
COGNITIVE SPIRITUALITY AND HOPE IN CATHOLIC HIGH SCHOOL STUDENTS

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This study explores the validity of a construct of cognitive spirituality as measured by a recent measure, the Spirituality Index of Well-Being, in a sample of Catholic high school students. Spirituality on this scale is conceptualized as a composite of life scheme (having meaning in one's life) and generalized self-efficacy. Construct-based validity evidence was produced through factor analysis and examination of correlations between the spirituality scale and subscale scores with scale and subscale scores on the Children's Hope Scale, a well-being indicator previously used for this population. In addition, differences between male and female students were found, with females producing higher scores on the life scheme subscale, suggesting a greater sense of meaning in their lives. The Spirituality Index of Well-Being also demonstrated high internal reliability in this sample. It is argued that the goal of Catholic education is education of the whole person and that this conceptualization of spirituality is consistent with that goal. The Spirituality Index of Well-Being appears to be a valid and reliable measure of cognitive spirituality for this population and a useful indicator of student well-being.

"What greater work is there than disciplining the mind and forming the habits of the young?" (Pius XI, 1936, p. 5)

Catholic education is committed to the education of the whole person. John Paul II (1998) has written that "school cannot be limited to offering young people ideas in the various branches of knowledge; it must also help them look in the right direction for the meaning of life" (p. 1) and "school must help young people learn how to understand these values, by fostering harmonious development of every dimension of their personality from the physical and

spiritual to the cultural and relational” (p. 1). More directly, he describes the purpose of the Catholic school as “the advancement of the human person” (John Paul II, 1991, p. 2).

Groome (1999) argues that the purpose of Catholic education is the integration of a student’s mind, body, and character. He identifies the understanding of a link between knowledge of the material world and knowledge of how to live one’s life as wisdom and suggests that pioneering Catholic educators of the past (e.g., St. Augustine, St. Thomas Aquinas) consistently argued for a commitment to “character formation—to nurturing the values and virtues that enables people to live more humanly themselves and to contribute to the common good of society, to live with respect and responsibility for self and others” (p. 25).

The goal of producing a whole person places a hefty mandate on Catholic educators. What does a whole person look like? How does a whole person think? How can this objective be measured? At a minimum, whole persons should have an understanding of themselves and their place in the world. Rodimer (2001) believes that Catholic students are taught these skills of understanding and should see themselves and others as distinct individuals with unique strengths. Catholic schools work with the family to give students the “moral thoughtful leaders who will make the world a better place for themselves, their families, and their communities” (p. 22).

The type of understanding which is found necessary for a whole person – knowledge of self and a sense of meaning in one’s life – is consistent with a model of spirituality, that has been offered by Daaleman and colleagues (Daaleman, Cobb, & Frey, 2001). Under this model, spirituality is defined as the sum of two components: self-efficacy and life scheme. It is cognitive in nature and distinct from religiosity. Though this perspective of spirituality is consistent with Catholic education’s delineation of the characteristics of a whole person, the scale had not been validated for a school age population and data had never been gathered on Catholic high school students. Another important dimension of a healthy personality, hope, was recently measured in this population (McDermott, Pedrotti, Edwards, & Houske, 2002). Hope is a well-researched attribute consistently found to be associated with a variety of well-being and school success indicators (Snyder et al., 1991). McDermott and colleagues found that hope was higher in the Catholic high school population than for students from the general population. One would expect a relationship between cognitive spirituality and hope, as the two variables are indicators of well-being. Additionally, both constructs make use of an efficacy-type component which provides a specific theoretical overlap. The present study measured levels of spirituality in 577 high school students attending Catholic schools in the Midwest, explored the validity of the Spirituality Index of Well-Being for this population, and investigated the relationship between spirituality and hope.

SPIRITUALITY

Over the last decade, there has been an increase in theoretical discussions and research concerning the role of spirituality in well-being and quality-of-life (Koenig, 2000; Larson, Swyers, & McCullough, 1998; Mitka, 1998; Ory &

Lipman, 1998). Models for exploring and understanding the relationship between spirituality and well-being have come from the fields of medicine (Larson et al., 1998; Levin, 1994), social work (Canda & Furman, 1999), and psychology (Pargament & Mahoney, 2002).

In the medical community, spirituality has been identified as a key indicator of patients' needs, attitudes, and the treatment choices they make. Patient care is affected by attitudes and behaviors driven by religious and spiritual beliefs (Ganzini, Johnston, McFarland, Tolle, & Lee, 1998; Meier et al., 1998). Spiritual beliefs affect health beliefs (Furnham, 1994) and some clinical studies have identified potential links between spirituality and success of medical treatment (King, Speck, & Thomas, 1994).

Among social work researchers, the argument has been made that because religious and spiritual experiences and beliefs are so prevalent in people's lives, it is crucial that they be considered in understanding clients. Canda and Furman (1999), in an exhaustive review of spirituality in social work, support this position, and present an operational model which assumes that humans have an underlying drive toward attaining the qualities of spirituality. To be accepted as a valid research variable, they argue, spirituality must be viewed as capable of manifesting itself in a variety of ways that include religious expressions, spiritual development and experiences, and the underlying drive to be spiritual. They list common questions that frame the spiritual journey:

It is human nature to try to make sense of self and world. Who am I? Why do I exist? What is my purpose?... How do I fit in the world? These are questions of meaning that everyone struggles with in various ways....We also need a sense of integration and wholeness within ourselves and in relation to the world....What is my place in the scheme of things? (pp. 49-51)

In psychology, the characteristics of spirituality are studied within a family of healthy variables which make up a web of theoretical relationships and provide context for an approach known as *positive psychology* which studies positive subjective experience (Seligman, 2002; Snyder & Lopez, 2002). Pargament and Mahoney (2002) argue that researchers should attend to spirituality, among other reasons, because of associations between level of spirituality and mental health (Koenig, 1998), drug and alcohol use (Benson, 1992), reactions to stressful life experiences (Pargament, 1997), illness, and even death (Ellison & Levin, 1998). In the context of positive psychology, spirituality is viewed as providing a framework for coping, adjustment, growth, and reaching one's human potential.

Recent work on the spirituality variable has focused on the varied definitions of spirituality (Koenig, McCullough, & Larson, 2001). Major limitations for researchers have been the absence of operational definitions, treating measures of religion and measures of spirituality as interchangeable, and a lack of valid and reliable measures (Daaleman, Frey, Wallace, & Studenski, 2002a; Sloan, Bagiella, & Powell, 1999). Canda and Furman (1999) report that, outside of religious studies, the term spirituality has not typically been used by scholars, but when the term is used and defined, three different strategies have

been used. One approach is to define spirituality only in situation-specific ways; spirituality is different things, to different people, at different times. A second approach is to use general concepts and theories and assume they are meaningful across cultures and times. A third approach is to acknowledge the diversity of conceptualizations of spirituality that exist, while also seeking to identify a common set of components.

Another framework by which one can categorize the multitude of definitions is the extent to which spirituality is defined as a religion-based construct. People can characterize themselves as religious and spiritual, approaching the constructs as independent, though perhaps related, qualities of what it is to be human (Zinnbauer et al., 1997). There are theological definitions of spirituality, which center on belief in a divine being, as well as sociological, philosophical, and psychological definitions (Cox, 1996). Canda and Furman (1999) use the term "nonreligious spiritual propensity" for a spiritual person who does not use religion as a foundational belief system, and believes that all features of spiritual propensity can take on nonreligious forms. When spirituality's relationship with well-being is considered, and when theories are presented which postulate that the relationship is causal, moderating, or mediating, it is a psychological definition which is typically most useful.

Whether a researcher has adopted a religious or nonreligious view of spirituality, certain definitional characteristics are common across the scholarly fields. Common are definitions which describe spirituality as an aspect of humans that seeks meaning and purpose (Canda & Furman, 1999; Doyle, 1992), connections with something greater than one's self (Cox, 1996), transcendence (Mauritzen, 1988) and a search for the sacred, those things extraordinary and worthy of respect (Pargament & Mahoney, 2002). Spirituality is a construct which represents a sense of meaning, purpose, and power (Wulff, 1997).

COGNITIVE SPIRITUALITY

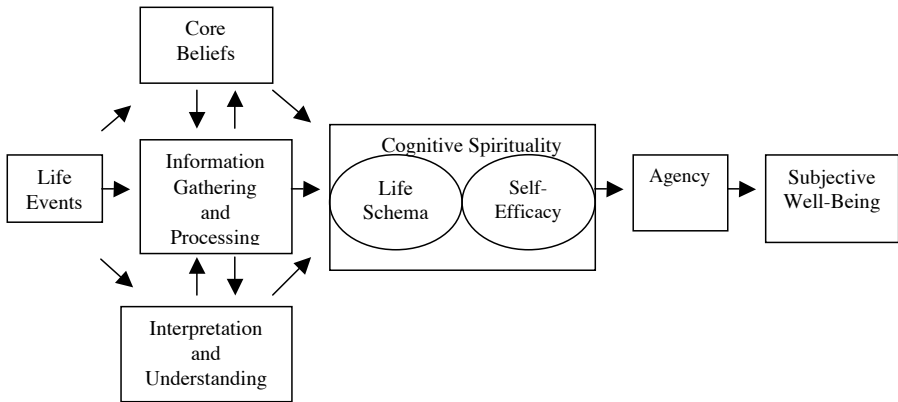
Daaleman, Cobb, and Frey (2001) have presented a view of what they named health-related spirituality arising from a context of quality-of-life. It differs from typical lay or previous research definitions of spirituality in three important ways:

1. It is person-centered. Qualitative methods were used to define the term spirituality and its relationship to well-being from the perspective of patients in a family medicine clinic, not the viewpoint of researchers (Frey & Daaleman, 1999).
2. It provides a conception of spirituality which is distinct from religiosity. Most previous spiritual well-being models explicitly or implicitly subsume beliefs in God and religious attitudes as part of spirituality (Sloan et al., 1999).
3. It describes spirituality as a cognitive construct. The two components of this view of spirituality are a coherent, pervasive life scheme through which one sees the world and one's place in it, and a generalized self-efficacy. By this definition, highly spiritual people see life as understandable and manageable and believe in their ability to plan and execute the necessary steps to achieve goals. The characterization of these components

are consistent with Antonovsky's (1987) view of the potential for a coherent life scheme to act as a framework for maintaining well-being and Bandura's (1997) view of the positive nature of self-efficacy.

Daaleman and colleagues (2001) have presented a conceptual pathways model of how spirituality might operate as a link between changes in health status and subjective well-being. Their model was specific to the health context from which it arose, but it can be generalized to a broader representation of how spirituality shapes well-being as a reaction to all life experience. Figure 1 presents this broader conceptualization. The framework suggests that life experiences, especially social and psychological disruptions, activate a process of comprehension and information gathering influenced by core beliefs about the self and the world. Preliminary interpretations of these events are framed, shaped, and ultimately understood within one's life scheme and feelings of self-efficacy, cognitive spirituality.

Figure 1.
Theoretical Model of Cognitive Spirituality
(Generalized from Daaleman et al., 2001)



The Spirituality Index of Well-Being was designed for well-being research to measure this new construct, and the scale has produced validity and reliability evidence in adult populations. Among older members of a health care system, spirituality was found to be positively related to well-being indicators such as quality-of-life and physical functioning and negatively related to geriatric depression (Daaleman et al., 2002a). There was no relationship with religiosity, a crucial validity indicator that the construct was independent from the strength of one's religious beliefs. In a secondary analysis on the same data, spirituality was found to be a significant explanatory factor of self-reported health in this age group, even after controlling for physical functioning, depression, age, and race (Daaleman, Perera, & Studenski, 2004) which suggests that spirituality plays a role in one's perceptions of health, regardless of actual level of physical functioning.

HOPE

As presented by Snyder and colleagues (1991), hope is a bidimensional construct consisting of pathways and agency. The pathways component is defined as possessing the ability to generate various routes toward a specified goal. At times these pathways may be blocked by various obstacles, but hopeful individuals are able to create new pathways in these circumstances. Agency is the energy, or motivation, that enables an individual to sustain continued progress along the various pathways toward one's goal. By definition, these two factors must both be present in an individual in order for that individual to possess hope (Snyder et al., 1991).

Hope has been associated with many other positive attributes. High hope individuals have been found to possess greater psychological adjustment, better problem-solving skills, higher academic achievement, higher athletic achievement, and better health (Snyder, Sympson, Michael, & Cheavens, 2001). Hope has also been positively associated with optimism, self-esteem, and self-efficacy, better coping skills, and negatively associated with depression (Magaletta & Oliver, 1999; Snyder et al., 1991). These connections have been found across age, race, culture, and gender with no significant differences in levels of hope within these categories (Snyder, 1994; Snyder et al., 1991).

Hope was chosen as an investigative correlate of spirituality for four reasons. First, both hope and health-related spirituality are presented as constructs which tap into the more generalized notion of well-being and both are defined as positive attributes. Second, the positive intentionality component of spirituality is seen as a representation of Bandura's (1997) self-efficacy (Daaleman et al., 2001) and hope and self-efficacy have been described as similar constructs throughout the literature. Both attributes rely on an expectancy-based core, both are oriented toward the future, and both are considered powerful cognitive sets that deal with outcomes and goals. Some researchers have posited that the agency component of hope theory may equate to the basic tenet of self-efficacy, but maintain that hope theory takes one more step by including outcomes as well as expectancies (Magaletta & Oliver, 1999). Third, hope has been associated with coping skills and other systems whereby people deal with life and frame their understanding of the world. This characteristic should be closely aligned to the "meaning of life" or life scheme component of cognitive spirituality. Finally, it is hypothesized that spirituality will be measured at high levels in Catholic high school students, a hypothesis already supported for hope in this population. A similar pattern of results should be seen with the two constructs.

METHODS

PARTICIPANTS

Five hundred and seventy-seven students between the ages of 14 and 18 participated in this study. Of those, 304 were female and 273 were male. The majority, 385, were Caucasian, 108 were Hispanic, 30 African American, 8 Asian, 1 Native American, and 38 marked multi or biracial.

PROCEDURE

Two Catholic high schools agreed to participate in this study. The instruments were administered by the instructor of the students' first hour homeroom class. Written instructions for the administration were provided to ensure standardization of administration across all classrooms.

INSTRUMENTS

The Spirituality Index of Well-Being (SIWB; Daaleman et al., 2002a) is a 12-item scale designed to be useful in health and well-being research. Following the cognitive spirituality model, responses are summed to create two subscale scores, life scheme and self-efficacy, and subscale scores can be combined to create a single score representing spirituality. Responses are in a 5-point Likert format; scores can range from 12 to 60 for the total score and 6 to 30 for each subscale score. For a sample of individuals aged 65 and above, Daaleman and colleagues reported internal reliability estimates of .87 for the total scale, .83 for the self-efficacy subscale and .80 for the life scheme subscale indicating moderate to high reliability. Beyond its theoretical ties to the health-related spirituality model, construct evidence of validity was provided by a factor analysis with a clean, easily interpreted two-factor solution. Convergent validity was supported through a pattern of correlations in expected directions with a variety of traditional quality-of-life measures. Discriminant validity evidence includes the lack of a significant correlation with a religiosity scale and a much stronger set of correlations between measures of quality-of-life and scores on the SIWB than between these measures and religiosity.

The Children's Hope Scale (CHS; Snyder et al., 1997) is a six-item measure designed for children aged 7 to 16. Based on the two factor model of hope, the CHS is a dispositional measure of hope that can be completed and scored in about 3 minutes. Three of the six items on the hope scale measure agency, while the other three measure pathways thinking. Scores can range from 6 to 30 for the total scale and 3 to 15 for each subscale. Snyder and colleagues found estimates of internal reliability for the *Children's Hope Scale* ranging from .72 to .86, with a median alpha of .77 and a 1 month test-retest correlation of .71. Across ages, the mean total score was 25, and the mean score for each subscale was 12.5. Snyder et al. (1997) provide convergent validity evidence in the form of correlations between CHS scores and parents' ratings of hope, competence/control-related perceptions, and self-worth, and CHS scores have been found to correlate about .50 with achievement test scores. Some discriminant validity evidence is provided by a statistically zero relationship with intelligence test scores among boys diagnosed with attention deficit hyperactivity disorder.

DATA ANALYSIS

Total scores, subscale scores, and descriptive statistics for the Spirituality Index of Well-Being and the Children's Hope Scale were computed for 577 students. Responses on the SIWB were reversed before summing so that high scores would indicate high spirituality. Internal reliability estimates for this

sample and correlations between full scale and subscale scores on the SIWB and the CHS were calculated. Because the scale had never been administered to children before this study, a factor analysis was performed on the SIWB and it was compared to the previous factor analysis for older adults reported in Daaleman et al. (2002a). Gender differences for the SIWB and its subscales were tested using a *t* test of independent means.

RESULTS

Table 1 provides descriptive statistics, scale and subscale reliability estimates, and correlations between scale and subscale scores. Spirituality Index of Well-Being norms for this age group have not been established, but the means found in this study are significantly higher than those found by Daaleman, Frey, Wallace, and Studenski (2002b) in their elderly sample (Spirituality, $M = 44.20$, $SD = 6.55$, Life Scheme, $M = 21.54$, $SD = 3.77$, Self-Efficacy, $M = 22.67$, $SD = 3.59$.) Coefficient alpha levels for the SIWB total scale and the two subscales indicate very good to excellent internal reliability in this sample. The coefficient alpha of .81 for the CHS total scale in our sample indicated good internal reliability, with lower, but acceptable estimates for the subscales. Performance on the Children's Hope Scale for this Catholic school sample was higher than published norms for the scale (Snyder et al., 1997) and the levels of hope in this sample and a discussion of the unique role hope might play in faith based educational communities have been presented elsewhere (McDermott et al., 2002).

Table 1. Descriptives, Internal Reliability, and Correlations between Spirituality and Hope

	Hope $\alpha = .81$ $M = 26.17$ $SD = 4.60$	Agency Subscale $\alpha = .70$ $M = 13.41$ $SD = 2.54$	Pathways Subscale $\alpha = .74$ $M = 12.76$ $SD = 2.57$
Spirituality Index of Well-Being $\alpha = .91$, $M = 47.81$, $SD = 8.88$.40	.36	.36
Life Schema Subscale $\alpha = .86$, $M = 23.29$, $SD = 5.07$.36	.32	.32
Self-Efficacy Subscale $\alpha = .84$, $M = 24.52$, $SD = 4.60$.38	.34	.34

Note: $N = 577$; All correlations are significant, $p < .001$.

VALIDITY OF THE SPIRITUALITY INDEX OF WELL-BEING

Correlations between scores on the total scales and among all subscales were statistically significant and in the same range, with the highest correlation

found between the two full scales, $r(575) = .40, p < .001$. All relationships were in the expected direction.

A maximum likelihood factor analysis of responses to the 12 SIWB items with varimax rotation produced two factors accounting for a substantial portion of the variance in responses (53.52%). After rotation, the eigenvalue for the self-efficacy factor was 3.66, accounting for 30.47% of the total variance. The eigenvalue for the life scheme factor was 2.77, accounting for 23.05% of the total variance. Both the pattern of item loadings from our sample of high school aged children and the loadings reported in the Daaleman et al. (2002a) study of an elderly population are presented in Table 2. Items operated similarly in the high school sample and the older sample, with items generally loading as expected for the two factor model. The primary exception was "I don't know who I am, where I came from, or where I am going" which on its face is a life scheme item, but cross loaded with self-efficacy, actually loading most strongly on that factor. One other item "I have a lack of purpose in my life" loaded above .5 on both factors, which was not found with the Daaleman et al. (2002a) sample.

Table 2. Factor Loadings for Spirituality Index of Well-Being

Item	Self-Efficacy Factor		Life Scheme Factor	
	Age 14-19	Age 65-90	Age 14-19	Age 65-90
1. There is not much I can do to help myself.	.79	.57	.21	.25
2. Often, there is no way I can complete what I have started.	.66	.68	.25	.25
3. I can't begin to understand my problems	.66	.62	.34	.24
4. I am overwhelmed when I have personal difficulties and problems.	.48	.56	.36	.32
5. I don't know how to begin to solve my problems.	.54	.72	.24	.22
6. There is not much I can do to make a difference in my life.	.76	.61	.22	.27
7. I haven't yet found my life's purpose.	.21	.19	.66	.64
8. I don't know who I am, where I came from, or where I am going.	.58	.23	.48	.50
9. I have a lack of purpose in my life.	.53	.29	.54	.57
10. In this world, I don't know where I fit in.	.42	.44	.72	.54
11. I am far from understanding the meaning of life.	.15	.17	.71	.60
12. There is a great void in my life at this time.	.46	.33	.58	.56

Note. Loadings for *Age 65-90* from Daaleman et al. (2002a).

Independent *t*-tests compared males and females on SIWB total scores, life scheme subscale scores, and self-efficacy subscale scores. Females ($M = 23.72$, $SD = 4.77$) scored significantly higher on the life scheme subscale, $t(575) = 2.17$, $p = .030$, than did males ($M = 22.81$, $SD = 5.34$), with a small effect size, $d = .18$.

DISCUSSION

This study investigated levels of cognitive spirituality among Catholic high school students and also explored the relationship between cognitive spirituality and hope. As hope has been associated with a variety of positive constructs and outcomes (Snyder et al., 1991), it was expected that there would be a significant relationship between spirituality scores and hope scores. Results indicated that there were significant correlations between these measures, as well as significant correlations between each component of hope (agency and pathways) with each component of spirituality (life schema and self-efficacy). Additionally, a gender difference was found in the spirituality component of life scheme, with females scoring higher than males, indicating that they had a more coherent meaning-of-life framework.

The total correlation between spirituality scores and hope scores was .40, which indicates the expected moderate positive relationship. Though the correlations between the subscales with each other and with the full scale scores are slightly lower than .40, they are not statistically lower, and it is reasonable to treat the lower relationship estimates as due to lower internal reliabilities within the subscale. Correcting for attenuation due to less than perfect internal reliabilities on the scales and subscales suggests theoretical relationships between the constructs (estimates of relationships which exist among the constructs represented by the scores, not the scores themselves) as follows: Spirituality and Hope $\approx .47$, Self-Efficacy and Hope $\approx .46$, Life Scheme and Hope $\approx .43$, Agency and Spirituality $\approx .45$, Pathways and Spirituality $\approx .44$. It is not surprising that the self-efficacy component of spiritual well-being correlated relatively highly with hope scores, as self-efficacy and hope have been linked in other studies with correlations as high as .59 (Magaletta & Oliver, 1999). Hope and self-efficacy have been defined as separate, though overlapping, indicators of overall well-being. In the study by Magaletta and Oliver, the pathways subcomponent of hope, the agency subcomponent of hope, optimism, and self-efficacy were delineated as four unique contributors of variance to well-being. This study's finding of a moderate correlation supports the hypothesis that while hope and self-efficacy are associated, they are independent entities and are distinct aspects of well-being.

The life scheme component of spirituality generates a similar pattern of relationships in this study as that found with self-efficacy, which suggests that conclusions reached about the "independent-of-but-associated-with-hope" nature of self-efficacy, might apply to life scheme, as well. Additionally, the factor analysis data presented here, and found in the Daaleman and colleagues (2002a) study of an elderly population, supports the notion of self-efficacy and life scheme as distinct components.

The gender difference on the spirituality scale, with females showing high-

er levels of life scheme, can also be found in the Daaleman et al. (2002b) data in their aged 65 years and older sample: Females, $M = 22.20$, $SD = 3.52$, Males, $M = 20.91$, $SD = 3.90$. In their sample, the effect size is slightly larger, $t(272) = 2.88$, $p = .004$, $d = .25$.

It is important to recognize the unique characteristics of the sample used in this study. Hope scores were higher in these Catholic students than the general population, and this sample is predominantly Caucasian and of lower socioeconomic status, so generalizations to other high school students of diverse ethnicities or different levels of socio-economic status may not be appropriate. Future studies in the schools should focus on both the psychometric characteristics of the Spirituality Index of Well-Being and the pattern of construct validity evidence of cognitive spirituality construct across populations.

Results of this study suggest a web of relationships among self-efficacy, meaning in life, willpower, and pathways thinking, and a meaningful link between the broader constructs of cognitive spirituality and hope. The study also provides validity evidence for the use of the Spirituality Index of Well-Being with this age group. While public school researchers may wish to measure spirituality among school children, the frequently religious basis to the concept, and scales used to measure it, often makes such research unfeasible because of separation-of-church-and-state concerns and other anxiety causing aspects to such research. The Spirituality Index of Well-Being provides a valid and theoretically sound alternative for educational researchers.

Pulitzer-prize winner Robert Coles (1990; 1999) has explored both the thoughts of children and the workings of the spiritual mind. Across cultures and religious denominations, he has reported that children reveal not only the constant struggle to understand God, but a broader inner drive to understand one's value and place. He sees spirituality as secular at its core, but powerful enough as a construct to contain the entirety of the common quest to know one's self, this world, and one's place in it. The conception of spirituality used in this study views the construct as an understanding of one's purpose and faith in one's abilities. This is consistent with Coles' spiritual child, Groome's (1999) wise child, Snyder and colleagues' (1991) hopeful child, and Catholic education's whole child.

This depiction of spirituality as a cognitive process is consistent with both the "sense of meaning, purpose, and power" approach to defining spirituality and the "educating the whole person" mandate of Catholic education. The level of cognitive spirituality, the gender difference with females reporting a more coherent sense of the meaning of life, and the relationships between aspects of cognitive spirituality and aspects of hope should have particular relevance for Catholic school personnel and researchers, and others interested in parochial education research, as both traits are consistent with a positive values approach to education. As McDermott and colleagues discuss more fully (2002), hope was found to be significantly higher for Catholic school students than has been found for students who attend public schools. The values of cognitive spirituality and hope are certainly consistent with the goals of Catholic education. More research focused on illuminating the relationship between hope and spirituality, especially as these concepts relate to self-efficacy, would help to validate the Spirituality Index of Well-Being and provide more insight into one of the important dimensions of Catholic education.

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