

Replicating Predictors of Spirituality and Happiness in Children

by

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Abstract

Positive psychology provides the theoretical framework for this replication and extension study of Holder, Coleman, and Wallace (2010). Their results indicated that spirituality (especially the domains of communal and personal) predicted students' ($N = 307$) happiness (across three dependent measures), even after controlling for temperament (Faces Scale (communal, $r = .45$, personal, $r = .44$; $p < .05$), Oxford Happiness Questionnaire-Short Form (communal, $r = .44$, personal, $r = .48$; $p < .05$), and the Subjective Happiness Scale (communal, $r = .34$, personal, $r = .38$; $p < .05$). The present study used archival data drawn from students in grades 4 through 6 (approximately 8 to 12 years old) attending private (faith-based) schools in Western Washington. Similar to the Holder et al. results, this study revealed positive correlations between spirituality and happiness, even after controlling for gender, grade level, and temperament. Extending the work of Holder et al., participant grade level was included in the regression model in order to account for developmental differences among children, but grade level did not contribute significantly to the overall prediction of students' happiness levels. Gender was also of little predicative value. Implications for theory, research, and practice are included.

Replicating Predictors of Spirituality and Happiness in Children

Chapter 1

Introduction

“Enhanced awareness of certain features in everyday life can contribute significantly to spiritual life and to happiness” (Noddings, 2003, p. 168).

Research regarding adult happiness and life satisfaction demonstrates that spirituality (distinct from religiousness) plays an important role in helping adults traverse negative experiences and circumstances, thereby contributing to overall life satisfaction (Park, 2004). Similarly, other scholars have asserted that spirituality may promote psychological well-being, mental health, and even academic success among children and adolescents (Holder, Coleman, & Wallace, 2010; Kim & Esquivel, 2011). Given the importance of spirituality to positive life outcomes, it follows that researchers further examine the relationship between spirituality and happiness in elementary school-age children for at least these two reasons: it is likely that (a) developmental differences in children will reveal somewhat different dynamics in the relationship; and (b) knowledge gained can inform educational practices as a way to foster positive life outcomes in maturing children and youth and promote a nurturing and caring learning environments.

With these two long-term goals in mind, the present study replicates and expands upon the findings of Holder, Coleman, and Wallace (2010). They concluded that communal and personal dimensions of spirituality accounted for between 3% and 26% of happiness (over three uni-dimensional happiness measures) in 8- to 12-year-old children attending public and private schools, above the variance accounted for by temperament. Additionally, students' reported religious practices were not significantly related to their happiness.

The following chapter reviews the research literature regarding positive psychology, happiness, and spirituality, specifically as each construct relates to children; further, the related concepts of temperament and development are discussed.

Chapter 2

Literature Review

The theoretical context of this study is positive psychology, which seeks to understand and foster the tools that individuals use to flourish in life, despite any difficulties individuals face. Positive psychology represents a shift from a disease model of psychology to one which studies human strengths. For instance, Csikszentmihalyi (2000) highlighted a study regarding the outcomes of people who face trials with either optimism or pessimism, another which considered the affective benefits of service to others, and others which investigated the importance of self-esteem and responsibility. These are, obviously, just a few examples of the work that has been grounded in positive psychology. In the next section, the history of and several current definitions of positive psychology are reviewed, and the ways in which each aspect of positive psychology might inform research emanating from the construct are discussed. Following that, several relevant studies grounded in positive psychology are outlined.

Historical Foundations

William James (1902) is often credited with precursor ideas of positive psychology (Seligman & Csikszentmihalyi, 2000). In his lectures in Edinburgh regarding the varieties of religious experiences, James asserted that healthy-mindedness is the natural chief concern of life. This happiness of the healthy-minded is not just related to mood, but rather it is the sort of happiness that when unhappiness is offered or proposed, it is positively rejected as if it were “mean or wrong” (James, p. 48). According to James, healthy-minded individuals “passionately fling themselves upon the goodness of life” (p. 48) in spite of hardships. James advocated fostering happy-mindedness, as its cultivation helps humans to “divert ... attention from disease

and death” (p. 55). James’ beliefs of healthy-mindedness underscore an important tenet of positive psychology: it seeks beyond human survival to attain human thriving.

Similarly, Marie Jahoda (1958) suggested that the absence of disease is necessary but not sufficient for overall life satisfaction. She argued that apart from extreme cases of mental disease, it is difficult, if not impossible to agree what mentally sick is. Further, she asserted that no person is free from subconscious conflicts; this added to the difficulty of using the absence of mental disease as a definition for mental health. Rather, she argued, that the absence of mental disease is necessary but insufficient, to define positive mental health. Her solution to the definitional challenge was to offer well-being (in relationship to individual functionality and life circumstances) as an indicator of mental health. Jahoda named six indicators of well-being, including: (a) the attitude of a person to him- or herself; (b) the growth and development of the individual; and (c) a person’s integration (this concept incorporates the first and second criteria as they work in tandem). The final three categories surround an individual’s relationship to reality: (d) autonomy, (e) perception, and (f) environmental mastery. Thus, for Jahoda, mental disease and mental health are separate concepts, simultaneously present in each person; to define mental health as the absence of disease ignores an entire continuum of well-being in individuals.

Even with this historical impetus, there developed an imbalance in psychological studies, which traditionally focused research on mental illness. Gable and Haidt (2005) claimed that these studies of “disorder and damage” (p. 104) have largely been the focus of psychologists for three reasons. First, compassion dictates that psychology help those people in pain before others; second, as a matter of practical consideration, after World War II, largely, the research funded revolved around mental illness in an effort to meet the needs of returning veterans. Finally, a focus on negative aspects of life may reside in human nature, as an evolutionary holdover which

allows humans protection by readily recognizing potential threats (Gable & Haidt, 2005). It was not until the late 1900s that the field of psychology shifted to include positive psychology as a focus. In contrast to an earlier disease model, positive psychology allows researchers the opportunity to study the tools that guard against threats and contribute to optimal human functioning.

Modern Aims and Definitions

The aim of the positive psychology movement is to help individuals cultivate and employ human strengths such as optimism, hope, elation, self-esteem, wisdom, and responsibility (Csikszentmihalyi, 2000). Thus, positive psychology can be broadly defined as the “scientific study of optimal human functioning” (Linley, Joseph, Harrington, & Wood, 2006, p. 8); it is a shift from repairing people’s failings and damage to building strength and resilience. Similarly, Gable and Haidt (2005) explained that positive psychology studies the ways in which people feel joy, show altruism, offer compassion, sense awe, and create healthy families and communities.

Positive psychology includes three positive dimensions: institutions, individual traits, and subjective states (Compton, 2005; Seligman & Csikszentmihalyi, 2000). Positive institutions include families, schools, and youth programs (Peterson, 2009); they flourish because of group-level positive traits: civic virtues, responsibility to others, nurturing others, work ethic, altruism, and tolerance (Seligman & Csikszentmihalyi, 2000). Such institutions are intrinsically valuable to society, in part because they are likely to guide and inspire people. Finally, the research area of positive organizational scholarship, when applied in the educational setting, has the potential to connect schools, students, and optimal human development (Linley, et al., 2006).

Positive individual traits and subjective states, the latter two domains of positive psychology, are most salient to this discussion. Each will be briefly introduced. Positive

individual traits, according to Peterson (2009), include such character strengths as talents, interests, hope, love, and zest. Additionally, with age and cognitive development, the character strengths of gratitude and curiosity are added to the list of positive individual traits (Peterson, 2009).

Positive subjective states include the emotions such as happiness, joy, relaxation, thrill, and gladness. These subjective states related to the five senses, moving the body well, and the “pleasures of the present” (Seligman, Linely, Joseph, & Boniwell, 2003, p. 2). It is this domain of positive psychology that finds its popular appeal, helping people to understand their strengths, happiness, and fulfillment. That is, most individuals think of their happiness and fulfillment in terms of their positive subjective states.

It is important to note that, even while listing positive feelings, traits, and outcomes, positive psychology seeks to augment the understanding of the entire human condition: from loss and suffering to health and well-being (Huebner & Gilman, 2003; Linely et al., 2006). Similarly, Seligman, Park, and Peterson (2005) wrote that research into positive psychology is meant to supplement the understanding of human suffering, weakness, and disorder; it seeks to find a balanced explanation of the human condition.

In summary, positive psychology fundamentally aims to balance the wealth of information known about human suffering and psychoses with knowledge about human flourishing. Research that investigates such topics as positive institutions, character traits, and subjective states is contextualized by positive psychology. Understanding this part of human development is vital to supporting individuals’ thriving throughout life. The next section is a brief review of the research trajectory of positive psychology as it applies to the current study.

Positive Psychology in School-based Research

Researchers have studied the effect of teaching the skills of positive psychology, including resilience, positive emotion, engagement, and meaning-making. Teaching these skills increased in long-term happiness and reduced feelings of depression and hopelessness (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). The program's curricular activities lasted for 20-25 sessions of 80 minutes each and engaged ninth grade students in activities such as Three Good Things, wherein students were asked to report three good things that happened during each day. Other activities involved teaching students to recognize and utilize their character strengths. After this program was implemented, teachers reported students as more engaged in and enthusiastic about achievement in school. These effects were lasting, and showed increased learning strengths even after 18 months.

It is important to note that the work Seligman et al. (2009) used participants in Grade 9 or older; it is likely that similar interventions would not yield the same results with younger participants. For instance, the activity Three Good Things is aimed to engage a sense of gratitude in participants but Peterson (2009) asserted that gratitude is a cognitively demanding concept that only develops later in childhood and even into adulthood. Thus, it is important to attend to the developmental trajectory of participants when drawing conclusions in this area. Additionally, it is noteworthy that this project specifically found that the results were dependent on the training of the leaders and teachers involved. Nevertheless, Seligman et al. (2009) found that teaching the skills of positive psychology increased engagement and enjoyment in school.

Conclusion

As positive psychology is the study of human flourishing, even despite negative events or circumstances, it is an ideal theoretical framework in which to situate this present study. The following pages present a review of related constructs such as temperament, happiness, as well as spirituality and its development.

Temperament

Temperament was first studied as the reaction patterns of infants (Chess & Thomas, 1990). It is the forerunner of adult personality, emerges in infancy, and develops as children mature (Rothbart, 2011). Temperament is an important construct to understand and measure within the context of this study, as it is likely that temperament interacts with participants' social-emotional skills as well as their sense of spirituality and spiritual well-being (SWB). Rothbart (2011) discussed several ways to measure temperament: self-report, naturalistic observation, care-giver questionnaires, structured observations (lab-based), and even mechanical monitors. Care-giver questionnaires are especially helpful in that they are completed by someone who presumably knows the child well. In this way, they offer consistency over time. Additionally beneficial in using questionnaires is the ability to psychometrically test the instruments and mathematically analyze the results.

Buss and Plomin (1984) devised a three-trait model of temperament which included emotionality, activity, and sociability. Emotionality, or distress, can be seen as the tendency to get upset easily and intensely. In infants, this is manifested as general distress, and in early childhood, as fear and anger. The second domain, activity, refers to the frequency, duration, and intensity of activities. Finally, sociability describes a child's preference for being with others. Buss and Plomin removed a fourth dimension, impulsivity, as it did not at first appear to be

genetically based (a theoretical requirement for Buss and Plomin). However, more recent scholars have suggested that the dimension (which refers to self-control, persistence, and planning) is indeed genetically based but contend it was originally mislabeled (Rothbart, 2001). Impulsivity, or self-control, persistence, and planning, reflect the idea that individuals are active agents (Rothbart, 2011; Shiner et al., 2012). The EAS, a measure of temperament, devised by these authors has gone through several iterations, making it challenging for researchers of childhood function to know which version is most psychometrically sound (Cleveland, 2013). In short, Buss and Plomin articulated a three-dimension model of temperament (emotionality, activity, and sociability); their work has since been augmented to include a fourth dimension (impulsivity).

Happiness

As happiness is closely linked with positive psychology, the construct needs to be explored and operationalized. Indeed, the term is so widely utilized in practice and research that a definite articulation of its meaning is problematic (Argyle, 1987). What follows is an explanation of happiness in the context of this replication study, as well as a brief review of the recent research literature surrounding happiness and children.

Happiness, according to Argyle (1987), is simply positive emotions and satisfaction with life. This definition, he further stated, contains two domains: emotional and cognitive. That is, happiness is the degree to which people experience positive emotions and the ability of people to reflect positively on their overall life. Additionally, Chaplin (2009) and Diener (1984) asserted that happiness must also be defined by an absence of negative affect. In fact, these three inter-related domains (positive emotions, positive outlook, and the absence of negative affect) have become the de facto operational definition of happiness (Diener, 1984; Seligson et al., 2005).

Park (2004) offered a synonym to happiness, Subjective Well-being (SWB) which is easier to wield in the area of research, as it is not so in use that many definitions crowd out genuine meaning. For the purposes of this discussion, the terms happiness and SWB will be employed interchangeably and are regarded as comprised of three main components: positive affect, the absence of negative affect, and a cognitive component. Also happiness has been termed *life satisfaction* (LS; Park, 2004). LS represents individuals' overall judgment on their life happiness, despite ephemeral mood changes.

A review of correlational research revealed that in children assessed through self-report, high levels of SWB were linked to physical health, positive behaviors (e.g., regular exercise), problem-solving, generosity, forgiveness, higher self-esteem, internal locus-of control, and intrinsic motivation (Park, 2004). Similarly, higher levels of SWB were negatively correlated with drug use, teen pregnancy, violence, depression, and externalizing problems after stressors. Interestingly, demographic variables had at best a weak relationship with children's SWB (Huebner, Valois, Paxton, & Drane, 2005; Park, 2004; Seligson, Huebner, & Valois, 2005). In summary, higher levels of SWB can serve as a protective factor, likely to increase resiliency and help overcome stress and other difficulties. Similarly, Mashford-Scott et al. (2012) found SWB to be a process which facilitated children's learning and development. In turn, positive development and learning resulted in higher levels of SWB.

SWB in children. Park and Peterson (2006) suggested that there is a literature gap in studying children's happiness. They posited three reasons which have delayed the study of children's SWB. First, they attributed the lack of work in young children's SWB because of the "long shadow of Piaget" (p. 325). Jean Piaget developed seminal theories on the stages of children's cognitive development. The idea of a long shadow indicates that research has tended

to study children's cognitive development, rather than social-emotional development, of which SWB is a part. Second, Park and Peterson documented that considerable work has looked at what children believe about happiness, but not what they experience. Third, they suggested that research has not considered very young children because of a tendency to use self-report measures to measure happiness. Self-report measures can be cognitively demanding for young children, often requiring reading skills, a conceptual grasp on an abstract construct (happiness), and an ability to differentiate between momentary and long-term happiness. This last concern was explored by Chaplin (2009), and is discussed in the following section. After this discussion, the research trajectory of studies using happiness as an outcome variable is reviewed.

SWB as a construct. Studies of SWB have tended to ask how happy children are, but not what it is that makes children happy (Chaplin, 2009; Mashford-Scott, Church, & Taylor, 2012). In exploring what makes young children happy, Chaplin asked students (summer-camp attendees in grades 3-4, 7-8, and 11-12) to describe what makes them happy. They used two types of measurements: the first, an open-ended question, "What makes me happy?" Two researchers categorized the answers, which had all been written down (some of the youngest children had help writing their answers). There were five categories of answers: people and pets, achievements, material things, hobbies, and sports. The relative value of each of these emergent-themes shifted somewhat through the age groups, but people and pets remained the most apparent category throughout the three groups. This finding suggests that there is a developmental difference in what makes children happy.

Chaplin (2009) conducted follow-up study using the results from the first study. The second study used summer-campers in Grades 3-4, Grades 7-8, and Grades 11-12 to complete a task, where participants were asked to create a collage using words and pictures of items within

the five categories from study one: people and pets, achievements, material things, hobbies, and sports. They were then asked to reduce their collages by half, forcing participants to think through why certain items were being removed or retained. This allowed researchers to probe into the motivation behind participants' choices. As was found in the first study (Chaplin, 2009), people and pets were generally the highest-ranked, and even when certain items apart from people and pets were chosen, the choice had much to do with personal relationships. For instance, one participant deliberated on and decided to keep her cellular phone, arguing that she needed the phone to keep in touch with important people such as her friends and family. In summary, Chaplin's work not only provided insight into what makes children happy, but also offers a reliable way of collecting data from children who might not be cognitively equipped to respond to written surveys which ask participants to consider objectively their long-term happiness.

SWB as an outcome. Life satisfaction represents the cognitive domain of SWB and it is thought to be intrinsically regulated, transcending mood (Diener, 2000). Gilman and Huebner (2003) conducted a literature review which examined the correlates of LS in children and youth. Their findings were similar research into adults' happiness: youth tend to rate their lives as positive; once an individual's basic needs are met, there is little correlation between demographic variables and LS; momentary happiness tends to be a stronger experience than momentary negativity; and self-esteem is highly correlated to happiness among youth. These findings suggest that interventions designed to help youth mediate negative experiences may be most successful if focused on the strengths and positive aspects of individuals' lives.

A correlational study of Australian children ($N = 312$; ages 9- to 12-years) found that students who perceived themselves as socially connected were happier than those who did not

(O'Rourke & Cooper, 2010). The participants were from public and private schools, ranging widely in SES. Children completed four questionnaires detailing happiness and likely correlates of happiness: lifestyle demographics such as "How much TV do you watch?" and self-concept statements such as, "I am easy to get along with." Researchers found no significant age difference in happiness ratings (Grade 4 compared with Grade 6). However, there were significant differences in happiness levels between students who perceived themselves as socially connected and those who answered questions such as "I have lots of friends," in the negative. Additionally, students who perceived themselves to be lucky also rated themselves as happier than those children who reported they were without luck (O'Rourke & Cooper, 2010). Further, using Lyubomirsky and Lepper's (1999) Subjective Happiness Scale (SHS) the researchers computed a multivariate regression analysis which resulted in three significant predictors of happiness: freedom from anxiety (accounting for 30.0% of the variance), popularity (27.7%), and physical appearance (18.1%). Regrettably, no details as to the entry method of the multiple regression was provided; as such, it is difficult to know what variance might be shared among these and other variables in the regression equation. Still, the results added to the growing body of research seeking to explain and to predict happiness in youth and adolescents. Similarly, these results reflect in part the results found in Holder and Coleman's (2008) study conducted with children in British Columbia, Canada.

SWB and temperament. SWB is influenced by temperament (Holder & Klassen, 2010). To reiterate, temperament is a set of inherited personality traits that appear early in life (Buss & Plomin, 1984; Rothbart, 2011). What follows is a brief review of research into temperament as it relates to children's SWB.

Holder and Klassen (2010) assessed the relationship between temperament and happiness in school children from 8- to 12-years old ($N = 320$); participants were from both public and independent schools. They anticipated that the results of their study would be similar to those of adult findings: specifically, that happiness would be positively correlated with higher sociability (i.e., extraversion) and negatively correlated with higher emotionality (i.e., neuroticism). As temperament is the forerunner of personality, there was reason to believe that it would be strongly linked to children's happiness. However, formal inquiry was needed as children are constantly developing and are facing different life circumstances (e.g., school instead of marriage, career, or homeownership).

Children's temperament was measured using the Emotionality, Activity, and Sociability temperament survey (Buss & Plomin, 1984). The constructs include emotionality (distress), activity, sociability, and impulsivity. Happiness measures included the Faces Scale, a one-item measure of global happiness, the Oxford Happiness Questionnaire- Short Form (Hills & Argyle, 2002), and the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). As these last two happiness measures were designed for adults, Holder and Klassen (2010) re-worded the items to be more acceptable for a fourth-grade reading level. Even so, Holder and Klassen found the reliability of the Oxford Happiness Questionnaire to be only passably reliable for use with children ($\alpha = .58$); results derived from this happiness measure should be interpreted with caution. Holder and Klassen computed transformations in order to normalize the temperament

and happiness data. Further, they computed Pearson product-moment correlations to examine the relationship among all variables. Results indicated that indeed, temperament in children is modestly and significantly linked to happiness. In fact, children who were more social (and thereby less shy, emotional, and anxious) were happier across all dependent measures (Faces Scale, $r = .21, p < .01$; Oxford Happiness Scale, $r = .28, p < .001$; Subjective Happiness Scale, $r = .27, p < .001$). Additionally of interest, children who were more active (in frequency and vigor) in their daily lives were happier.

To summarize, temperament is a set of innate differences in the emotional responses of infants; it serves as a forerunner to personality, and is in part inherited. There are several theoretical explorations of temperament, but here, Rothbart's (2011) as well as Buss and Plomin's (1984) work has been highlighted. Additionally, the research methods and measurement tools of Buss and Plomin (1984) were discussed. In considering happiness research, it is vital to interpret results while being cognizant of the relationship between happiness and temperament.

Conclusion. Happiness theoretically reflects the work of positive psychologists. This movement in psychology suggests that mental health is more than the absence of psychoses. Happiness is generally thought to have three dimensions, including two affective areas (positive feelings and the absence of negative feelings) and one cognitive domain that is associated with general life satisfaction (Diener, 1984). Studying happiness in children remains challenging, for measurement is largely conducted through self-report questionnaires, which are often too cognitively demanding for young children. However, researchers have begun to investigate alternative mixed methods and to re-purpose adult surveys to more accurately elicit the voice of

children (Chaplin, 2009; Holder & Klassen, 2010). In the following section, cognitive development as it relates to the proposed study is briefly reviewed.

Cognitive Development

To frame the discussion of spiritual development, what follows is a brief overview of Piagetian Operativity (Piaget, 1955). After a career as a biologist, Piaget, struck by his own children's developments, studied the behavioral patterns of infants and children as they built an intellectual understanding of the world around them. He eventually put forth a stage-theory of cognitive development as a tool of analysis with which to examine an individual's formative learning. Reviewing his theory in brief is a helpful structure against which to examine spiritual formation.

According to Piaget's (1955) theory of cognitive development, an infant begins to develop cognitively nearly at birth and usually progresses through four stages of understanding. He assigned approximate ages to each stage, however, he asserted that age of stage completion will vary among individuals; the coherence of the theory in Piaget's (1955) understanding is that the "order of succession [of each stage] be constant" (p. 815). That is, while different populations and individuals might vary in the age at which stages occur, the stages will develop in the same order in the vast majority, if not all, cases. Further, he asserted, each stage of development relies on knowledge learned in the previous. For instance, once an infant learns object permanence, that knowledge will remain integral to a child in his or her subsequent stages of cognitive development. Finally, it is important to note that Piaget expected that development would occur in stages across domains, but not always at the same rate in every domain. As understanding is reached in one matter, the knowledge is integrated by an individual and his or

her understanding progresses across “an ever widening field” (Piaget, 1955, p. 817). That is, an individual might be at different stages of cognitive development in different domains of learning.

The first of these stages, the sensorimotor stage, lasts from birth until about two years old, or about the time speech develops (Piaget, 1955). During this time, an infant employs his senses and developing motor skills in order to manipulate his environment. The appearance of language marks the end of the sensorimotor stage and the beginning of the next: the preoperational stage. According to Piaget, the preoperational stage lasts from about two until seven years of age. Within this stage, symbolic thinking begins with the development of language; storytelling and pretending become important for children. Next, the child moves to the cognitive development stage of concrete operations. In the concrete operational stage, which typically lasts from seven years-old to 11 years-old, a child can manipulate objects. The ability to perform these operations abstractly does not occur until the formal operations stage. The formal operations stage occurs from about age 11 to 15. In this stage, a child is able to reason a hypothesis in the abstract. The formal operations stage is the final stage in cognitive development, according to Piaget.

Throughout these stages, new knowledge is assimilated and integrated through a process of equilibration. Finally, it is important to note that cognitive development occurs across different domains at different rates. A stage-structural understanding of cognitive development is an ideal lens through which to examine spirituality and faith development.

Spirituality

The type of faith linked to positive psychology is that which believes that life is worth living, that there is meaning behind life, and that meaning is worth struggling for (Csikszentmihalyi, 2000, p. 17). In adults, spirituality is a positive correlate to happiness and can

serve as a protective factor. Additionally, spirituality is thought to be intrinsic to the human experience (Benson, Roehlkepartain, & Rude, 2003; Roehlkepartain & Benson, 2013).

Therefore, understanding what spirituality is and how it develops is essential to the current study.

Definitions of spirituality in the context of this study, as well as a discussion of two relevant lenses through which to understand its development are presented in the following sections.

Further, a research review of children's spirituality is presented. First, spirituality is defined, second, it is discussed as a mediating factor, and finally, as an outcome.

Definitions. Though social science has struggled to define spirituality, especially in children (Roehlkepartain, 2012), an examination of several definitions reveals overlapping ideas that can, together, serve as a working definition for spirituality. Sink and Hyun (2012) offered three interpretive lenses to define spirituality. First, spirituality can be seen as aligned with religion, wherein the two are largely comparable and inseparable, influenced by environment and context. However, many assert that while humans are born spiritual, they are not born religious (del Rio & White, 2012; Roehlkepartain & Benson, 2013). Thus, the second interpretive lens offered by Sink and Hyun: a conception of spirituality devoid of religious connections; this definition emphasized finding meaning and purpose in life, reflected a universal acceptance of self and others, and eliminated the supernatural from the definition. Obviously, this definition eliminated the possibility of the divine in individuals' spiritual beliefs. A third conceptualization as discussed by Sink and Hyun dismissed the need to choose between these two binaries.

Using a constructivist epistemology, Sink and Hyun (2012) offered a third view of spirituality in which individuals (in part through social experiences) construct a self-transcendence. This third conceptualization is consonant with that of Benson et al. (2003), who defined spiritual development as the process of growing the intrinsic human capacity for self-

transcendence, in which the self is embedded in something greater than the self, perhaps including the sacred. Thus, spirituality is the developmental engine that propels the search for connectedness, meaning, purpose, and contribution. It is shaped within and external to religious traditions and beliefs.

Similarly, Roehlkepartain (2012) examined the spiritual beliefs of adolescent participants from 13 countries, using mixed methods (focus groups, interviews, and surveys) to gather data. What he found was a common belief that spirituality forms through Awareness of Self, Interconnecting with Others, and Living an Integrated Life. Roehlkepartain's three themes of spirituality reflect both an inner-reality (awareness of self) and an outer-component (interconnecting with others); these two aspects are vital to an understanding of spirituality, according to Radford (2006), who asserted that spirituality cannot be isolated within or outside of an individual.

In summary, for the purposes of this discussion, spirituality can be understood as a universal search for meaning and transcendence, perhaps reaching toward the sacred. Its development is constructed by individuals in context and in social structures, as discussed in the following section.

Spiritual development. The following section presents a discussion of the interconnectedness of stage-structural and systems-theory faith development as they illustrate the emergence of spirituality in children and youth.

Stage-structural. Most aligned to the stages of Piaget's theory of cognitive development, Fowler's (Fowler & Dell, 2006) stage theory describes the typical person's development of faith (conceived of as more broad than religious faith), however, Fowler indicated that these stages are not inevitable for every person. In fact, the final stage, universalizing, is empirically rare,

according to Fowler. The first stage, from birth to about age two (or the onset of speech), is the primal faith stage, wherein faith is conceived of as part of healthy attachment to caregivers. This is a foundation of trust that later faith stages will rely on. Second, the intuitive-projective faith stage begins in toddlerhood and stretches until early childhood. This stage is characterized by a mixing of pretend and reality, using speech and symbols to organize daily experiences, and holding an ego-centric perspective. Next, the mythic-literal faith stage often stretches from middle childhood and beyond. In this stage, faith is primarily characterized by a connection to symbolic powers, conceived of as all good or all evil and narrative lends coherence to a child's understanding of his or her life (often in stories of good versus evil). From adolescence and beyond, a faith developer might enter the synthetic-literal stage, in which people are able to step back and consider their own thinking; however, an individual's worth is often determined by the approval (or disapproval) of others. Thus, while individuals can reason about their beliefs, the opinions of others influence thinking. In conclusion, faith development stages represent the path through which people develop their understanding of their relationship to that which is outside themselves (Fowler & Dell, 2006).

The subsequent stages are largely beyond the scope of this work, as it is likely that the current participants have likely not developed beyond the synthetic-conventional stage. More in-depth discussion can be found in Fowler and Dell (2006) and Parker (2011).

An individual's faith development is determined by a faith development interview, according to Fowler (1981). During such an interview, the interviewer listens for development (or level of complexity) in several structures; among those are Piaget's cognitive development theory, moral development, perspective-taking, world coherence, locus of authority, social awareness, and symbolic function. Together, these structures comprise an individual's cognitive

and moral development, as well as a person's ability to change perspectives, an individual's sense of place in the world, his or her source of authority (internal or external) and meaning-making, as well as his or her ability to relate to the symbolic (i.e., the divine). The complexities regarding the domains of faith development articulated by the interviewee indicate his or her stage of faith development.

Fowler's theory has been criticized for being overly cognitive, relying on objective truth over subjective or intuitive truth (Benson et al., 2003; Cartwright, 2001). Additionally, critiques include that the paring of Piagetian stage theory with stage Fowler's theory of faith development is discontinuous in that Piaget's theory asserts that development stops near adolescence and that of Fowler indicates that development and spiritual learning may occur throughout an individual's lifetime, given his or her experiences and context (Cartwright, 2001). In order to couch spiritual development in terms of stage-theory, Cartwright (2001) asserted that it is necessary to consider neo-Piagetian theories, particularly those incorporating a post-formal operations stage. In a post-formal operational stage, individuals are able to hold multiple subjective truths as possible epistemologies, eventually selecting one for him- or herself. However, stage-theories of spirituality are further critiqued in that they offer no mechanism for fostering spiritual growth from one stage to the next (Cartwright, 2001). That is, stage theories of faith development do not explain how individuals are propelled from one stage to the next.

A complementary lens through which to understand spiritual growth is a developmental systems lens, which accounts for spiritual growth through interactions with others; it relies on a constructivist epistemology, as detailed by Sink and Hyun (2012). In some ways, this echoes Fowler's Faith Development Theory (Fowler & Dell, 2006), which highlights connecting with others, and ultimately, integrating and reconciling one's own views with those of others.

Developmental systems. Systems theories consider individuals as active agents in shaping growth, as they are in transactional relationships with others (Benson et al., 2003; Roehlkepartain & Benson, 2013). Underlying this family of theories are two assumptions: the human capacity for plasticity (change), and developmental regulation, which states that a young person purposefully develops healthy, positive relationships with his or her community by learning from interactions with that community. In this context, individuals develop spiritually as they interact with others. The path to spiritual development (here, the spiritual focus is on the transcendence of self, to a connection to others) leads ultimately to positive contributions to community and thriving adulthood. Roehlkepartain (2012) described this systems approach to spiritual development as “the dynamic interplay between one’s inward journey and one’s outward journey” (p. 163). This journey includes at least three stages: (a) awareness/ awakening (self-aware and other-aware); (b) interconnecting and belonging (experiencing significance in relationships); and (c) living an integrated life (Lerner, Alberts, Anderson, & Dowling, 2006).

A criticism of developmental systems theory is that there is no normative trajectory (Scarlett, 2006). However, taken with stage-theory of development, which does account for a normative trajectory, but is criticized for being overly cognitive, the two models (stage and systems) explain the development of spirituality in children. The next section details the research trajectory of spirituality as it applies to the present research questions.

Research into children’s spirituality. Though there is limited research into children’s spirituality (Benson et al., 2003; Sink & Hyun, 2012), the following sections outline spirituality as a construct, a mediator, and an outcome.

Spirituality as a construct. As alluded to above, spirituality is intrinsic to human beings from a very young age. Coles (1990), a trained psychologist, conducted a long-term qualitative

study using taped-recorded focus groups, individual interviews, and children's drawings and paintings. The 500 plus children with whom he worked ranged in age from six to 13 years, and represented various religions, ethnicities, and cultures. He learned from his participants a "spiritual psychology" (p. 15), which he explained helps individuals to place themselves in context and to answer such questions as, Why am I here? His goal was to get a sense how children perceived the sacred (p. 36).

In his seminal work on children's spirituality, Coles (1990) reported that when asking children to draw and describe God's appearance or voice, children labeled God as mutable: sometimes looking like the children themselves, and other times, not appearing human at all. Regarding voice, many children reported that the voice of God sounded familiar: a parent or a teacher. Other children did not perceive God as having a voice. From these representations, Coles concluded that God can take any form in the lives of children, from a protective parent, to an angry punisher, or a neutral onlooker.

Furthermore, children's spiritual lives are often distinct from their religious lives. Coles (1990) concluded that spirituality allowed children a defense against what they feared. It seemed to connect children to their ancestors, and to allow children a magical way of thinking about ordinary moments of living, and allowed children to feel a connection and placement in nature.

Similar to Coles' (1990) qualitative research, Hart (2006) conducted a mixed-methods study using North American, adult participants of various religious backgrounds ($N = 450$) who recalled childhood spiritual experiences (e.g., before the age of 18). The first part of the study was descriptive and revealed that over 80% of his participants reported having experienced spiritual moments: moments of awe, wonder, and unity (the sense that all in the world is connected). Particularly relevant to the current study, is that greater than 39% of participants

who had such experiences reported having spiritual moments before the age of 12. Spiritual experiences were part of the normative development of the participants in the study (Hart, 2006).

In the second part of the study, people's narrative accounts of their spiritual memories were collected. There were four categories of results: wonder, wondering, relational spirituality, and wisdom (Hart, 2006). Wonder included descriptions of moments of awe, joy, insight, or reverence, often felt in nature. Wondering, the second group of spiritual categories, involved the ability to ask big questions such as "Why I am I here?" Relational spirituality in children manifested itself as a "direct empathetic connection" (p. 173). Spiritual wisdom was described as the ability to "cut to the heart of matters" (p. 170) and choose wise action that is beyond self-interest. Hart recommended further research into the ways in which these spiritual touchstones might spur social-emotional and spiritual development.

Moore, Talwar, and Bosacki (2012) sought to address the paucity of research into children's spirituality by using an exploratory, qualitative design. The researchers asked 64 children (ages 6-11) what their ideas of spirituality were. They were particularly interested in gathering children's voices regarding spirituality as a separate concept from religion, arguing that children do not often have control over their religious practices or involvement. Researchers conducted semi-structured, open-ended interviews without parent presence. The interviews contained open-ended questions surrounding clustered topics (e.g., prayer); the interviews lasted on average 16 minutes. A particular interest of the researchers was to discover possible themes that stretched across a broad range of faith practices. Indeed, the participants represented 12 different faith traditions (including no faith). Results revealed several common topics including positive feelings when praying, God's location, the helpfulness of God (as a listener and comforter), and the soul and spirit. Especially interesting was this last result: most children

(80%) mentioned the soul or spirit within themselves, yet only about 25% identified that the soul or spirit represents God. The findings of this study are similar to the definitional position papers that assert spirituality and religion as separate, but perhaps somewhat overlapping concepts (Benson et al., 2003; Sink & Hyun, 2012).

Moriarty (2011) used research literature to design a four-dimension model of spirituality. She then tested its viability using semi-structured interviews with 24 participants of eight to 10 years of age who attended Victorian state schools. The original four dimensions of spirituality devised by Moriarty were consciousness, or an awareness of something other than self; relationality, or a relationship with the Other (a higher power); roadmap, a child's vision for the future; and identity, or defining oneself both within and in contrast to a community. After videotaping and transcribing the interviews, Moriarty adjusted her model to include only three dimensions of spirituality: consciousness, relationality, and a complex third: roadmap/worldview/identity. During the interviews, children were asked about "amazing things" (p. 277), the working title for consciousness. Each child answered by explaining a picture he or she chose. The answers described a sense of awe, an awareness of different people the world over. Next, in the answers for the relationality section of the interviews, children were observed reacting kinesthetically, gesturing toward each other as they reacted to a story. Finally, in the third domain, titled for interview purposes, Me and the World around Me, children talked a lot about their perceived place in the world as influenced by popular media (e.g., coverage of the Iraq War, or a documentary TV series). These inputs seemed to allow children vision for their future, empathy, and integrating into the world.

Moriarty's (2011) work catalogued children's answers against a theoretically-grounded framework of spirituality. Ultimately, she found that children perceived their spirituality as a

progressive development of a unique place contextualized in the world. Indeed, this is similar to a systems-theory of spiritual formation, employing domains that are consonant with spirituality in other frameworks: relationship with others and personal meaning-making (Holder et al., 2010). This study, however, was limited by its lack of clear and coherent domains of spirituality; further research isolating each aspect is in order.

Spirituality as a mediator. Williams and Lindsey (2005) conducted a qualitative study to investigate the spiritual experiences of 19 former runaway youth (ages 12 to 17 years). The researchers used a constant-comparison method, analyzing data as it was collected in order to refine subsequent interviews. Data analysis revealed five themes surrounding spirituality in the lives of these youth, as they transitioned out of runaway or homeless status. The themes included a sense of divine intervention, a personal relationship with a nonjudgemental Higher Power, the use of prayer, participation in traditional and nontraditional religious practices, and finding meaning and purpose in life. These themes resonate with previous findings of youth, who discussed spirituality in terms of a helpful, listening God, positive feelings about prayer, and meaning-making (Moore et al., 2012; Moriarty, 2011).

Kim, Miles-Mason, Kim, and Esquivel (2013) conducted a regression analysis in order to determine if spiritual domains might predict life satisfaction (LS) in Korean-American adolescents. Along with subscales of the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS), Kim et al. collected demographic information such as socio-economic status (SES), mother's level of education, and gender from 174 volunteer participants, aged 11 to 19 years. They concluded that daily spiritual experiences, forgiveness, and congregational support were significant predictors of LS among their participants.

Similarly, Holder et al. (2010) conducted a study that considered the spirituality, religiousness, and happiness in public and private school-children from 8 to 12 years. Holder et al. surveyed 320 participants (average age 10 years, 3 months) using the Spiritual Well-being Questionnaire (Gomez & Fisher, 2003), a subscale of the Brief Multidimensional Measure of Religiousness/Spirituality (Fetzer Institute, 1999) regarding religious practices, and three measures of happiness: the Faces Scale, a single item graphical measure of overall happiness, the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), and the Oxford Happiness Questionnaire, Short Form (Hills & Argyle, 2002). With the exception of the Spiritual Well-being Questionnaire, all of the measures used are uni-dimensional. The Spiritual Well-being Questionnaire uses a four-domain model of spirituality: communal, environmental, personal, and transcendental.

After checking for normality of data and computing Pearson product-moment correlations, the researchers calculated several hierarchical multiple regressions, one for each measure of happiness (the outcome variable). They reported that between 3% and 26% of happiness can be explained by the dimensions of spirituality and religious practices. In particular, the communal and personal spiritual dimensions were strong predictors of happiness in their participants, across three measures of happiness: Faces Scale (communal, $r = .45$, personal, $r = .44$, $ps < .05$), Subjective Happiness Scale (communal, $r = .34$, personal, $r = .38$, $ps < .05$), and Oxford Happiness Questionnaire (communal, $r = .44$, personal, $r = .48$, $ps < .05$).

The Holder et al. (2010) study is the original work upon which the current replication research is based. Therefore, it will be discussed in greater detail in the methods section.

Spirituality as an outcome. There is a dearth of research-based literature suggesting the best practices of fostering spiritual development in schools. However, there is a growing body of

literature that proposes practices aligned to constructs consonant with spirituality. First, in describing how to foster spirituality in children, many agree that time in nature helps individuals to engage in spiritual quests (Haskins, 2009; Noddings, 2003). Second, in explaining the experience of Daniel, the subject of a case study regarding Godly Play, a possible method of fostering spiritual growth, Hyde (2010) stressed the importance of providing moments of calm and quiet for young children; the recommendation is reiterated elsewhere as well (Haskins, 2009; Noddings, 2003). Third, there is a common sentiment that reading and reacting to texts, or as Noddings (2003) described, “excerpts from outstanding books” (p. 163), increases spiritual understanding. Yob (2011) underscored the importance of using text to foster spirituality. Related to using books, is the commonly held belief that young students will need language to explain the ineffable “feeling moments” (p. 43) that accompany spiritual experiences (Haskins, 2009; Hyde, 2010; Noddings, 2003). Finally, and perhaps most strongly aligned among the group of recommendations for fostering spirituality in children, is the idea of highlighting the connectedness among humans in order to encourage spiritual development (Haskins, 2009, Hyde, 2010; Noddings, 2003; Pashak & Laughter, 2012; Tan & Wong, 2013). In short, though there is not yet empirical research which informs how to develop spirituality in children, practitioners using qualitative and active research recommend several important practices: quiet time in nature in order to allow for reflection, providing language that helps children to talk about spiritual experiences, and a knowledge of the connectedness among humans, as well as between humans and experiences, creatures, and the earth.

Overall Summary and Conclusion

The current study replicated and to expanded the findings of Holder et al. (2010). They concluded that the communal and personal aspects of spirituality account for a significant

amount of variance in happiness in children eight to 12 years of age, after statistically controlling for the variance accounted for by temperament. The theoretical framework of this study is positive psychology which fundamentally seeks to explain how humans optimally function.

Specifically, the present ex post facto study will consider the potential relationships among various dimensions associated with children's happiness, spirituality, temperament, and two demographic variables (gender and grade level). Using archival data collected in conjunction with a larger research project, the participants were in either grades 4, 5, or 6, and ranged in age from eight to 12 years. The children, at the time of larger study, attended one of two private (faith-based) primary schools located in Puget Sound region of Western Washington. It is expected that, similar to the Holder et al. (2010) results, the participants' spiritual well-being (and not their religious practices) will predict their happiness after statistically controlling for temperament. The specific research questions to be addressed in this study are as follows.

1. What is the relationship if any among two dimensions of temperament, four dimensions of spirituality (communal, environmental, personal, and transcendental), religious practices, and happiness in fourth- through sixth-grade students in two private (faith based) schools?
2. Do children's reported spirituality (four dimensions: communal, environmental, personal, and transcendental) and religious practices predict their happiness after statistically controlling for gender, grade level, and temperament (as reported by students)?

The next chapter details the original work of Holder et al. (2010), as well as the psychometric properties of the instruments used as they relate to the participants of the present

study. Following that is a review of descriptive statistics and parametric assumptions for the current dataset in preparation for the main data analyses.

Chapter 3

Method

This chapter provides a detailed description of the original study conducted by Holder et al. (2010). Two main documents provide information related to the work: first, the published work of Holder et al., and the second, the unpublished Master's thesis of Wallace (2010). Following review of the original work, the current study will be outlined from the larger project's initial data collection to the final statistical analyses.

Original Study by Holder et al. (2010)

Participants. Holder et al. (2010) solicited responses from 761 students and parents from four public and two private schools. Ultimately, they obtained permission and correctly completed surveys from 307 students aged between 8-12 years (51% girls and 49% boys) and their parents. The two private schools were faith-based and included Christian teachings as part of the regular curriculum, though anecdotally, the students represented various faith backgrounds. The authors did not provide the number of participants by school type, but rather aggregated the data from all schools in order to complete the analyses.

Measurement. Participating children completed six questionnaires: (a) the Emotionality, Activity, and Sociability survey (EAS; Buss & Plomin, 1984); (b) the Brief Multidimensional Measurement of Religiousness/Spirituality-Practices and Beliefs subscale (BMMRS; Fetzer Institute, 1999); (c) the Spiritual Well-being Questionnaire (SWBQ; Gomez & Fisher, 2003); (d) the Faces Scale, a one-item graphic measure; (e) the Oxford Happiness Questionnaire- Short form (OHQ-SF; Hills & Argyle, 2002); and (f) the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999).

The measurements were completed by hand, with students and parents filling in circles on Likert-scales (which ranged from one-to-five through one-to-seven scales). The students were assessed during school hours, with up to two researchers present; survey completion lasted between 20 and 40 minutes. The structure, validity, and reliability as presented by Holder et al. (2010) of each are discussed below.

Temperament. Buss and Plomin's (1984) EAS survey consists of 20 items representing four domains (emotionality, activity, sociability, and shyness¹). Participants respond to items using a Likert-scale from 1 (*not very typical*) to 5 (*very typical*). The survey is not affected by gender or age and has good validity and reliability for parents' evaluations of young children. However, it was not designed for use with children as a self-report measure (Bould, Johnson, Sterne, & Araya, 2013; Buss & Plomin, 1984; Holder et al., 2010). Buss and Plomin reported the test-retest reliability for self-reporting adults as follows: Emotionality $\alpha = .72$; Activity $\alpha = .80$; Sociability/Shyness $\alpha = .58$. Buss and Plomin suggested that the final domain (Sociability/Shyness) should be interpreted with caution, given its low test-retest reliability. To score and to interpret scores for the instrument as it was theorized involves adding up the scores and then dividing them by five in order to interpret them.

Spirituality. The SWBQ is a four-dimension survey of spiritual well-being. Its 20 questions aim to determine the nature and strength of a person's spiritual health. It is particularly designed to regard spirituality as a construct broader than religion and/or a belief in a higher power (Gomez & Fisher, 2003). Holder et al. (2010) reported high internal consistency and good convergent/ discriminate validity, as well as support for construct validity. Unfortunately, they

¹ There have been several iterations of the Buss and Plomin (1984) EAS and there is some difficulty in determining which version was used by Holder et al. (2010). See Cleveland (2013) for a thorough discussion.

did not provide the population(s) used to determine this validity. However, Gomez and Fisher (2003), reported on four studies which supported the construct validity of the SWBQ using participants in secondary schools through adulthood. Additionally, the SWBQ remains psychometrically sound for both males and females (Gomez & Fisher, 2005). They concluded that the SWBQ is relevant for researchers interested in considering the relationship between happiness and broadly defined spirituality. Scores on the SWBQ can be interpreted in two ways: first, an individual who scores higher on the overall measure is described as “enjoying a higher level of spiritual health” (Fisher, Francis, & Johnson, 2000, p. 143) than individuals with lower scores. Second, an individual’s score on each domain (communal, environmental, personal, and transcendental) describes the dominant type of spiritualist one is. For instance, an individual who scores highest on the personal subscale is considered a *personalist*: one who intra-relates with him- or herself about things such as meaning-making, self-awareness, etc. Likewise, a *transcendentalist* garners his or her spiritual identity from a sense of connection with someone or something outside of humanity. A person who scores highly most or all of the domains is described as a *globalist*, according to Fisher et al.

Holder et al. (2010) used 11 items from the BMMRS (1999), though in some instances, they removed items not applicable to children or broadened language (e.g., replacing “God” with “higher power”). The BMMRS is designed to measure religiousness and spirituality in relationship; Holder et al. selected questions that would reflect their participants’ behaviors regarding their religious beliefs (Wallace, 2010). They reported item understandability for children using participants not included in their study. In a population of elderly adults ($N=1,445$) particularly active in religious activities, the nine subscales of the BMMRS were found to be useful instruments, with moderate to good internal consistency (Idler et al., 2003).

Happiness. The Faces Scale (Andrews & Withey, 1976) is composed of seven simply-drawn faces ranging from a face representing “very unhappy” to one which represents “very happy”. The Faces Scale is widely used with children, as the graphic representations of emotions are recognizable to children (MacDonald, Kirkpatrick, & Sullivan, 1996). Among the participants, response distributions deviated from normal and were transformed using a natural logarithm. The reliability and validity of the measure was unknown to this researcher.

The OHQ-SF (Hills & Argyle, 2002) includes eight items assessed on a six-point scale ranging from *strongly disagree* to *strongly agree*. The items themselves focus on how individuals feel about themselves (Wallace, 2010). In adult samples, the internal consistency ($\alpha = .62$) and the short-term test-retest reliability ($\alpha = .69$) were reasonable, according to benchmarks reported by Pett, Lackey, and Sullivan (2007). The uni-dimensional measure is scored by simple summing of the scores; higher scores indicate higher happiness levels (Hills & Argyle, 2002).

Finally, the SHS (Lyubomirsky & Lepper, 1999) is a four-item, uni-dimensional measure that requires participants to respond while thinking of themselves in comparison to their peers. The seven-point Likert-scale is anchored by *less happy* and *more happy*. Lyubomirsky and Lepper reported that among 14 populations of college-age adults, the measure has high internal consistency ($\alpha = .79 - .94$, $M = .86$), strong test-retest reliability ($\alpha = .90$), and reliable convergent/discriminant validity ($\alpha = .85$). It is scored by summing participant responses; higher scores indicate higher subjective happiness. In order to accommodate Grade 4 reading levels, Holder et al. (2010) adjusted the wording of two items (e.g., “How much” replaced “To what extent”).

The four happiness measures Holder et al. (2010) used correlated with each other. The lowest correlation was between the parents' ratings of the child using the Faces Scale, and the OHQ-SF ($r = .29, p < .05$). The highest correlation was between the children's Faces Scale and the SHS ($r = .60, p < .05$).

To summarize, Holder et al. (2010) examined the relationship among students' temperament, spirituality, religious practices, and happiness. Their participants ranged from the fourth to the sixth grade and were drawn from both private and public schools. Though they used instruments that were designed and psychometrically tested for use with adult populations, they did report attending to the reading level of their participants, and provided some evidence that they verified parametric assumptions. Additionally, Wallace (2010), who used the same dataset for her analyses and research questions, did check the parametric assumptions and found them to be tenable. It may be that Holder et al. used instruments intended for adults because no adequate measures were available for children. Attempting to replicate the findings of Holder et al. carries the benefit of helping to validate their use with children.

Present Study

This dissertation was part of a larger multinational project, The Happiness and Meaning-making Project, which is an ongoing and international research project dedicated to studying children's social-emotional skills, and more specifically, the relationship between children's happiness and their spirituality. The methods of data collection described below were in accordance with the Internal Review Board (IRB) requirements of that project.

Sampling and participants. As mentioned above, this study used archival data collected as part of a larger, ongoing study, the Happiness and Meaning-making Project. The research team (including this researcher) began by re-wording the questions from each of the instruments

to be understandable to a fourth grade level, translating and back-translating the questions for use internationally, and re-formatting the existing Likert-scales to be consistent. On all but the Faces Scale, a 1 to 5 Likert scale was used. The Happiness and Meaning-making Project used purposeful sampling of fourth, fifth and sixth grade students from two private, faith-based schools, located in the Puget Sound area of Western Washington. The next section explains how data were collected in accordance with the project's IRB requirements.

Parents/caregivers were advised of the surveys by the school administrators and both parents and students could opt out at any time. Classroom teachers administered the six surveys during school hours. Each survey was presented to the children using a pencil and paper format. Individual teachers chose the timing and duration of the completion of the instruments (i.e., number of and length of sessions), as the classroom teachers likely knew the capacity for student-concentration among their pupils. In most cases, the data were collected during one class period. Completed surveys were then delivered to the research team by school administrators and identifying information removed.

Participants from school 1. Students attending elementary school 1 (S1) were predominantly European American/White; about 25% of students received tuition discounts in the form of financial aid funded through the school. It was assumed that most students' families identified with Judeo-Christian in faith perspectives, and students participated in Christian teachings during the school day. During the 2012-2013 academic year, survey data were solicited from 248 students enrolled in grades four through six at S1. However, data were collected from 230 fourth-, fifth-, and sixth-grade students, for a return rate of 92.7%. Of those students, 71 (30.9%) were in Grade 4, 62 (26.9%) in Grade 5, and 94 (40.8%) in Grade 6. The gender distribution was 118 (51%) female and 110 (47.8%) male; two participants did not report

gender. It was not altogether clear to the researchers why some students did not participate. Possible reasons were as follows: certain parents chose to keep their students out of the study; some children chose not to participate; and some children were absent on the testing day.

Participants from school 2. Similar to S1, School 2 (S2) was predominantly attended by students who were European American/White, and came from Judeo-Christian families. Curricula here also included daily biblical teachings. In the academic year 2012-2013, about 24% of students received tuition assistance. S2 had slightly fewer ($N = 208$) participants in grades four through six than S1. The return rate of 93% was based on the enrollment of 223 4th-6th grade students. There were 63 (30.2%) fourth grade students, 75 (36%) fifth grade students, and 70 (33.6%) sixth grade students. Of the participants, 95 (45.6%) were female and 106 (51.9%) were male (seven students did not report gender). As in the S1, the reasons for non-participation were not fully known by the researchers. See Table 1 for a presentation of the final descriptive statistics by grade and gender.

Table 1

Descriptive Statistics by School, Gender, and Grade Level

	S1	S2	
Item Name	<i>n</i>	<i>n</i>	<i>N</i>
Gender			
Female	118	95	213
Male	110	106	216
Missing	2	7	9
Total	230	208	438
Grade Level			
4	71	63	134
5	62	75	137
6	94	70	164
Missing	3	0	3
Total	230	208	438

Instrumentation. Children participating The Happiness and Meaning-making Project completed six questionnaires: (a) the EAS (Buss & Plomin, 1984), (b) a subscale of the BMMRS, the PBS-B (Fetzer Institute, 1999), (c) the SWBQ (Gomez & Fisher, 2003), (d) the Faces Scale (Andrews & Withey, 1976), (e) the OHQ-SF (Hills & Argyle, 2002), and (f) the SHS (Lyubomirsky & Lepper, 1999). The items and individual wordings were adjusted to reflect developmental appropriateness and to use consistently a 1 to 5 Likert-scale anchored by *strongly disagree* and *strongly agree*. For a detailed description of the changes made to the instruments, see Cleveland (2013); a copy of the items used is included in Appendix A.

Using responses from the same archival data ($N = 438$), Cleveland (2013) conducted an exploratory factor analysis (EFA) using principal factor analysis with oblique rotations (factors were correlated) on each of the instruments to be used in the replication of the regression analyses computed by Holder et al. (2010). The EFAs allowed Cleveland to assess the overall suitability of using these six instruments with this population of upper-elementary children. In the following sections, his results are briefly reviewed.

Psychometric properties of the EAS. Cleveland's (2013) factor analysis computed on the EAS did not support the theorized model suggested by Buss and Plomin (1984). While the original instrument was not designed for student self-reports, computing a factor analysis using student self-report data in the present participants allows an assessment of the reliability of the EAS in this context. The most parsimonious solution arrived at was a two-factor model, accounting for about 29% of the shared variance in participants' responses. The first factor was comprised of 11 items from the Emotionality subscale created by Buss and Plomin, and retained that name. Thus, the potential range of scores is between 11 and 55. All but two items ("I usually feel confident" and "It takes a lot to upset me") in this factor are reverse-scored; for

instance, a response of 1 becomes a 5 and a response of 2 becomes a 4, and so on. Thus, a higher score on the EAS-E indicates that a respondent reports being less fearful and angry, and in better emotional control. The factor accounted for 21.41% of the variance and had high reliability ($\alpha = .85$) within this population. Factor 2 was comprised of three items from the Sociability subscale, and retained that name; it comprised 7.61% of the variance and an adequate reliability score ($[\alpha = .64]$ Cleveland, 2013, p. 86). Again, scores are calculated by summing responses on the items; potential scores range from 3 to 15. Table 2 shows the items retained for final inclusion in the analyses.

Table 2

EAS Items Retained by Factor (Cleveland, 2013)

Emotionality ($\alpha = .85$)	Sociability ($\alpha = .64$)
I am easily frightened (R)	I like to be with people
I am usually stressed (R)	I like to work with other people
I often feel alone (R)	I would rather spend time with people than do anything else
I get angry easily (R)	
I feel frustrated a lot (R)	
I feel nervous about things that happen every day (R)	
I usually feel confident	
I get annoyed easily (R)	
I panic when I get scared (R)	
I get upset easily (R)	
It takes a lot to upset me	

Note. R = reverse-scored.

Psychometric properties of the SWBQ and PBS-B. The EFA of the SWBQ supported a four-factor model as theorized, and suggested that the instrument is an adequate measure ($\alpha = .70$) of spirituality in this sample. It is interesting to note that within this sample, the four domains of the SWBQ together explained 51.47% of the variance in student scores. The Communal domain explained 31.93%, and had an alpha of .77. The Environmental domain explained, 11.27% of variance with a reliability of $\alpha = .88$. The Transcendental domain explained 5.96% of variance with a reliability of $\alpha = .86$. Finally, the Personal domain accounted for only 2.31% of variance with an alpha of .70. This seems to suggest that certain aspects of spirituality (e.g., its communal nature) might turn out to be stronger predictors of an individual's happiness than other aspects (e.g., the Personal). Calculating scores involves summing student responses to reach an overall score for each dimension of spirituality; potential scores for each dimension range from 5 to 25.

Cleveland (2013) concluded that the three-item Practices and Beliefs Scale (PBS) was not an adequate measure of religious practices of participants in this study. His findings suggested that the three items from the PBS were sampled from various domains of the original BMMRS and therefore were not designed to be scale. Scores were derived by summing student responses; potential scores ranged from 3 to 15. As a uni-dimensional measure being used with the current sample, its alpha reliability was low ($\alpha = .54$) and it accounted for 28.74% of the shared variance in responses. He posited that young children may not be able to reflect on and answer in-depth questions about their religious practices and suggested that an improvement might be to add items when using the measure with children (p. 73).

Psychometric properties of the Faces Scale, OHQ-SF, and the SHS. While Cleveland (2013) reported descriptive statistics on the Faces Scale, he obviously did not subject it to

psychometric analysis, as it is a one-item measure. However, both multi-item happiness measurements retained a one-factor solution when subjected to an EFA. Cleveland (2013) deemed each to be a reasonable measure of happiness in this sample. The seven items in the OHQ-SF accounted for 33.95% of the variance in the responses and was reliable ($\alpha = .79$). Potential scores ranged from 7 to 35; overall scores were calculated by summing student responses. SHS accounted for 38.69% of the variance in student responses, after the removal of item 4 (*I want to be happier*); similarly, its reliability was adequate ($\alpha = .75$). Scores were calculated by summing student responses, which had a potential range from 3 to 15. Per Cleveland's recommendation, the SHS was calculated without item four in the present research project.

To review, the psychometric properties of the instruments used by the current participants seemed to be adequate, with the exceptions of the EAS and the PBS. In order to mitigate the issues reported with the EAS, the 2-factor structure derived by Cleveland was used for the statistical analyses. Similarly, where it was helpful for interpretation of the PBS (i.e., in reporting descriptive statistics), information about each item was reported. Planned statistical analyses are described next.

Analyses. Both research questions were addressed using the same steps as are recommended with any statistical analysis. Specifically, data cleaning and verifying basic parametric assumptions were the initial procedures. Data were assessed for missing cases and outliers, as well as any data-entry errors, using visual inspection, the SPSS command to identify unusual cases, and graphical representations such as box-and-whisker plots.

Subsequently, the basic parametric assumptions were checked. Tabachnick and Fidell (2007) suggested checking for normal distribution of data, linearity, homogeneity of variance,

and an absence of multicollinearity and singularity. Field (2009) concurred, but also discussed the need for interval-level data and independent responses, both of which were accounted for in this sample. The normality of the data was determined by the visual inspection of histograms and assessment of the skewness and kurtosis statistics for each variable. In the cases of deviation from normality (e.g., SWBQ-Transcendental), transformations were attempted, as suggested by Tabachnick and Fidell.

Following the assessment of the main parametric assumptions, descriptive statistics were computed: the percentage of responses at the highest levels, the means and standard deviations of each scale's items, and the skewness and kurtosis indices. Following these initial computations, the main analysis of each research question was undertaken.

Research question 1. To restate, the first research question asked what, if any, are the relationships among the variables of interest in this study. Those variables included two temperament scales, Emotionality and Sociability of the EAS (Buss & Plomin, 1984; Cleveland, 2013); the four domains of the SWBQ (Communal, Environmental, Personal, and Transcendental; Gomez & Fisher, 2003); three items of practices and behaviors of religiosity (PBS; developed as a subscale of the BMMRS by the Fetzer Institute, 1999), and three measures of happiness: the Faces Scale (Andrews & Withey, 1976), the OHQ-SF (Hills & Argyle, 2002) and the SHS (Lyubomirsky & Leper, 1999).

This question was assessed by computing a correlation matrix that displays Pearson coefficient correlations (r) between each pairing of variables. Pearson's r provides a standardized measure of the amount of variance shared by each pair (Field, 2009). The assumptions of most importance to correlation analyses are that data are measured at least at interval level, and that data be normally distributed. In the absence of normally distributed data,

a large sample size allows for robust correlational analyses (Field). Interpretation of Pearson's r follows these tentative guidelines: $\pm .1$ = small effect; $\pm .3$ is a medium effect; and $\pm .5$ is a large effect (Field). However, a practical measure of significance is often more helpful in social-science research (Sink & Stroh, 2006). Thus, Pearson's r was interpreted as both the test statistic and the effect size measurement (i.e., the r -squared multiplied by 100 represents the percentage of variance shared by two variables).

Research question 2. To review, the second research question sought to ascertain if children's reported spirituality (over four dimensions: Communal, Environmental, Personal, and Transcendental) and religious practices predicted their happiness after statistically controlling for gender, grade level, and temperament. After standard data screening was accomplished, the main analysis of this question was explored using a hierarchical multiple regression (HMR) analysis for each measure of happiness (the criterion variable), the Faces Scale, the OHQ-SF, and the SHS. The predictor variables included gender, grade level, and temperament (measured here using the EAS-E and the EAS-S), spirituality (measured using the four dimensions of the SWBQ), and religious practices and beliefs (three items of the PBS). Hierarchical entry was chosen as it allows the researcher to determine the order of entry into the equation. In particular, HMR has the distinct advantage over other approaches to multiple regression in that the influence of one or more predictor variables can be assessed after the effect of others is eliminated (Tabachnick & Fidell, 2007). The HMR blocking process used in this study reflected in part Holder et al.'s (2010) statistical procedures.

Regression is an analysis allowing a researcher to predict scores on an outcome variable for new cases of similar makeup as the original sample. Multiple regression analyses determine an equation that is the best prediction of an outcome variable from several predictor variables

(Tabachnick & Fidell, 2007). Once an individual's scores on particular predictor variables are entered into the equation, his or her outcome score can be calculated.

Once the regression model was computed, its goodness of fit was assessed. This procedure statistically compares the observed model to a best estimate model using the sum of squares method. The test statistic generated by a goodness of fit assessment is R^2 , which estimates the proportion in the outcome variable that is predictable from the best linear combination of predictor variables (Tabachnick & Fidell, 2007); that is, R^2 is a measure of variance explained by the model. A secondary check of goodness-of-fit was evaluated: the F -statistic reports the improvement between the best guess model and the observed model (reported through analysis of variance). Once the model as a whole was assessed, each predictor was examined by interpreting its beta weight. In the following chapter, the results of the investigation are detailed.

Chapter 4

Results

This chapter presents findings for both the initial examination of data and final analyses addressing each research question. The dataset was first explored for irregularities and its suitability for parametric analyses and each of the research questions was examined using appropriate statistical tests. Initially, however, the data were aggregated into one dataset because of the similarities among student characteristics in both schools (e.g., ethnic makeup, faith background, and age range).

Data Cleaning, Parametric Assumptions, and Descriptive Statistics

Missing cases. There were 31 (7%) instances of missing data in the EAS-E and the vast majority ($n = 30$) stemmed from one missing response. Because the missing instances occurred randomly throughout the dataset, their missing values, as suggested by Tabachnick and Fidell (2007), were replaced with the scale's mean score. For the remaining scales, all missing cases were considered random and totaled less than 5% of all cases; as such, the missing data were deleted during each analysis. In short, it was determined that their absence did not likely represent a pattern that negatively impacted the final results (Tabachnick & Fidell). Table 3 shows the missing cases for each scale.

Table 3

Missing Cases for Each Measure

Instrument		Number of Missing Cases	% of Missing Cases
EAS	Emotionality	31	7.0
	Sociability	8	1.8
SWBQ	Communal	0	0.0
	Environmental	0	0.0
	Personal	0	0.0
	Transcendental	1	0.2
PBS		0	0.0
Faces Scale		1	0.2
OHQ-SF		1	0.2
SHS		6	1.4

Note. EAS = Emotionality, Activity, Sociability Survey; SWBQ = Spirituality Well-Being.

Questionnaire; PBS = Practices and Beliefs Scale-Behaviors; OHQ-SF = Oxford Happiness Scale-Short Form; SHS = Subjective Happiness Scale.

Outliers. An inspection of the standardized z -scores revealed 16 (3.6%) outlying cases (i.e., scores in excess of 3.29) and three (0.7%) that were outliers on more than one scale. Using the SPSS command to identify unusual cases, two cases (0.4%) were highlighted as missing most item responses. Additionally, the output (see Table 4) highlighted one case that was an outlier on four different instruments. A visual inspection confirmed that there were no data-entry errors. While Tabachnick and Fidell (2007) pointed out that a large dataset is likely to have a few natural outliers, seemingly advocating to allow some extreme scores, regression models are particularly sensitive to outlying cases (Field, 2009). Balancing the desire to compute a model that represents most in the sample, with the need to create a parsimonious model, the three extreme outliers were removed from the dataset and the rest retained. Outlying cases were reviewed again upon inspection of the residuals while interpreting the main regression analysis, a procedure recommended by Tabachnick and Fidell.

Normal distribution. Visual inspection of the EAS-E indicated approximately normal distribution of total scores. Additionally, the descriptive statistics computed revealed skewness and kurtosis statistics below 1, the rule of thumb suggested by social-science researchers (e.g., Field, 2009; Tabachnick & Fidell, 2007). Visual inspection of the EAS-S indicated a slight negative skew, meaning that the scores tended to be biased on the high end. Table 6 shows the skewness and kurtosis statistics for the EAS-E and EAS-S. Further statistical tests of normality such as a Kolmogorov-Smirnov or Shapiro-Wilk test would likely have resulted in biased results due to the present sample size (Field, 2009), however, for these two subscales, the assumption of normality was tenable.

Regarding the SWBQ, all four subscales seemed to have a slight negative skew at visual inspection and each subscale seemed to be more or less leptokurtic, meaning there were not

enough cases in the tails of the histogram to generate a clearly normal distribution. Table 7 and Figure 1 review these findings. Following the recommendation of Tabachnick and Fidell (2007), transformations were performed on two of the subscales: the Communal and Transcendental. These deviated substantially from a normal distribution (e.g., Figure 1). However, neither of the transformations computed (see Natural Log and Square Root indices) improved the distribution of either variable; in fact, each transformation increased the deviation from normality (see Table 8). Thus, the untransformed variables were retained and were considered in drawing conclusions.

The items of the PBS and the total score appeared to be approximately normal with the exception of the first item (“I go to a place of worship like a church every week.”). This item was slightly negatively skewed (i.e., students tended to rate themselves highly on this item). Further, skewness and kurtosis statistics fell within the acceptable range (see Table 9). For this measure, the assumption of normal distribution was tenable.

Finally, the distributions of the happiness measures were assessed. The histogram of the Faces Scale was negatively skewed. Visual inspection of the OHQ-SF revealed somewhat normal distribution but lacked a top-tail end on the histogram. Similar to other measures, the SHS looked to be slightly negatively skewed. Results reported in Table 10 confirmed these slight deviations from normal, but the statistics did not deviate from normality enough to warrant transformation. For the happiness measures, the assumption of normal distribution of data was tenable.

In conclusion, with the exception of the SWBQ subscales, all of the measures used in the final analyses met the assumption of normality without undergoing transformations. The four subscales of the SWBQ deviated slightly from normality, but were retained without

transformation, as their skewness and kurtosis statistics deviated more significantly from normal when subjected to transformations. Field (2009) asserted that for ordinary least squares (OLS) regression analysis, the predictor variables need not be normally distributed, and the large sample size helps to offset the need to strictly apply this assumption (Tabachnick & Fidell, 2007).

Homogeneity of variance. Homogeneity of score distributions was assessed as a part of the main regression analysis by assessing variance in the residuals of the model (Field, 2009; Tabachnick & Fidell, 2007).

Independence. Independence is the final of the four basic parametric assumptions, as outlined by Field (2009). The independence assumption implies that the behavior of one person completing surveys does not influence the responses of another participant. Obviously, this assumption could not be guaranteed. In most studies, students enrolled in the same school and same classes naturally influence each other. In this study, the dataset was archival in nature; as such, there was no way to assert that students independently completed surveys. Nevertheless, it was assumed that teachers administering the surveys maintained a serious atmosphere. Thus, the possible lack of independence may have slightly influenced the findings.

Descriptive statistics. The basic descriptive statistics for each measure are reported below in narrative and tables (see also frequency distributions in Appendix B). Table 5 displays the basic descriptive statistics of each instrument by school.

More specifically, in this sample, the EAS-Emotionality (EAS-E; see Cleveland, 2013) has a range of scores between 11 and 54, with a mean of 35.45 and $SD = 8.15$. Again, higher scores on the EAS-E suggest that respondents view themselves as less fearful and having better emotional control. Frequency of responses was then calculated. Regarding emotionality, 16.2%

of respondents scored in the top two categories (*strongly disagree and disagree*) when asked about the frequency and duration of their anger, fear, or distress. That is to say, about 16% of students in this sample rated themselves as less emotional on the emotionality subscale of the EAS. The second dimension (Sociability) was derived from three items (Cleveland, 2013). Scores ranged between 3 and 15, $M = 11.25$ and $SD = 2.46$. In this sample, 52.1% of participants scored an average in the 4-5 range, suggesting that about half of the respondents prefer the company of others over working or playing alone. Table and B2 in show the complete frequency distributions.

The four subscales of the SWBQ could potentially range from 5 to 25; however, all but the Environmental subscale ranged from 6 to 25 (SWBQ-E ranged from 5 to 25). Their means (M) and standard deviations (SD) were as follows: Communal $M = 19.73$, $SD = 2.88$; Environmental $M = 20.00$, $SD = 4.00$; Personal $M = 20.05$, $SD = 3.00$; and Transcendental $M = 22.22$, $SD = 3.00$. Echoing other skewness and kurtosis statistics, the means of these four scales trended high. An analysis of the frequencies of the overall scores yielded the following results: about 40% of participants rated themselves in the top two categories of the Communal domain; about 47% of students rated themselves in the top two categories on the Environmental subscale; about 49% of respondents rated themselves in the top two categories on the Personal subscale; and 75% of students rated themselves in the top two categories of the Transcendental domain of spirituality. Complete frequency tables appear in Appendix B (see Table B3 through Table B6).

The PBS total mean was 10.62 ($SD = 2.50$). The individual PBS item scores ranged from 1 to 5, with item means ranging between 3 and 4 (Item 1 $M = 3.79$, $SD = 1.23$; Item 2 $M = 3.57$, $SD = 1.11$; Item 3 $M = 3.36$, $SD = 1.08$). Overall 41.8% of students in this sample rated themselves in the top two categories of the PBS. In answering item 1 (“I go to a place of

worship like a church every week.”), 65.3% of respondents answered in the top two categories (*agree* or *strongly agree*). Item 2 asked students to respond to the following statement: “I pray or meditate a lot by myself.” Of the responses, 59.4% were in the two *agree* categories. Finally, item 3, “I read religious books or magazines,” garnered 47.2% of responses in the top two categories. The frequency tables for each item are available in Appendix B (see Table B8).

Finally, descriptive statistics for the three happiness measures are reported in Table B9, Table B10, and B11 of Appendix B. The Faces Scale scores ranged from 1 to 7, with a $M = 5.40$ and $SD = 1.12$. The OHQ-SF scores ranged from 11 to 40, $M = 31.19$ and $SD = 5.12$. The SHS ratings ranged from 3 to 15, with a $M = 11.38$ and $SD = 2.30$. On the Faces Scale, 81.3% of respondents placed themselves in the top three happiest categories. The frequencies the overall scores revealed that the majority of respondents rated themselves on average in the happiest two categories of the OHQ-SF and the SHS (see Appendix B).

The tables referenced previously are displayed below. Table 4 shows the highly anomalous cases; Table 5 shows the descriptive statistics for each instrument by school; Table 6, Table 7, Table 9, and Table 10 show the descriptive statistics for the EAS, SWBQ, PBS-B, the Faces Scale, OHQ-SF, and the SHS after the school-specific data were aggregated. Finally, Table 8 displays the SWBQ-Communal and Transcendental subscales before and after attempted transformations.

Table 4

Anomalous Cases in the Dataset

Case Number	Explanation
253	Missing Proportion
280	Missing Proportion
264	SWBQ-Communal, Environmental, Personal; OHS

Table 5
Descriptive Statistics for Instruments by School

	Mean		SD		Skewness		SE		Kurtosis		SE	
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2
EAS-Emotionality	35.31	35.61	8.10	8.22	-0.47	-0.38	0.16	0.17	0.48	0.26	0.32	0.34
EAS-Sociability	11.36	11.12	2.37	2.56	-0.77	-0.66	0.16	0.17	0.48	5.67	0.32	0.34
SWBQ-Communal	19.88	19.47	2.80	3.19	-0.54	-1.63	0.16	0.17	0.12	1.14	0.32	0.34
SWBQ-Environmental	20.62	19.31	3.49	4.30	-0.71	-1.03	0.16	0.17	0.61	1.92	0.32	0.34
SWBQ-Personal	20.41	19.65	2.74	3.15	-0.75	-0.96	0.16	0.17	0.92	4.02	0.32	0.34
SWBQ-Transcendental	22.42	22.00	2.93	2.98	-1.90	-1.61	0.16	0.17	5.67	0.11	0.32	0.34
PBS-B	11.22	9.96	2.22	2.63	-0.63	-0.55	0.16	0.17	0.10	1.03	0.32	0.34
Faces Scale	5.38	5.42	1.04	1.21	-0.77	-0.76	0.16	0.17	1.30	0.35	0.32	0.34
OHQ-SF	31.45	30.89	5.03	5.20	-0.71	-0.88	0.16	0.17	0.16	1.43	0.32	0.34
SHS	11.57	11.17	2.18	2.42	-0.86	-0.87	0.16	0.17	0.86	-0.16	0.32	0.34

Note. S1: N (listwise) = 227; S2: N (listwise) = 198.

Table 6

EAS¹ Descriptive Statistics

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>	Index	
						Skewness	Kurtosis
Emotionality	438	11	54	35.45	8.15	-0.42	-0.01
Sociability	430	3	15	11.25	2.46	-0.72	0.37

Note. EAS= Emotionality, Activity, Sociability Survey; ¹= Factors arranged as suggested by Cleveland (2013).

Table 7

SWBQ Descriptive Statistics Before Transformation

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>	Index	
						Skewness	Kurtosis
Communal	437	6	25	19.73	2.88	-1.18	3.71
Environmental	438	5	25	20.00	4.00	-0.99	1.33
Personal	438	6	25	20.05	3.00	-0.91	1.68
Transcendental	437	6	25	22.22	3.00	-1.75	4.72

Note. SWBQ= Spiritual Well-being Questionnaire.

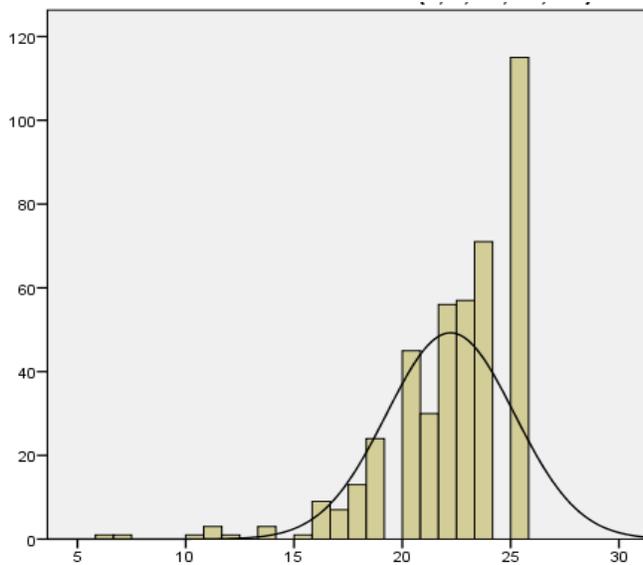


Figure 1. *Example of non-normal distribution, SWBQ-Transcendental*

Table 8

SWBQ-C, -T Skewness and Kurtosis Statistics Before and After Transformation

	Skewness			Kurtosis		
	Untransformed	Ln ¹	SqRt ²	Untransformed	Ln	SqRt
Communal	-1.18	-4.57	-2.20	3.71	42.89	11.94
Transcendental	-1.75	-3.20	-2.33	4.72	17.00	8.99

Note. ¹ = Natural Log; ² = Square Root.

Table 9

PBS Descriptive Statistics

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>	Index	
						Skewness	Kurtosis
Place of worship	436	1	5	3.79	1.23	-0.72	0.12
Pray or meditate lot	435	1	5	3.57	1.11	-0.62	0.12
Read religious books	431	1	5	3.36	1.08	-0.28	0.12
Total Score	438	3	15	10.62	2.50	-0.65	0.12

Note. PBS = Practices and Beliefs Scale-Behaviors.

Table 10

Descriptive Statistics for Faces Scale, OHQ-SF, and SHS

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>	Index	
						Skewness	Kurtosis
Faces Scale	437	1	7	5.40	1.12	-0.76	0.77
OHQ-SF	437	11	40	31.19	5.12	-0.79	0.23
SHS ¹	432	3	15	11.38	2.30	-0.88	0.23

Note. OHQ-SF = Oxford Happiness Questionnaire-Short Form; SHS= Subjective Happiness Scale; 1

= item four removed.

Inferential Analyses

Research question 1. Before computing a bivariate correlation matrix, each of the correlations was inspected visually. Most display a moderate and positive trend, indicating that the variables were interrelated. Table 11 provides the intercorrelational matrix among all variables. For example, mean scores on the OHQ-SF and the SHS were strongly and significantly correlated, $r = .62, p < .01$. A calculation of r^2 revealed that the two measures shared about 38.4% of the variance in student ratings. Similarly, the Faces Scale was significantly correlated with the OHQ-SF and the SHS, $r = .50$ and $r = .61$, respectively, $ps < .01$.

Furthermore, EAS-Emotionality was moderately and significantly correlated to four of the ten other variables: SWBQ-Personal, $r = .32$, Faces Scale, $r = .37$, OHQ-SF, $r = .37$, SHS, $r = .42$ ($ps < .01$). EAS-Sociability scores were moderately and significantly correlated with the Faces Scale, $r = .25$, OHQ-SF, $r = .31$, and the SHS, $r = .31$, $ps < .01$. The communal subscale of the SWBQ was strongly correlated to each of the other SWBQ subscales: Environmental, $r = .29$, Personal, $r = .54$, Transcendental, $r = .43$ ($ps < .01$). All four of the SWBQ subscales were strongly and significantly related to the three happiness measures; Pearson's correlation coefficients ranged from $r = .18, p < .01$ (SWBQ-E and the Faces Scale) to $r = .61, p < .01$ (SWBQ-P and the OHQ-SF). Finally, the PBS was moderately and significantly correlated with the SWBQ-T, $r = .46$, and all three happiness measures: Faces Scale, $r = .21$, OHQ-SF, $r = .34$ and SHS, $r = .31$ ($ps < .01$).

As some of the measures deviated in some degree from a normal distribution (i.e., the SWBQ-Communal and Transcendental), a second correlation matrix was computed using a non-parametric correlational test, the Spearman's rho (r_s). This correlation is calculated based on the

ranks of data. Field (2009) deemed its square a reasonable estimation of r^2 . Not surprisingly, the bivariate correlation results were largely similar to the parametric findings. The correlation matrix using r_s is available in Appendix C.

Table 11

Inter-correlational Matrix (Pearson's r) Among Variables

	1	2	3	4	5	6	7	8	9	10
1. EAS- Emotionality	--									
2. EAS- Sociability	.09	--								
3. SWBQ- Communal	.29**	.37**	--							
4. SWBQ- Environmental	.14**	.13**	.29**	--						
5. SWBQ- Personal	.32**	.27**	.54**	.39**	--					
6. SWBQ- Transcendental	.16**	.23**	.43**	.21**	.43**	--				
7. PBS	.10*	.19**	.29**	.26**	.30**	.46**	--			
8. Faces Scale	.37**	.25**	.37**	.18**	.45**	.29**	.21**	--		
9. OHQ-SF	.37**	.31**	.57**	.33**	.61**	.42**	.34**	.50**	--	
10. SHS	.42**	.31**	.43**	.33**	.59**	.32**	.31**	.61**	.62**	--

Note. *. Significant at the 0.05 level (2-tailed). **. Significant at the 0.01 level (2-tailed).

Research question 2. For the three happiness outcome variables a HMR was computed using IBM-SPSS (version 21). Each of the three HMR models included four blocks: gender, grade level, temperament (EAS-E and EAS-S), and spirituality as well as religious practices and beliefs (SWBQ with four scales and PBS, respectively). The next pages will review the findings of each of the three overall regression models, and applicable assumptions; subsequently, the contribution of each predictor to the overall HMR models is discussed. Table 12 displays the results for each HMR including the individual predictors. Figure 1 in Appendix E displays the full regression equations for each of the outcome variables.

Overall HMR findings—Happiness Measures as Criterion Variables

Student Faces scale. After statistically controlling for gender, grade (nonsignificant predictor), and temperament, spirituality comprised of the four measures of SWBQ along with students' reported religious practices and beliefs (PBS) explained an additional 8% of variance in the single-item Faces Scale (students' self-reported happiness). The overall model accounted for 31% of variance in students' reported happiness, $R^2 = .31$, $F(5, 401) = 9.01$, $p < .001$. Additionally, the overall F -statistic was significant, $F(9, 401) = 20.08$, $p < .001$.

As the overall model was significant, the underlying assumptions were assessed. Using the Durbin-Watson statistic, the assumption of independent errors was deemed tenable; similarly, the assumption of non-multicollinearity was verified through the Tolerance and VIF statistics. Next, the residuals were inspected visually through scatterplots and histograms. These showed that the assumptions of linearity, heteroscedasticity, and normal distribution were all tenable. Finally, case-wise diagnostics allowed for an examination of individual cases that might unduly influence the model. When using the Faces Scale as the outcome variable, one case violated the

two of the three statistics examined. Outliers were examined through Cook's Distance, Mahalanobis Distance, and the Centered Leverage Value. Cook's Distance should be less than one (Cook & Weisberg, 1982); all cases meet this recommendation. Next, using the chi-squared table of critical values and the number of predictors as the degrees of freedom, a critical value (CV) of 16.92 was found to be the threshold for significance. This CV was used as the Mahalanobis Distance under which individual cases should fall. Again, one case on the Faces Scale was above CV. Finally, the Centered Leverage Value was calculated by dividing one plus the number of predictors by the total number of participants. Field (2009) described that this threshold is to be expected for most cases and that cases above two or three times this limit should be investigated. Again, the same case violated this rule of the thumb when measured using the Faces Scale. Because of the regression model sensitivity to outliers, this case was deleted.

OHQ-SF. The second HMR was computed using the OHQ-SF as the outcome measure. After controlling for gender, grade, and temperament, block four, composed of spirituality (four dimensions of SWBQ) and students' religious practices (PBS) explained an additional significant proportion of variance (27%) in OHQ-SF happiness score, $R^2 = .54$, $F(5, 405) = 46.84$, $p < .001$. The model as a whole explained about 54% of variance in students' reported happiness. With all predictors in the model, the F -statistic was significant, $F(9, 405) = 53.18$, $p < .001$. Model statistics revealed that the assumptions of independent errors, non-multicollinearity, linearity, heteroscedasticity, and normal distribution were all tenable. However, in contrast, case-wise diagnostics revealed three cases which violated the thresholds set for Mahalanobis Distance and the Centered Leverage Value; those three cases were deleted.

SHS. Using the same HMR modeling process detailed above, for the third multiple regression, spirituality and religious practices explained a significant amount of unique variance (15%) in SHS happiness scores after controlling for variance accounted for by gender, grade, and temperament, $R^2 = .461$, $F(5, 398) = 22.61$, $p < .001$. Simply put, about 46% of the variance in responses was explained by this regression model. Similar to the OHQ-SF, with all predictors in the model, the F -statistic was significant, $F(9, 398) = 37.75$, $p < .001$. The third regression model was subjected to the same evaluations as the first two. Likewise, the assumptions of non-multicollinearity, linearity, heteroscedasticity, and normal distribution of residuals were all tenable. Also similar to the first two multiple regressions, there were a handful of cases ($n = 5$) that stood out from the rest and were deleted in order to improve the model's overall power. Thus, a total of 12 outlying cases (2.7%) were deleted from analyses.

HMR Findings—Contribution of Individual Predictors to Each Model

Gender. In the three measures of happiness (Faces, OHQ-SF, and SHS), gender accounted for only a small percentage of variance, 4.5%, 3%, and 4%, respectively, and was only statistically significant ($\beta = -.15$, $p < .001$) in the model using the Faces Scale as a criterion variable.

Grade Level. Grade level was not a significant predictor of any of the criterion variables. It only slightly increased the percentage of variance accounted for. For instance, in considering the change in the percent of variance accounted for (block two), where grade level entered the regression model, it accounted for only 1% (OHQ-SF) and .2% (SHS) more on each of the multi-item happiness measures, and there was no change in R^2 when using the outcome measure of the Faces Scale (see Table 12). To further investigate this finding, the regression analyses were computed by grade level for each outcome measure; this procedure did not

generate any significant findings. The model summaries for those calculations are reported in Appendix E. In summary, there was little indication that the grade level predictor exercised any systematic influence in the models.

Temperament. Both the Emotionality and Sociability scales of the EAS were statistically significant contributors to the overall regression model: Faces, EAS-E $\beta = .30, p = .001$, EAS-S $\beta = .21, p < .001$; OHQ-SF, EAS-E $\beta = .37, p < .001$, EAS-S $\beta = .29, p < .001$; SHS, EAS-E $\beta = .26, p < .001$, EAS-S $\beta = .43, p < .001$. Additionally, the change in percentage of variance accounted for was substantial, 19%, 24%, and 27%, respectively.

Spirituality and religious practices measures. For the Faces Scale as the criterion variable, the Personal dimension of SWBQ was a significant predictor of happiness, $\beta = .23, p < .001$. The final block in this regression model explained an additional 8% in students' reported happiness; the model as a whole accounted for about 31% of variance.

Using the OHQ-SF as the outcome variable, the Communal, Personal, and Transcendental dimensions contributed significantly to the regression model, SWBQ-C $\beta = .24, p < .001$, SWBQ-P $\beta = .36, p < .001$, and SWBQ-T $\beta = .10, p < .05$. Overall, the final step in the regression explained an additional 27% of the overall variance in students' happiness scores on the OHQ-SF; the total variance explained by the model was about 54%.

The third regression model used the SHS as the outcome variable. Personal SWBQ was the only statistically significant predictor of students' happiness, $\beta = .37, p < .001$. Additionally, students' reported religious practices and beliefs (PBS) were statistically significant, $\beta = .09, p < .05$. Finally, the SWBQ and PBS block increased the percentage of variance accounted for by about 15%, bringing the overall model to about 46% of variance accounted for. In each of the

spirituality predictors, the Beta weights are positive, further suggesting that each of the four measures contribute to the prediction of happiness.

Conclusion. To review, the initial correlation analyses (see Research Question 1) showed that the preponderance of variables were at least moderately intercorrelated. Happiness measures moderately and positively correlated with temperament, as well as with spirituality and PBS scores. Subsequently, three hierarchical multiple regression analyses (see Research Question 2) were computed using the three outcome measures of happiness. Spirituality (SWBQ) and religious practices and beliefs (PBS) accounted for 8%, 27%, and 15%, respectively of variance in students' reported happiness after statistically controlling for gender, grade level, and temperament. In all three regression models, the beta-weights of both the Emotionality and Sociability scales of temperament and the Personal dimension of spirituality were statistically significant and positive. When considering the Faces Scale, the Emotionality dimension of temperament (EAS-E) generated the highest beta-weight, and was therefore the most salient predictor of students' happiness. For the other two measures of happiness (OHQ-SF and SHS), the most poignant predictor of students' happiness was the Personal dimension of students' spirituality (SWBQ-P). Table 12 below summarizes these results. The following chapter discusses the implications of these results as well as the directions for future research in this area.

Table 12

Hierarchical Multiple Regression Analyses Predicting Children's Happiness

	Measure of Happiness (Outcome)					
	Faces Scale		OHQ-SF		SHS	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.05		.03		.04	
Gender		-.15 **		-.04		-.02
Step 2	.00		.01		.002	
Grade Level		.04		-.02		.07
Step 3	.19		.24		.27	
EAS-E		.26 **		.15 **		.15 **
EAS-S		.20 *		.08 *		.30 **
Step 4	.08		.27		.15	
SWBQ-C		.10		.24 **		.02
SWBQ-E		-.04		.04		.07
SWBQ-P		.23 **		.36 **		.37 **
SWBQ-T		.07		.10 *		-.01
PBS		.13		.04		.09 *
Total R^2	.31		.54		.46	
n	411		415		408	

Note. * $p < .05$; ** $p < .001$

Chapter 5

Discussion

Summary of Results

Presented here is a summary of the major findings relate to each of the two research questions investigated in this study. Following this review is a discussion of the present findings as they relate to the Holder et al. (2010) results, and other research regarding children's temperament, spirituality, and happiness. Finally, after presenting the limitations of this work, recommendations for future research are addressed, along with implications for educational practice.

Correlational analyses. Research question one explored the potential significant relationships among students' ratings on scales measuring temperament, spirituality, religious practices, and happiness. The measures were positively and moderately correlated with each other. Largely, these correlations were expected as they seem to measure related constructs; for instance, the EAS-Sociability dimension and the SWBQ-Communal domain shared about 13.7% of variance. Likewise, the SWBQ-Transcendental and the PBS shared about 21% of variance in responses. Also logically, the happiness measures were positively intercorrelated; the two multi-item measures (OHS and SHS) shared about 38.4% of variance.

As expected, the EAS-Emotionality dimension was positively correlated with the three happiness scales. Higher scores on the EAS-E revealed that children rated themselves as less fearful, less anger, and less easily upset. This finding is consonant with research investigating temperament and happiness. Such research suggests that the emotionality domain of temperament is negatively correlated with happiness; that is, children who perceive themselves as relatively fearful, angry, or distressed are often less happy (Buss & Plomin, 1984; Holder et

al., 2010). These results reflect that pattern. This provides further evidence that using the two-dimension model as proposed by Cleveland (2013) provided a salient measure of temperament in this sample. Further investigations using the two-factor solution could further elucidate the relationship between temperament and happiness in children.

Multiple regression analyses. Research question two asked if spirituality and religious practices accounted for variance in students' happiness after controlling for gender, grade level, and temperament. In this study, the Personal domain of spirituality, and, depending on the outcome measure, the Communal and Transcendental domains of spirituality accounted for a significant amount of unique variance (between 8% and 27%) in students' reported happiness. Furthermore, there was little variance accounted for by students' reported religious practices and beliefs.

In examining the individual predictors, neither gender nor grade-level contributed significantly to the regression models, with one exception. Gender was a significant predictor of scores on the Faces Scale. As an individual predictor of happiness, grade level did not contribute significantly to children's reported happiness levels. This is to be expected and is consonant Piaget's (1955) notion of cognitive development. Specifically, elementary school-age children tend to be functioning at the preoperational level, and perhaps some at the concrete operational level. Self-understanding and appraisal skills are thus limited. Notions of personal happiness and well-being become increasing more nuanced and refined as formal operational thinking emerges in adolescence. Additionally, the present results are similar to the findings of O'Rourke and Cooper (2010) which suggested that children report happiness levels which are relatively consistent throughout their primary school years.

Temperament (two dimensions) was a significant predictor across all measurements of happiness. Additionally, positive beta-weights indicate that temperament scores contribute to the prediction of happiness. This finding indicates that using the two-dimension model of the EAS contributed to a parsimonious regression model.

What follows is a contextualization of this study among other similar research studies.

Results in Context

Holder et al. – correlational results. According to the Holder et al. (2010) results, the EAS-Emotionality is negatively correlated with the reported happiness of their participants. Their results are incongruent with those reported in the present study. Given that Holder et al. used the original EAS scoring without modification and the current study recalculated scores based on the recent EFA computed on measure (Cleveland, 2013), it is likely that the two different iterations of the EAS produced dissimilar results.

Moreover, Holder and Klassen (2010) reported that higher levels of sociability were positively correlated with all three happiness measures; the present correlational analysis reveals a similar pattern. It seems that when students reported greater levels of sociability (i.e., preferring to be in the company of others), they also rated themselves as happier overall.

Comparisons reported by Holder et al. were limited to relating each predictor instrument with each measure of happiness, and not the predictors with each other. Thus, further correlational comparisons between the two studies' results are limited.

Holder et al. – regression results. The multiple regression models computed by Holder et al. (2010) suggested that the personal and communal aspects of spirituality accounted for significant variance in children's happiness, across all three measures of happiness. Similarly, the present results reflect their findings regarding the personal domain of spirituality. However,

diverging somewhat from the Holder et al. results, only variance of one measure of happiness in the present study (the OHQ-SF) was significantly explained by the personal, communal, and transcendental aspects of spirituality. Similar to Holder et al., temperament as measured by Cleveland's (2013) reconfigured EAS-S and EAS-E dimensions was found to be significant predictors of happiness measures.

Implications

Theoretical. In the present study, the domain of personal spirituality predicted students' reported happiness using all three happiness measures. This finding is consonant with a body of research about the type of spirituality which surrounds an awareness of self. Self-esteem and awareness of one's positive qualities is linked highly to children's life satisfaction (e.g., Huebner & Gilman, 2003; Roehlkepartain, 2012) and students who perceive themselves to be lucky and physically attractive rated themselves as happier (O'Rourke & Cooper, 2010).

Similarly, other experts in the field of spirituality and happiness recommend fostering spiritual growth in individuals. For instance, Noddings (2003) asserted that enhanced awareness of everyday life contributes to the spirit happiness of an individual. She highlighted the individuality of spiritual pursuits, as do the results of this study and others like it. The present findings also highlight a nuanced question about the origins of children's developing spirituality: what is the nature of the relationship between inner and outer spirituality in children? Sink and Hyun (2012) asserted that the spirit is intrinsic in humans and constructed by the individual in the context of others. Similarly, Roehlkepartain (2012) concluded that spirituality forms through Awareness of Self and Interconnecting with Others. In this study, the importance of students' personal spirituality in contributing to their happiness has been highlighted. Therefore, understanding the directionality and dynamic of the relationship between inner and outer

spirituality should be further examined as the body of spirituality research in children expands using experimental methodology.

Applied. Higher levels of spirituality are associated with decreased risk-taking behaviors and increased levels of thriving (Roehlkepartain & Benson, 2013). Additionally, spiritual tools and identity can help learners to find peace and to cope with acute episodes of struggle (Quick & Sink, 2014). This study represents a growing research consensus that specific aspects of spirituality, such as personal meaning-making, are associated with happiness. Understanding the relative importance of spiritual development can assist classroom teachers and other educators and professionals who work with children in the process of developing spiritually. Three major implications from this study are discussed below: (a) definitional implications, (b) faith-based implications, and (c) implications for educators working in secular institutions.

Definitional implications. First, whether or not children attend public or private schools, spirituality should be broadly defined and understood (Fisher, 2009). Doing so values students' cultural and personal beliefs and helps to develop healthy spirituality. For instance, Fraser (2004) argued that schooling has a moral duty to reflect students' individual values and understanding. This is consonant with the idea of personal spirituality; it allows an individual to find meaning in his or her daily life. A broad definition of spirituality means that attention to student's spiritual lives need not be complex. In fact Noddings (1999) offered advice to educators interested in fostering the spiritual in the everyday lives of children: use "poetry, music, biography, ordinary conversation—even just slowing things down once in a while and letting the students look out the window" (Montgomery, 1999, p. 31). This type of spirituality does not insist on a religious paradigm, nor does it interfere with faith-based teachings. Human flourishing can be increased by broadly defining spirituality and fostering its growth.

Faith-based implications. Second, the participants in this study attend private, faith-based schools. It is not surprising that students in these schools report a heightened sense of spirituality, as biblical teachings are part of the daily lessons. For educators and youth workers in a faith-based arena (i.e., churches and youth ministry), instilling the habits of praying, attending church, and reading religious books is an expected part of the job. However, the results of this study indicate that the strongest spiritual predictor of happiness is a personal spirituality, sometimes in combination with communal and transcendental aspects. Thus, spiritual educators should focus on fostering those more intangible aspects of spirituality in addition to instilling behaviors. Nash (2009) advocated doing so through informal methods. She explained that the primary vehicle for fostering spiritual well-being is conversation. Through genuine conversation, youth feel as though they have been listened to and their opinions made valid. Additionally, this allows youth developing spiritually the chance to reflect on their experiences. Thus, this study highlights that even though students might attend faith-based schools, and be engaged in the practices of religion, students need training in and time to foster all aspects of spirituality.

Implications for educators. As has been discussed, spirituality is thought to be intrinsic and to follow a developmental trajectory (Roehlkepartain & Benson, 2013; Sink & Hyun, 2012). Additionally, spiritual well-being and happiness seemed to be correlated with happiness. Thus, it is incumbent on educators to foster the spiritual development of students. In fact, schools in the UK and Australia have a mandate to contribute to the spiritual development children (Morris, Clark, & Potter, 2012). To foster spiritual growth, even in secular institutions Cummins (2002) advocated providing time and space for quiet reflection of the arts, mysteries of the universe, and

one's vision for him- or herself. This time, space, and guidance towards reflection might help to foster the types of spirituality that contribute to human well-being.

Current Limitations and Future Directions

Current limitations. Among other minor issues, the current study is substantially limited by (a) the relative homogeneity of the sample (b) the questionable psychometric adequacy of the EAS, the PBS, and the SWBQ-Personal, and (c) the ex-post facto research design. First, it was important for comparison purposes to include a sample of students similar to those of Holder et al.'s (2010) original study. However, the generalizability cannot be extended beyond that of a mostly European-American (white) population of students attending private (faith-based) schools. The limitation of a narrow population exists throughout the field of research into spirituality and children (Roehlkepartain & Benson, 2013). Subsequent research should be extended to public schools, other faith and cultural communities, and varying SES levels to understand further these concepts more fully and increase the generalizability of current findings.

Second, the psychometric properties of two instruments (the EAS and the PBS) were not ideal for use with this sample (Cleveland, 2013). There are several iterations of the EAS currently available in the literature and the factor structures seem to differ from version to version. The current study used Cleveland's two-factor solution, while the original work completed by Holder et al. (2010) used a four-factor solution.

The PBS is also problematic. In evaluating psychometric adequacy of the instruments used with this sample of participants, Cleveland (2013) asserted that the PBS was not an adequate instrument. He concluded that the individual items taken from various subscales within a larger instrument (the BMMRS) were not factorable. Spirituality and religiosity are theorized

to be related, but separate constructs (Roehlkepartain & Benson, 2013). Future research into the relationship among spiritual beliefs, religious practices, and happiness must find a more suitable method of measuring religious practices and beliefs in children.

Finally, the psychometric work on the SWBQ revealed results contrary to the theorized importance of the personal nature of spirituality, and contrary to other findings within this study. Theory indicates that individuals create their spirituality in context (Coles, 1990; Sink & Hyun, 2012); this implies a relatively unique spiritual experience for each person, which seems consonant with the personal dimension of spirituality as well as the item wordings of the SWBQ-Personal dimension (i.e., “I really know myself”). However, Cleveland (2013) found that the SWBQ-Personal accounted for only 2.31% of unique variance. This could be due to two items (numbers 9 and 16) that did not fully load on the factor, but their removal reduced the alpha (at its best, $\alpha = .70$). Additionally perplexing, is that in two of the happiness measures (OHQ-SF and SHS), the personal domain revealed the highest beta-weights in the regression equation, suggesting that personal spirituality does contribute strongly to one’s happiness. Further research using this or other measures of personal spirituality should investigate this discrepancy.

A final limitation to this study must be discussed. As has been hinted at, ex-post facto methodology allows for interesting questions to be posed and investigated after data have been collected without researcher presence. This is helpful in that researcher presence likely adds to the level of commitment schools and participants must make, but it is also difficult as the implementation of surveys was unregulated. Having a researcher present at the time of data collection could help to ensure that student questions were addressed uniformly, as well as that the atmosphere of reflection and thoughtfulness was maintained. Further research in this area could add researcher presence into data collection in order to strengthen the reliability of results.

Future directions. The relationship between and among temperament, spirituality, and happiness should be studied further. Future research should take place in various contexts, and use various methods, as reported happiness in students is in part explained by their spiritual well-being, apart from their religious practices. For example, some educators and experts in this area are already trying to implement activities and practices that will help students develop spiritually and live happily (Hyde, 2010), and other researchers advocate that it is time to begin to study what interventions might increase certain aspects of students' spiritual well-being (Roehlkepartain, 2012; Rowold, 2011; Yob, 2011). If indeed there is predictive power between individual's spiritual well-being and his or her happiness, finding and teaching these skills has the potential to help contribute to lives lived more fully.

Conclusion

Essentially, this dissertation was a replication and extension study of Holder et al. (2010). Although there are some caveats to the research methods, the study provided further evidence that beyond temperament and various demographic characteristics, several dimensions of spirituality (e.g., personal) do account for a significant amount of variance in elementary-age children's reported sense of happiness or well-being. This general finding is not altogether surprising given the participants attended Christian schools, where emphasis is intentionally placed on spirituality and faith development issues. Given that spirituality is correlated moderately with happiness, teachers in these schools should also provide further skill development related to social-emotional learning, particularly those related to happiness. Additional research into the interconnections of childhood spirituality and happiness is useful, for together they can serve as developmental assets and a protective factor in crises as well as a contributor to individuals' overall life satisfaction.

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Appendices

Appendix A

Original Instrumentation

The following pages contain (a) the original instructions and (b) copies of the original instruments' item wordings, used in the larger project, The Happiness and Meaning-making Project, which is an ongoing and international research project dedicated to studying the relationship between children's happiness and their spirituality.

The Happiness and Meaning-making Project (2012)

STUDENT QUESTIONS

I am a **GIRL** or a **BOY** (circle one)

Grade Level: 4th 5th 6th grade (circle one)

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

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

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

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 Agree

EAS Temperament Survey: Elementary School Version (Student Self-Ratings)

- 1 I like to be with people
- 2 I usually seem to be in a hurry
- 3 I am easily frightened
- 4 I am usually stressed
- 5 I let people know when I am unhappy
- 6 I often feel alone
- 7 I like to be busy
- 8 I get angry easily
- 9 I feel frustrated a lot
- 10 I am always doing things
- 11 I feel nervous about things that happen every day
- 12 I usually feel confident
- 13 I get annoyed easily
- 14 I panic when I get scared
- 15 I like to work with other people
- 16 I get upset easily
- 17 I have a lot of energy
- 18 It takes a lot to upset me
- 19 I only have a few fears
- 20 I would rather spend time with people than do anything else

Based on Emotionality Activity and Sociability Temperament Survey (Buss & Plomin, 1984); scoring based on EFA by Cleveland (2013) for the two-factor solution; negatively worded items were recoded (i.e., 1 recoded to 5, 2 recoded to 4, and so on).

Spiritual Well-Being Questionnaire: Elementary School Version

- 1 I love other people
- 2 I feel close to God
- 3 I forgive other people
- 4 I enjoy nature
- 5 I really know myself
- 6 I worship God
- 7 I feel joyous when I am outside
- 8 I trust other people
- 9 I learn about myself
- 10 I like being in nature
- 11 I feel close to God
- 12 I feel peaceful in nature
- 13 I am at peace with God
- 14 I am joyful
- 15 I pray
- 16 I am peaceful
- 17 I respect other people
- 18 I have meaning in life
- 19 I am kind to other people
- 20 I feel special in nature

Based on The Spiritual Well-being Questionnaire (Gomez & Fischer, 2003)

Practices and Beliefs Scale-Behaviors: Elementary School Version

- 1 I go to a place of worship like a church every week
- 2 I pray or meditate by myself a lot
- 3 I look at religious books or magazines often

Based on The Brief Multidimensional Measurement of Religiousness/ Spirituality
(Fitzer Institute, 1999)

Faces Scale: Elementary School Version (Student Self-Ratings)

Circle the face that shows how you usually feel.



Very Unhappy

Very Happy

Based on The Faces Scale (Andrews & Withey, 1976)

Oxford Happiness Questionnaire, Short Form: Elementary School Version

- 1 I feel happy with the way I am
- 2 I feel that life is rewarding
- 3 I feel comfortable with my life
- 4 I think I look attractive
- 5 I see beauty around me
- 6 I have time to do what I enjoy
- 7 I pay attention
- 8 I have happy memories of the past

Based on The Oxford Happiness Questionnaire (Short Form) (Hills & Argyle, 2002)

Subjective Happiness Scale: Elementary School Version

- 1 I am usually happy
- 2 I am happier than most kids I know
- 3 I enjoy life most of the time
- 4 I want to be happier

Based on Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)

Appendix B

Frequency Tables

Appendix B provides the frequency responses of participants' overall scores on each measure: EAS (Emotionality and Sociability), SWBQ (Communal, Environmental, Personal, and Transcendental), PBS, Faces Scale, OHQ-SF, and SHS.

Table B1

Frequencies of EAS-Emotionality (Overall Scores)

Score	Frequency	Cumulative %
11	1	0.2
12	1	0.5
15	4	1.4
16	2	1.8
17	4	2.7
18	4	3.7
19	5	4.8
20	3	5.5
21	2	5.9
22	7	7.6
23	11	10.1
24	6	11.4
25	4	12.4
26	8	14.2
27	7	15.8
28	13	18.8
29	12	21.5
30	16	25.2
31	12	27.9
32	5	29.1
33	21	33.9

34	17	37.8
35	27	43.9
35	31	51.0
36	12	53.8
37	21	58.6
38	19	62.9
39	22	68.0
40	21	72.8
41	20	77.3
42	15	80.8
43	13	83.8
44	15	87.2
45	16	90.8
46	7	92.4
47	8	94.3
48	7	95.9
49	4	96.8
50	4	97.7
51	6	99.1
52	1	99.3
53	2	99.8
54	1	100.0

Note. Scale 11 - 54. $N = 437$.

Table B2

Frequencies of EAS-Sociability (Overall Scores)

Score	Frequency	Cumulative %
3	2	0.5
4	3	1.2
5	6	2.6
6	10	4.9
7	16	8.6
8	20	13.3
9	32	20.7
10	56	33.7
11	61	47.9
12	81	66.7
13	69	82.8
14	40	92.1
15	34	100.0

Note. Scale 3 - 15. *N* = 437.

Table B3

Frequencies of SWBQ-Communal (Item Scores)

Score	Frequency	Cumulative %
6	1	0.2
9	2	0.7
11	2	1.1
12	4	2.1
13	5	3.2
14	6	4.6
15	11	7.1
16	21	11.9
17	34	19.7
18	37	28.1
19	56	41.0
20	81	59.5
21	60	73.2
22	47	84.0
23	35	92.0
24	26	97.9
25	9	100.0

Note. Scale 6 - 25. $N = 437$.

Table B4

Frequencies of SWBQ-Environmental (Overall Scores)

Score	Frequency	Cumulative %
5	1	0.2
6	2	0.7
7	3	1.4
8	2	1.8
9	3	2.5
10	4	3.4
11	2	3.9
12	4	4.8
13	6	6.2
14	5	7.3
15	12	10.1
16	23	15.3
17	31	22.4
18	39	31.4
19	41	40.7
20	56	53.5
21	37	62.0
22	32	69.3
23	38	78.0
24	36	86.3
25	60	100.0

Note. Scale 5 - 25. *N* = 437.

Table B5

Frequencies of SWBQ-Personal (Overall Scores)

Score	Frequency	Cumulative %
6	1	0.2
9	1	0.5
10	1	0.7
11	5	1.8
12	1	2.1
13	3	2.7
14	8	4.6
15	8	6.4
16	18	10.5
17	26	16.5
18	39	25.4
19	48	36.4
20	65	51.3
21	81	69.8
22	42	79.4
23	42	89.0
24	30	95.9
25	18	100.0

Note. Scale 6 - 25. $N = 437$.

Table B6

Frequencies of SWBQ-Transcendental (Overall Scores)

Score	Frequency	Cumulative
		Percent
6	1	0.2
7	1	0.5
10	1	0.7
11	3	1.4
12	1	1.6
14	3	2.3
15	1	2.5
16	9	4.6
17	7	6.2
18	13	9.2
19	24	14.6
20	44	24.7
21	30	31.6
22	39	40.5
22	17	44.4
23	57	57.4
24	71	73.7
25	115	100.0

Note. Scale 6 - 25. $N = 437$.

Table B7

Frequencies of PBS-B (Overall Scores)

Score	Frequency	Cumulative %
3	6	1.4
4	4	2.3
5	5	3.4
6	12	6.2
7	23	11.4
8	33	19.0
9	45	29.3
10	69	45.1
11	57	58.1
12	74	75.1
13	62	89.2
14	36	97.5
15	11	100.0

Note. Scale 3 - 15. $N = 437$.

Table B8

Frequency Distribution of PBS-B Items

Item Wording	%					Frequency Total (N)	Missing Cases
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree		
	I go to place of worship like a church every week.	5.0	13.9	15.3	27.6		
I pray or meditate by myself a lot.	5.7	11.6	22.6	39.5	19.9	435	3
I read religious books or magazines.	5.0	16.7	29.5	32.6	14.6	431	7

Table B9

Frequencies of the Faces Scale

	Frequency	Cumulative %
Very Happy	63	14.4
Happy	162	51.5
Somewhat Happy	131	81.5
Neutral	58	94.7
Somewhat Unhappy	14	97.9
Unhappy	8	99.8
Very Unhappy	1	100.0

Note. $N = 438$. Presented in descending order.

Frequencies of OHQ-SF (Overall Scores)

Score	Frequency	Cumulative %
11	1	0.2
14	1	0.5
15	1	0.7
17	4	1.6
18	1	1.8
19	3	2.5
20	9	4.6
21	3	5.3
22	6	6.7
23	8	8.5
24	8	10.3
25	10	12.6
26	18	16.7
27	17	20.6
28	20	25.2
29	35	33.3
30	28	39.7
31	26	45.6
32	43	55.5
33	34	63.3
34	37	71.8
35	26	77.8
36	35	85.8
37	32	93.1
38	14	96.3
39	8	98.2
40	8	100.0

Note. Scale 11 – 40. $N = 436$.

Table B11

Frequencies of SHS (Overall Scores)

Score	Frequency	Cumulative %
3	3	0.7
4	4	1.6
5	1	1.9
6	9	3.9
7	8	5.8
8	23	11.1
9	24	16.7
10	39	25.8
11	102	49.4
12	82	68.4
13	60	82.4
14	47	93.3
15	29	100.0

Note. Scale 3 - 15. $N = 437$.

Appendix C

Correlation Matrix using Spearman's Rho

Appendix C and Table C1 provide a non-parametric correlation matrix as a supplement to the main analysis of research question one, which seeks to determine any relationship which may exist among the variables being studied presently. As some of the variables (i.e., SWBQ-T) break the assumption of normal distribution, and did not improve with transformations, this second correlation matrix serves to demonstrate that the parametric findings are robust.

Table C1

Inter-Score Correlations (Spearman's rho)

	1	2	3	4	5	6	7	8	9	10
1. EAS- Emotionality	--									
2. EAS- Sociability	.09	--								
3. SWBQ- Communal	.31**	.35**	--							
4. SWBQ- Environmental	.16**	.10*	.30**	--						
5. SWBQ- Personal	.29**	.24**	.53**	.39**	--					
6. SWBQ- Transcendental	.20**	.14**	.46**	.23**	.48**	--				
7. PBS	.09	.17**	.29**	.23**	.31**	.43**	--			
8. Student Faces	.35**	.24**	.39**	.15**	.42**	.31**	.22**	--		
9. OHQ-SF	.35**	.29**	.50**	.35**	.59**	.45**	.35**	.48**	--	
10. SHS	.38**	.31**	.42**	.32**	.53**	.31**	.32**	.54**	.58**	--

Note. *Significant at the 0.05 level (2-tailed). **Significant at the 0.01 level (2-tailed).

Appendix D

Regression Model Summaries by Grade Level

Appendix D provides limited reports of each regression model reported by grade level.

Table D1

Faces Scale Model Summary by Grade Level

Grade	Model	R	R^2
4	1	.29 ^a	.08
	2	.53 ^b	.29
	3	.62 ^c	.39
5	1	.21 ^a	.05
	2	.44 ^b	.19
	3	.54 ^d	.29
6	1	.14 ^a	.02
	2	.51 ^b	.26
	3	.60 ^e	.36

^a. Predictors: (Constant), Gender

^b. Predictors: (Constant), Gender, Emotionality, Sociability

^c. Predictors: (Constant), Gender, Emotionality, Sociability, Environmental, PBS, Personal, Transcendental, Communal

^d. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Communal, Transcendental, Personal

^e. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Transcendental, Personal, Communal

Table D2

OHQ-SF Model Summary by Grade Level

Grade	Model	<i>R</i>	<i>R</i> ²
	1	.32 ^a	.10
4	2	.60 ^b	.35
	3	.74 ^c	.54
	1	.06 ^a	.004
5	2	.44 ^b	.20
	3	.77 ^d	.59
	1	.14 ^a	.02
6	2	.57 ^b	.32
	3	.70 ^e	.49

^a. Predictors: (Constant), Gender

^b. Predictors: (Constant), Gender, Emotionality, Sociability

^c. Predictors: (Constant), Gender, Emotionality, Sociability, Environmental, PBS, Personal, Transcendental, Communal

^d. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Communal, Transcendental, Personal

^e. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Transcendental, Personal, Communal

Table D3

SHS Model Summary by Grade Level

Grade	Model	<i>R</i>	<i>R</i> ²
	1	.25 ^a	.06
4	2	.59 ^b	.34
	3	.72 ^c	.52
	1	.18 ^a	.03
5	2	.51 ^b	.26
	3	.69 ^d	.48
	1	.18 ^a	.03
6	2	.57 ^b	.32
	3	.67 ^e	.44

^a. Predictors: (Constant), Gender

^b. Predictors: (Constant), Gender, Emotionality, Sociability

^c. Predictors: (Constant), Gender, Emotionality, Sociability, Environmental, PBS, Personal, Transcendental, Communal

^d. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Communal, Transcendental, Personal

^e. Predictors: (Constant), Gender, Emotionality, Sociability, PBS, Environmental, Transcendental, Personal, Communal

Appendix E

Regression Equations for Happiness Measures

Appendix E presents the three full regression equations derived from the hierarchical multiple regressions.

Figure E1. *Full Regression Equations*

Faces Scale Regression Equation: $\hat{Y} = 0 + (.04 * \text{grade level}_i) + (.26 * \mathbf{EAS-E}_i) + (.20 * \mathbf{EAS-S}_i) + (.10 * \text{SWBQ-C}_i) + (.23 * \mathbf{SWBQ-P}_i) + (.07 * \text{SWBQ-T}_i) + (.13 * \mathbf{PBS}_i) - (.15 * \mathbf{gender}_i) - (.04 * \text{SWBQ-E}_i)$

OHQ-SF Regression Equation: $\hat{Y} = 0 + (.15 * \mathbf{EAS-E}_i) + (.08 * \mathbf{EAS-S}_i) + (.24 * \mathbf{SWBQ-C}_i) + (.04 * \text{SWBQ-E}_i) + (.36 * \mathbf{SWBQ-P}_i) + (.10 * \mathbf{SWBQ-T}_i) + (.04 * \mathbf{PBS}_i) - (.04 * \mathbf{gender}_i) - (.02 * \text{grade level}_i)$

SHS Regression Equation: $\hat{Y} = 0 + (.15 * \mathbf{EAS-E}_i) + (.30 * \mathbf{EAS-S}_i) + (.02 * \text{SWBQ-C}_i) + (.07 * \text{SWBQ-E}_i) + (.37 * \mathbf{SWBQ-P}_i) + (.09 * \mathbf{PBS}_i) - (.01 * \text{SWBQ-T}_i) - (.02 * \mathbf{gender}_i) - (.02 * \text{grade level}_i)$

Note. \hat{Y} represents an individual's overall happiness score; emboldened predictors are statistically significant, $ps < .05$.