challenges. *Counseling and Values, 56*, 130-148.

Sink, C. A., & Hyun, J. (2012). A comprehensive review of research on child and adolescent spirituality: Evidence for inclusion of spirituality in school counseling. *Journal of Asian Pacific Counseling.*

Sink, C. A., Kim, D., Park, S., & Hyun, J. (2014). Happiness, spiritual well-being, and temperament in South Korean elementary-age children. (Unpublished manuscript).

Sink, C. A., & Richmond, L. J. (2004). Introducing spirituality to professional school counseling. *Professional School Counseling, 7*, 291-292.

Smith, C. (2003). Theorizing religious effects among American adolescents. *Journal for the Scientific Study of Religion*, *42*(1): 17-30.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*, 173–180.

Tse, M., Leung, R., & Ho, S. (2012). Pain and psychological well-being of older persons living in nursing homes: An exploratory study in planning patient-centered intervention. *Journal of Advanced Nursing*, *68*(2), 312-321.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1–10.

Tutu, D. M. (1999). *No future without forgiveness.* New York, NY: Doubleday.

Ungar, M., Ghazinour, M., & Richter, J.ö. (2013). Annual research review: What

is resilience within the social ecology of human development? *Journal of Child Psychology & Psychiatry, 54*(4), 348-366.

von Bertalanffy, L. (1968). *General systems theory: Foundations, development, applications.* NY: George Braziller.

Werner, E. E. (1984). Resilient children. *Young Children*, *40*(1), 68-72.

Westaway, M. S., Olorunju, S. S., & Rai, L. J. (2007). Which personal quality of life domains affect the happiness of older South Africans? *Quality of Life Research*, *16*(8), 1425-1438.

Windle, M. (1989). Temperament and personality: An exploratory interinventory study of the DOTS—R, EASI—II, and EPI. *Journal of Personality Assessment*, *53*(3), 487-501.

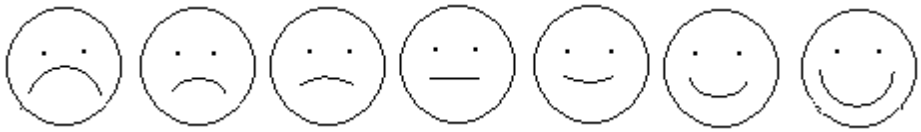
Appendix

The Happiness and Meaning Making Project (2014)
STUDENT QUESTIONS

Name: _____

I am a GIRL or a BOY (circle one) **Grade Level: 4th 5th 6th grade (circle one)**

Circle the face that shows how you usually feel.



Very Unhappy Very Happy

Directions: This is NOT a test. These questions are meant to ask about your life. There are NO right or wrong answers.

Each question asks you to circle a number that best shows how much you agree or disagree.

EXAMPLE

If you usually like animals, but don't *love* animals, circle "**4 agree**," like this:

1	I love animals	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly A**

If you change your mind about an answer, just cross it out and circle the new answer, like this.

1	I love animals	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly A**

1	**I love other people**	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly Agree**
2	**I feel close to God**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
3	**I forgive other people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
4	**I enjoy nature**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
5	**I really know myself**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
6	**I worship God**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
7	**I feel joyous when I am outside**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
8	**I trust other people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
9	**I learn about myself**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
10	**I like being in nature**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
11	**I feel close to God**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree

12	**I feel peaceful in nature**	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly Agree**
13	**I am at peace with God**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
14	**I am joyful**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
15	**I pray**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
16	**I am peaceful**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
17	**I respect other people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
18	**I have meaning in life**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
19	**I am kind to other people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
20	**I feel special in nature**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
21	**I go to a place of worship like a church every week**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
22	**I pray or meditate by myself a lot**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree

23	**I feel happy with the way I am**	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly Agree**
24	**I feel that life is rewarding**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
25	**I feel comfortable with my life**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
26	**I think I look attractive**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
27	**I see beauty around me**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
28	**I have time to do what I enjoy**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
29	**I pay attention**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
30	**I have happy memories of the past**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
31	**I am usually happy**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
32	**I am happier that most kids I know**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
33	**I enjoy life most of the time**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
34	**I enjoy life most of the time**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree

35	**I want to be happier**	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly Agree**
36	**I like to be with people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
37	**I usually seem to be in a hurry**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
38	**I am easily frightened**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
39	**I am usually stressed**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
40	**I let people know when I am unhappy**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
41	**I often feel alone**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
42	**I like to be busy**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
43	**I get angry easily**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
44	**I feel frustrated a lot**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
45	**I am always doing things**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree

46	**I feel nervous about things that happen every day**	**1 Strongly disagree**	**2 disagree**	**3 Not sure**	**4 Agree**	**5 Strongly Agree**
47	**I usually feel confident**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
48	**I get annoyed easily**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
49	**I panic when I get scared**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
50	**I like to work with other people**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
51	**I get upset easily**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
52	**I have a lot of energy**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
53	**It takes a lot to upset me**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
54	**I only have a few fears**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree
55	**I would rather spend time with people than do anything else**	1 Strongly disagree	2 disagree	3 Not sure	4 Agree	5 Strongly Agree