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Fostering the Spiritual Development of Undergraduates through Service-Learning

Michelle C. Sterk Barrett
University of Massachusetts Boston

FOSTERING THE SPIRITUAL DEVELOPMENT OF UNDERGRADUATES

THROUGH SERVICE-LEARNING

A Dissertation Presented

by

MICHELLE C. STERK BARRETT

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ABSTRACT

FOSTERING THE SPIRITUAL DEVELOPMENT OF UNDERGRADUATES

THROUGH SERVICE-LEARNING

June 2015

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By integrating spiritual development theories with Sanford's theory of challenge and support and study findings, this mixed methods study examines how spiritual development may be occurring through service-learning. The relationship between service-learning participation and spiritual growth is analyzed by addressing the following research questions: 1) Does spiritual growth occur among undergraduates participating in service-learning? 2) Which aspects of the service-learning experience relate to the occurrence of spiritual growth? 3) What role do "challenge" and "support" play in the process of spiritual growth?

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The 272 study participants are drawn from the Boston College PULSE Program, a service-learning program that requires 10-12 hours of weekly service for the full academic year while students simultaneously take an interdisciplinary philosophy and theology course entitled, Person and Social Responsibility. The quantitative strand of this study sought to objectively understand the components of the PULSE program that may relate to spiritual development among undergraduates through a pre-test/post-test survey adapted from the College Student Beliefs and Values instrument created by Astin, Astin, & Lindholm (2011). The qualitative strand consisted of semi-structured, one-on-one interviews with eleven study participants whose quantitative survey results demonstrated particularly high or low levels of spiritual change.

Study findings indicate that nearly 80% of study participants grew spiritually during the service-learning experience. Consistent with Sanford's (1962, 1966,1967) theory of college student development and the spiritual development theories of Fowler (1981) and Daloz Parks (2000), spiritual growth was most likely to occur when students experienced significant challenge balanced with support. Qualitative and quantitative results found that challenge was related to the eye opening experience of witnessing injustice at service sites while simultaneously being exposed to diverse perspectives through course assignments and discussions. This eye opening experience led students to struggle spiritually as they questioned prior assumptions and beliefs. Support was found in relationships and effective integration of course content with the service experience.

DEDICATION

To those who suffer as a result of poverty and injustice in our world and those who work tirelessly to reduce the suffering.

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CHAPTER 1

INTRODUCTION

Holistic student development, the belief that education should foster the

development of the whole person, is a primary mission of higher education (American

Council on Education, 1937; Braskamp, Trautvetter, & Ward, 2006; Kiessling, 2010).

One component of holistic student development is spiritual development (Kiessling,

2010). Although there is no widely agreed upon definition of spirituality, a review of the

literature finds the following common themes: 1) being engaged in a dynamic process of

inner reflection to better understand oneself and one's meaning and purpose in life 2) a

desire to live out one's philosophy of life with authenticity and integrity 3) seeking a

relationship/connection with a higher power that transcends human existence; and 4)

belief in the interconnectedness of humanity (Astin, Astin, & Lindholm, 2011b;

Chickering, Dalton & Stamm, 2006; Love & Talbot, 1999; Roehlkepartain, Benson,

Scales, Kimball, & Ebstyne-King, 2008).

Studies have found that undergraduates and youth have an overwhelming interest

in spirituality. Astin, Astin, and Lindholm (2004) discovered that 78% of undergraduates

discuss religion/spirituality with their friends and 75% are actively searching for

meaning/purpose in life. Roehlkepartain et al. (2008) investigated spiritual beliefs among

12-25 year olds in eight countries and found that 52% of youth in the United States

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describe themselves as very or pretty spiritual and only 20% describe themselves as not spiritual. Bryant, Choi, and Yasuno (2003) found that students are even more committed to integrating spirituality into their lives at the end of their first year of college than they were upon entrance.

However, students have expressed that academic experiences within higher education are not adequately meeting their desire for spiritual development (Astin et al., 2004; Chickering et al., 2006; Kuh & Gonyea, 2006). Fifty-six percent of undergraduates report that their professors never provide opportunities to discuss the meaning/purpose of life and 53% believe the classroom has had no impact on their spiritual beliefs. Only 55% are satisfied with the experience their college has provided for religious/spiritual reflection (Astin et al., 2004).

Higher education scholars have also expressed concern about the lack of emphasis on spirituality in the classroom and have advocated for an increased emphasis on spiritual development of undergraduates (Astin et al., 2011b; Chickering, et al., 2006; hooks, 1994; Rendon, 2009). Chickering et al. (2006) state that students, faculty, student affairs personnel, and campus leaders "have begun calling for an exploration of ways to better integrate students' search for meaning and their spiritual quests with their academic preparation in the classroom" (p. 2).

The ability to effectively facilitate spiritual development in the classroom is dependent upon an understanding of how to foster spiritual growth pedagogically. If higher education is to better meet the spiritual development desire of students then faculty and staff need to know what teaching practices can be used to foster spiritual

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growth. Currently, we have limited understanding of which pedagogical practices might facilitate spiritual development in the classroom as evidenced by the fact that Pascarella and Terenzini's (2005) comprehensive overview of how college impacts students includes only a few studies on religiosity and no empirical studies on spirituality. Therefore, we need to know more about teaching methods that lead to the spiritual development of undergraduates in order to adopt pedagogical practices that most effectively foster holistic student development.

Service-learning is a pedagogy that has shown promise in facilitating the spiritual development of undergraduates. Though studies have found a relationship between spiritual growth and service-learning participation (Astin et al., 2011a; Cherry, De Berg, & Porterfield, 2001; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2010; Radecke, 2007; Yeh, 2010), only one of these studies (Radecke, 2007) has investigated both of these variables as a primary focus and this study was qualitative in nature. The existing studies do not simultaneously use adequate quantitative measures of both spiritual growth and service-learning participation and, therefore, offer inadequate analysis of the relationship between the two.

Research has shown that the ability to achieve cognitive and personal developmental outcomes through service-learning can vary depending on the particular components of a service-learning experience (Astin, Vogelgesang, Ikeda, & Yee, 2000; Eyler & Giles, 1999; Eyler, Giles, Stenson, & Gray, 2001; Fenzel & Peyrot, 2005; Mabry, 1998). In other words, not all service-learning experiences produce the same positive outcomes. The quality of the service placement, the total hours of service,

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integration of the service experience into the class, written reflection, classroom discussion reflecting upon the service experience, and exposure to diversity are components that have been found to be particularly important to facilitating developmental outcomes (Ash & Clayton, 2004; Astin, et al., 2000; Eyler & Giles, 1999; Eyler, et al., 2001; Fenzel & Peyrot, 2005; Kiely, 2005 Mabry, 1998; Radecke, 2007).

Purpose of the Study

Given the fact that existing studies have not adequately examined the relationship between service-learning participation and spiritual growth, this study seeks to further understand how service-learning may be utilized as a tool to foster spiritual growth within an academic context.

This topic will be addressed through the following research questions: 1) Does spiritual growth occur among undergraduates participating in service-learning? 2) Which aspects of the service-learning experience relate to the occurrence of spiritual growth? 3) What role do "challenge" and "support" plan in the process of spiritual growth?

The third research question is derived from the theoretical perspective guiding this study. Nevit Sanford's (1962, 1966, 1967) theory of challenge and support proposes that optimal college student development occurs when students face an appropriate balance of challenge and support. If a student does not face enough challenge then there is no impetus for growth. If a student is not adequately supported through significant challenges then the possibility for healthy growth may be hindered.

Significance of the Problem

At the practical level, this study can assist faculty interested in using pedagogical methods to foster spiritual development as well as service-learning practitioners, deans, academic affairs officers, campus ministers, and institutions with spiritual development as a specific aspect of their mission. At the theoretical level, this study can contribute to the scholarly conversation about how to promote holistic student development and spiritual development among undergraduates.

Understanding how to better foster spiritual development among undergraduates can provide many benefits to students, society, and higher education institutions. Of benefit to individual students, studies have established a relationship between spirituality and psychological well-being (Astin, et al., 2011b; Park & Millora, 2010), self-esteem (Astin, et al., 2011b; Hayman, Kurpius, Befort, Nicpon, Hull-Blanks, Sollenberger, & Huser, 2007), decreased alcohol/substance abuse and partying *(*Kuh & Gonyea, 2006; VonDras, Schmitt, & Marx, 2007; Stewart, 2001), less risky health behaviors (Nelms, Hutchins, Hutchins, & Pursley, 2007), and increased exercise (Kuh & Gonyea, 2006). Studies have also found that increased spirituality is associated with deeper learning and improved critical thinking (Seitz, 2009) and overall satisfaction with college (Astin, et al., 2011b; Kuh & Gonyea, 2006).

Of benefit to the larger society, increased levels of spirituality relate to increased participation in community service/helping others (Astin, et al., 2011b; Brandenberger & Bowman, 2013; Kuh & Gonyea, 2006; Seitz, 2009; Serow & Dreyden, 1990), increased caring/compassion (Astin, et al., 2011b; Brandenberger & Bowman, 2013; Seitz, 2009),

increased social justice orientation (Chenot & Kim, 2013), increased appreciation for diversity (Astin, et al., 2011b; Seitz, 2009), greater likelihood to be involved in extracurricular activities (Kuh & Gonyea, 2006) and likelihood of taking a leadership role in these activities (Astin, et al., 2011b). Gehrke (2008) found that the type of leadership exhibited by highly spiritual students is socially responsible leadership.

In a report to the National Postsecondary Education Cooperative analyzing how postsecondary education can facilitate greater success of first generation, low income, ethnic minority students, higher education scholar Laura Rendón (2006) argues that spirituality is among the most important factors. She states that spirituality helps students "shape their values" and "gives them inner strength to persist with their goals" (Rendón, 2006, p. 6). Numerous studies provide evidence to support Rendón's argument. Spirituality and religion have been found to relate to ethnic minority students' initial adjustment to college (Phillips, 2000); coping with challenging circumstances in college (Hill, 2009; Pateneaude, 2006; Watt, 2003); continued persistence in college (Herndon, 2003; Hill, 2009; Hughes, 1987; Saggio & Rendón, 2004); and academic success (Walker & Dixon, 2002; Lee, Puig & Clark, 2007). Thus, further understanding of how to integrate spirituality into higher education could benefit both individual students and overall society by helping to increase college attainment rates of ethnic minority students.

In response to the lack of empirical research about how college affects student spirituality, Pascarella and Terenzini (2005) stated that this is an area of scholarship "that needs more attention" (p. 292). To achieve the beneficial learning and developmental

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outcomes outlined above, additional studies are needed to assist higher education faculty and administrators in their efforts to foster spiritual development in the classroom.

Definition of Key Terms

The key terms to be defined for the purpose of this literature review include service-learning and spirituality. Although there is debate about the parameters of what constitutes service-learning, it generally is a less abstract concept to define than spirituality.

Sigmon (1994) points out that "many definitions and approaches have been used within the general framework of linking service with learning" (p. 1) and Kendall (1990) explains that she found at least 147 definitions in reviewing the literature.

According to Stanton, Giles, and Cruz (1999), the earliest definition of service-learning was articulated in 1969 by the Southern Regional Education Board and focused on "the accomplishment of tasks that meet genuine human needs in combination with conscious educational growth (p. 2). In 1970, Sigmon laid out three principles for service-learning that included: 1) Those being served control the services provided; 2) Those being served become better able to serve and be served by their own actions; and 3) Those who serve are also learners and have significant control over what is expected to be learned (as cited in Stanton, Giles, & Cruz, 1999, p. 3).

Bringle and Hatcher (1996) define service-learning as "a credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to

gain further understanding of the course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility" (p. 222).

The Bringle and Hatcher definition limits service-learning to that which takes place within a credit-bearing course, while Eyler and Giles (1999) broaden the definition of service-learning to include "any program that attempts to link academic study with service" (p. 5). Their study investigating service-learning outcomes also included "non-course-based programs that include a reflective component and learning goals" (Eyler & Giles, 1999, p. 5). Eyler and Giles also point out that "service-learning should include a balance between service to the community and academic learning" and that reflection is the linkage that enables learning to occur through service experience (p. 4).

Jacoby (1996) adds the concept of reciprocity to the definition of service-learning in explaining that service-learning is, "A form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning" (p. 5). Jacoby further explains that reciprocity exists when needs are defined by the community, when there is a recognition of the assets that exist within community members, and when students approach the community with respect by doing things 'with others rather than for them" (p. 8).

From these definitions, it is clear that service-learning includes a service experience followed by critical reflection upon the experience as a means to facilitate learning. The tasks conducted by students should be driven by community-defined needs

with the aim of building reciprocal relationships in the process. The focus in this study will be on a service-learning experience that strives to incorporate these concepts. While this study is limited to service-learning within a credit-bearing course some study findings may also be relevant to service-learning experiences outside of a formal course as outlined by Eyler and Giles (1999).

Spirituality is a much more elusive and controversial concept to define. In their review of the literature, Love and Talbot (1999) conclude that "there is no commonly accepted definition of spirituality" (p. 363). Their synthesis of themes in the literature led them to conclude that spirituality involves personal authenticity, genuineness, and wholeness by seeking congruence between one's beliefs and one's actions; continually transcending one's current locus of centricity; connectedness to others and self through relationships and community; developing a sense of meaning, purpose, and direction; and openness to fostering a relationship with a higher power. Astin et al.'s (2011b) review of the literature includes the themes outlined by Love and Talbot (1999) as well as adding the following: "an internal process, a dynamic construct, and valuing the sacred" (p. 4). Braskamp et al. (2006) and Tisdell (2003) define spirituality broadly as finding purpose in life through inner reflection and outer action (e.g., service). Chickering et al. (2006) utilized a definition developed by Teasdale (1999) that includes a commitment to a process of growth and inner development as a life goal, a contemplative attitude, a disposition to a life of depth, a search for ultimate meaning, direction, and belonging (p. 7).

The studies of Zabriskie (2005), Overstreet (2006), and Roehlkepartain et al. (2008) have explored how undergraduates and young adults define spirituality. Zabriskie (2005) investigated this question among 5,096 undergraduates at four higher education institutions and found that the definitions of spirituality conveyed by the participants included the following themes: faith in the existence of a higher power, a connection with something larger than the individual (including other humans and/or a higher power), a deeper relationship with God or a higher power, and an inner focus on making meaning of life's questions. Overstreet's qualitative study of Boston College undergraduates found that student characterizations of spirituality included: awareness of self, others, and the transcendent; active engagement in a search for meaning; reflectiveness; engagement in a journey or process; a relationship to the divine; and helping others in need. Roehlkepartain et al.'s study of global youth found that the most common responses to the question of what it means to be spiritual included a belief in God, a belief that there is a purpose to life, and being true to one's inner self.

Collectively these definitions include the following themes: being engaged in a dynamic process of inner reflection to better understand oneself and the meaning and purpose of one's life, living out one's personal philosophy of life with authenticity and integrity, seeking a connection/relationship with others and a higher power, belief in the interconnectedness of humanity and a related desire to be of service to others. It is interesting to note the manner in which this definition of spirituality overlaps with the definition of service-learning in the elements of reflection and service.

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Efforts to define spirituality among undergraduates are complicated by the fact that "higher education studies prior to the 1990's did not identify spirituality or spiritual development separately from religiosity and religious affiliation" (Lovik, 2010, p. 10). Despite the fact that higher education literature historically used the terms religion and spirituality interchangeably, it is generally agreed upon that spirituality is a distinct concept from religiosity (Astin et al., 2011b; Love, 2002; Love & Talbot, 1999; Roehlkepartain et al., 2008; Tisdell, 2003). While there is overlap between the concepts of religiosity and spirituality for some individuals, this is not always the case (Chickering et al., 2006). In other words, some individuals can be spiritual without being religious and some can be religious without being spiritual. Overstreet (2006) points out how the term religion connotes an obligation as it is derived from the Latin word, *religare,* which means to tie or bind. Astin et al. (2011b) describe the obligatory nature of religion in defining religiosity as adherence to a set of faith-based beliefs and practices, membership in a community of fellow believers, and participation in rituals/ceremonies. This is consistent with Love (2002) who sees religion as being distinct from spirituality in that it is less dynamic and more based on dogma.

Empirical studies have also discovered a distinction between the concepts of religiosity and spirituality. Cherry et al. (2001) found that their study participants "preferred to use the words "spirituality" and "spiritual" instead of "religion" and "religious" when describing undergraduate attitudes and practices" (p. 10). Study participants considered religion to be institutions or organizations and "signified something completed, fixed, handed down" (p. 10). Spirituality, on the other hand, was

considered an incomplete quest or journey that related more to a "personal experience of God or ultimate values" (p. 10). Zabriskie (2005) observed that students see religion as related to membership in a religious community, adherence to the practices of that community, regulation of actions and behaviors, and belief in a supreme being.

Studies have found that many youth consider themselves spiritual, but not religious (Overstreet, 2006; Smith & Lundquist, 2005; Zabriskie, 2005). In the National Survey of Youth and Religion conducted in 2002-2003, Smith and Lundquist (2005) discovered that among 3,370 youth aged 13-17, the majority (54%) reported some truth to the statement that they are spiritual, but not religious. Overstreet (2006) reported that among 936 Boston College seniors in the class of 2005, 81% considered themselves spiritual, while only 60% considered themselves religious. Zabriskie (2005) found that approximately one quarter of the 5,096 students in his study labeled themselves as spiritual, but not religious. Furthermore, Zabriskie reported that only 4.1% of his study participants believed that religiousness and spirituality are the same concept and overlap completely.

This distinction between religion and spirituality is crucial to expanding possibilities for academic study in this arena as the concept of spirituality is broader than religion in that it does not exclude or divide based upon adherence to dogma or membership in a particular religious institution. Parker Palmer describes how he has "come to distinguish cognitively oriented spirituality from faith-based religious life. In the former, empirical knowledge and imaginative insight have a place. In the latter, revelation was only given to the original authors of scripture" (Palmer, Zajonc, &

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Scribner, 2010, p. 121). Others argue that the term spirituality still is not broad enough and that the more inclusive language of existentialism or inner development is more appropriate for students who might not believe in a God or higher power (Fairchild, 2009; Seifert & Holman-Harmon, 2009).

To facilitate scholarly inquiry of spirituality it is not only necessary to define spirituality, but is also necessary to conceptualize spirituality and spiritual growth in a manner that resonates with a broad array of students who may or may not believe in a God/higher power. Roehlkepartain et al. (2008) and Astin et al. (2011a; 2011b) made efforts to do so in their comprehensive studies of spirituality among global youth and spirituality among undergraduates in the United States.

Roehlkepartain et al. (2008) attempted to conceptualize spirituality in a manner that could be utilized across cultures and disciplines by analyzing the literature, conducting focus groups, and seeking input from over 100 distinguished advisors. Based upon this input, the researchers outline a conceptual framework of spiritual development that involves "reciprocal dynamic between our human journey to look inward and to look outward to connect with and link ourselves to community, nature, the world, and the universe" (p. 40). They hypothesize that it is an ongoing process that includes interplay between the developmental processes of 1) connecting and belonging with others and the transcendent; 2) becoming aware of an awakening to self and life in ways that nurture identity, meaning, and purpose; and 3) developing a way of living that expresses one's identity (p. 40). The connecting and belonging dimensions includes feelings of empathy and responsibility for others; finding significance in relationships with others and the

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transcendent; finding deeper meaning in experiences and relationships; and linking oneself to people, beliefs, or practices (p. 42). The awareness dimension includes items related to experiencing a sense of meaning and purpose; being present to oneself, others, or the transcendent; forming a worldview pertaining to life's major questions; an awareness of something beyond everyday life; experiences of transcendence; and discovering one's potential to grow, contribute or matter (p. 44). The way of living dimensions includes: "engaging in relationships, activities, and/or practices that shape bonds with oneself, family, community, humanity, the world, and/or that which one believes to be transcendent" (p. 46); living congruently with one's beliefs and values; finding hope and meaning in crisis or suffering; "attending to the spiritual" (p. 46).

Based upon their seven year study, Astin et al. (2011a) offer an instrument, the College Student Beliefs and Values Survey (CSBV), to measure spirituality and religiosity among undergraduates. Survey results led to the development of the following spirituality scales: spiritual identification, spiritual quest, and equanimity. The spiritual identification scale consists of 13 items referring to "the degree to which the student believes in the sacredness of life, seeks out opportunities to grow spiritually, believes that we are all spiritual beings, and reports having had spiritual experiences" (Astin et al., 2011a, p. 47). The spiritual quest scale consists of nine items assessing "the student's interest in searching for meaning/purpose in life, finding answers to the mysteries of life, and developing a meaningful philosophy of life" (Astin et al., 2011a, p. 47). The equanimity scale includes 5 items referring to, "the extent to which the student feels at peace/centered, is able to find meaning in times of hardship, and feels good about the

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direction of her/his life" (Astin et al., 2011a, p. 47). They also developed other scales

relevant to spirituality including those intended to measure the qualities that spiritual

students would be expected to possess (charitable involvement, compassionate self-

concept, ethic of caring, and ecumenical worldview) and religiosity measures including

religious commitment, religious skepticism, and religious struggle.

Although spirituality and spiritual development are elusive topics to define and

conceptualize, the existing literature lays a solid foundation for empirical analysis to be

conducted on spiritual growth among undergraduates. For the purposes of this study,

spirituality is defined as including the following components: 1) being engaged in a

dynamic process of inner reflection to better understand oneself and the meaning and

purpose of one's life; 2) living out one's personal philosophy of life with authenticity and

integrity; 3) seeking a connection/relationship with a higher power; and 4) belief in the

interconnectedness of humanity and a related desire to be of service to others (Astin,

Astin, & Lindholm, 2011b; Braskamp et al., 2006; Love & Talbot, 1999; Overstreet,

2006; Roehlkepartain et al., 2008; Tisdell, 2003; Zabriskie, 2005). Spirituality is

conceptualized as being distinct from religiosity as outlined in the studies of Overstreet

(2006), Smith and Lundquist (2005), and Zabriskie (2005).

CHAPTER 2

REVIEW OF THE LITERATURE

This literature review explores the question of how service-learning can be

effectively utilized as a pedagogical method to foster spiritual development among

undergraduates. To address this overarching topic, four literature areas are investigated.

First, literature on spiritual development is reviewed to better understand the processes

that may initiate and facilitate spiritual growth among undergraduates. Second, literature

pertaining to pedagogical practices that facilitate undergraduate spiritual development is

investigated to better understand how scholars have discovered spiritual growth can be

fostered in a course context. Third, empirical research analyzing whether there is a

relationship between spiritually-related outcomes and service-learning participation is

reviewed. Finally, literature that investigates service-learning structural components that

have been found to facilitate developmental outcomes among undergraduates is

reviewed. Because of the lack of research specifically investigating spiritual

development through service-learning participation, this fourth literature area investigates

which aspects of service-learning experiences have been found to impact a broad array of

student development outcomes. Insights from the fourth area of literature complement

the literature in areas one and two by offering further understanding of how a service-

learning experience can be structured to maximize the potential for spiritual growth to

occur. It also offers additional insight into how the spiritually-related development outcomes examined in the third literature area may be occurring.

Undergraduate Spiritual Development

Both theoretical literature and empirical studies offer insights about how the process of undergraduate spiritual development occurs. The most prominent theorists in this area include James Fowler (1981) and Sharon Daloz Parks (1986, 2000). The theoretical work of Helminiak (1987), Tisdell (2003), Welch and Koth (2013), Mezirow and Taylor (2009), Love (2002), Love and Guthrie (1999), Cartwright (2001), Chickering and Reisser (1993), and Sanford (1962) also include ideas relevant to the topic of undergraduate spiritual development. The most prominent empirical study investigating spirituality among undergraduates was a seven year study conducted by Astin, Astin, and Lindholm (2004, 2011a, 2011b). The findings within the empirical literature offer evidence consistent with that in the theoretical literature about how undergraduate spiritual development is initiated and facilitated.

Spiritual Development Theories

James Fowler (1981) and Sharon Daloz Parks (1986, 2000) offer the most widely cited theories pertaining to the spiritual development of young adults. Although both utilize the term "faith development" rather than spiritual development, the way in which each has defined faith development is synonymous with the definitions of spirituality previously outlined. Fowler argued that faith is a distinct concept from religion and defined it as a dynamic construct through which one builds one's "defining directions and relationships with others in accordance with coordinates of value and power recognized

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as ultimate" (p. 93). It is "an orientation of the total person, giving purpose and goals to one's hopes and strivings, thoughts, and actions" (p. 14). Similar to Fowler, Daloz Parks defines faith in a manner distinct from religion. She sees religion as static, while faith is on-going, active, and dynamic. She defines faith as "the activity of composing meaning in the most comprehensive dimensions of our awareness…to speak of faith is to point toward the meaning-making that frames, colors, and relativizes the activity of the everyday" (Parks, 1986, p. 16). She believes that spirituality relates to faith in that it can be the means through which faith is "formed and transformed" (p. 31).

Fowler (1981) developed his theory of faith development based upon interviews with 359 individuals aged 3.5 to 84 years old between 1972-1981. Fowler's work was informed by the developmental psychologists Piaget, Erikson, and Kohlberg and he similarly describes a stage-like progression of development. The six stages he outlines include: 1) Intuitive-Projective, 2) Mythic-Literal, 3) Synthetic-Conventional, 4) Individuative-Reflective, 5) Conjunctive, and 6) Universalizing.

Fowler observed that the majority of traditional aged undergraduates are either in stage 3, stage 4, or the transition between stages 3 and 4. Stage 3 (Synthetic-Conventional Faith) involves an ideology of deeply held beliefs that are rooted in conformity and have not been critically examined and judged. The individual has not reflected upon his or her value system and, instead, follows the expectations of others and social norms. There is no awareness of social systems and how societal structures shape one's life and beliefs. The individual has not yet developed a confident identity that would enable one to hold independent beliefs. An individual in this stage often has

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deeply held beliefs, but they are often formed through following the authority figures in one's life rather than through critical analysis and examination. A failure to move from this stage can inhibit one's ability to develop autonomous and independent thinking.

The transition out of stage 3 and towards stage 4 is typically precipitated by an experience that causes one to encounter perspectives different from one's own. Such an encounter initiates critical reflection on one's beliefs and how one's beliefs differ from the new perspectives encountered. The transition between the stages is often, "protracted, painful, dislocating, and/or abortive" (p. 274) as one reflects critically on how one's values and beliefs have been shaped by normative assumptions among their family and community. Fowler suggests that the ideal time for transition from stage 3 to stage 4 is the early to mid-twenties as one begins to move out of adolescence and take responsibility for making commitments to one's lifestyle and beliefs.

An individual in Stage 4 (Individuative-Reflective Faith) begins to recognize the role of social systems and how one's beliefs and values are shaped by the social class and economic conditions into which one is born. In the process, an individual in stage 4 is able to see how one's own beliefs have been shaped by his or her background. The individual begins to take responsibility for developing beliefs and commitments independent from authority figures or the expectations of others. As one goes through this movement, there are significant tensions to be faced in reconciling individuality with group identity as one differentiates one's beliefs from that of the group. Furthermore, a tension exists in making commitments within relativism as one can no longer rely on absolutes from authority. One who has successfully moved into this stage develops the

ability to critically reflect upon oneself and one's perspectives/ideologies.

In summary, Fowler offers much insight related to the question of how undergraduate spiritual development occurs as he points out the significant role of experiences that expose one to diverse or unfamiliar perspectives and critical reflection in triggering growth. Furthermore, his theory points out how challenging it can be for an individual to make the transition from Synthetic-Conventional Faith to Individuative-Reflective Faith and why it is imperative that support be offered to individuals through this transition.

Sharon Daloz Parks (1986, 2000) has devoted the majority of her career to investigating the faith development of young adults as they move towards adulthood. Daloz Parks was influenced by Fowler as well as Piaget, Erikson, Kohlberg, Gilligan, Perry, and Kegan. She proposes (see Figure 1) four stages of undergraduate faith development (adolescent, young adult, tested adult, and mature adult) and believes that development through these stages occurs along the dimensions of forms of knowing (cognitive development), forms of dependence (affective development), and forms of community (social development). Daloz Parks built upon the work of Fowler (1981) in two significant ways. First, she hypothesizes that there are two distinct stages within Fowler's stage 4 (what she named young adult and tested adult). She believes that young adults have a probing faith commitment that is tenuous and exploratory in nature before moving to a more enduring faith of tested commitment of adulthood. Secondly, Fowler's work focused solely in what she titles the "forms of knowing" (cognitive development) dimension of spiritual development. She believes, however, that faith development is

also influenced by how an individual feels, the interactions that an individual has with others, and the influence of culture and social interactions on faith development. Therefore, she adds the dimensions of "forms of dependence" and "forms of community" to complement the "forms of knowing" dimension of spiritual development.

Figure 1

Daloz Parks' Stages of Faith Development

	Adolescent/ Conventional	Young Adult	Tested Adult	Mature Adult
Forms of Knowing	Authority-bound, Dualistic → Unqualified Relativism	Probing commitment	Tested commitment	Convictional commitment
Forms of Dependence	Dependendent/Counter-dependent	Fragile inner-dependence	Confident inner-dependence	Inter-dependence
Forms of Community	Conventional Diffuse	Mentoring community	Self-selected class/group	Open to other

Note. Adapted from "Big questions, worthy dreams: Mentoring young adults in their search for meaning, purpose, and faith by Sharon Daloz Parks, 2000, p. 91. Copyright 2000 by John Wiley & Sons, Inc.

Based upon a combination of Perry's and Fowler's stages, she offers five primary positions or "forms of knowing" including: 1) authority-bound/dualistic, 2) unqualified relativism, 3) probing commitment 4) commitment in relativism, and 5) convictional commitment. These forms of knowing refer to how a person thinks as he or she develops meaning in the context of faith. As an adolescent moves into unqualified relativism, he or she lets go of dependence on authority and dualistic ways of viewing the world. In the stage of unqualified relativism, an individual begins to see that knowledge and meaning are shaped by the context and relationships in which one was raised. Unlike Perry and Fowler, she argues that the transitional place between the stages of unqualified relativism

and commitment within relativism is also a development moment worthy of attention. In the probing commitment period, an individual explores many possible avenues of meaning/knowing in a tenuous manner and continually re-examines how these different possibilities fit for oneself. In the commitment in relativism stage, one is not as exploratory, but learns to critically make judgments about where one will make commitments in a complex world. Daloz Parks believes the ability to take responsibility for choosing and making a commitment to the faith one will live by is the shift whereby one moves into young adulthood. In the final stage, convictional commitment, one embodies wisdom and deep conviction while also being able to recognize the paradox that exists in the world.

The second dimension of development described by Daloz Parks refers to the fact that humans are interdependent and that the discovery of faith occurs in the context of relationships and interactions between oneself and the world. She titles this affective dimension of faith development, "forms of dependence" and it focuses on how an individual feels in his or her development of meaning and faith. The positions within forms of dependence are: 1) dependent/counter-dependent, 2) fragile inner-dependence, 3) confident inner-dependence, and 4) interdependence. The dependent/counter-dependent position occurs simultaneously with the authority-bound/dualistic and unqualified relativism positions of knowing in adolescence. In this position, one moves from depending upon relationships with authorities in one's faith. The belief that authority figures have hold on an absolute truth is questioned for the first time as the individual beings to take personal responsibility for discerning truth. In the fragile inner-

dependence position, a young adult is able to recognize oneself as a potential source of authority, but feels vulnerable in doing so as he/she has not yet developed confidence in his/her own authority. The confident inner-dependence position occurs in the tested adulthood period and occurs when one has the confidence and strength to move towards independence from the mentor and trust the authority within oneself. The final position in forms of dependence, interdependence, typically occurs post-midlife and is characterized by an awareness of the "depth and pervasiveness of the interrelatedness of all of life" (p. 86).

The third dimension of development discussed by Daloz Parks describes the networks to which individuals belong and she entitles this, "forms of community." She describes meaning-making as intertwined with the human desire for both differentiation and connection. The positions in the forms of community dimension include: 1) conventional, 2) diffuse, 3) mentoring community, and 4) self-selected class/group. In the conventional position, an individual conforms to the norms and interests of the networks to which one belongs and sees the world in terms of "us" and "them." Movement to the diffuse position is facilitated by encountering others who contradict previously held assumptions about "them" and enables one to widen the possibilities for one's networks of belonging beyond the familiar. The mentoring community position corresponds with the young adulthood period of faith development. The mentoring community is a powerful form of community for young adults as it is a place where the emerging self can be challenged to grow, but also nurtured and supported in the vulnerability that corresponds with this emergence. In the self-selected class/group

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position, the tested adult is less ideological and has a greater level of comfort engaging with others who have dissimilar viewpoints.

In addition to offering a descriptive theory of the stages involved with faith development, Daloz Parks also offers significant contributions to the question of how undergraduate spiritual development might be facilitated. She suggests that a shift from dualism and dependence on authorities to critical, reflective thinking is a primary task of young adulthood and that this can be facilitated by exposure to new ideas that challenge one's prior perspectives and assumptions. In describing the dynamic process of faith development that occurs when one recognizes that one's prior perspectives are inadequate, she uses the metaphor of "shipwreck." She states, "Sometimes we simply encounter someone, or some new experience or idea, that calls into questions things as we have perceived them, or as they were taught to us, or as we had read, heard or assumed. This kind of experience can suddenly rip into the fabric of life, or it may slowly yet just as surely unravel the meanings that have served as the home of the soul" (p. 28). This experience of shipwreck can leave an individual feeling vulnerable and bewildered and, if not supported properly, can lead to isolation and depression. On the other hand, if one survives the experience of shipwreck, there is eventually a transformation that leads to gladness for the discovery of a new reality and wisdom that is more adequate than one's former perspective on truth.

In order to best support the individual as he/she undergoes this experience of shipwreck, Daloz Parks emphasizes the importance of mentoring and mentoring communities. She believes that professors and adults can play a significant role in

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supporting the faith development of undergraduates by providing encouragement, challenge, wisdom, and a vision of who the individual has the potential to become. Over time, she states that this sort of encouragement and support can enable a confident inner-dependence to form within the young adult. Similarly, the mentoring community can offer a safe, supportive space for the undergraduate to be challenged to test new ideas and perspectives on the journey to transformation. Daloz Parks describes a mentoring community as, "a network of belonging in which young adults feel recognized as who they really are, and as who they are becoming. It offers challenge and support and thus offers good company for both the emerging strength and the distinctive vulnerability of the young adult" (p. 95).

In summary, Daloz Parks theories offer significant insight to the question of how spiritual development can be facilitated among undergraduates. First, she discusses the role of exposure to new perspectives in initiating "shipwreck" and the subsequent possibility of development. Secondly, she speaks of the vulnerability that young adults feel as they undergo this development and the significant role of relationships in challenging and supporting students in this process. She suggests that mentoring relationships and mentoring communities are crucial relationships in facilitating healthy development.

Based upon Fowler's theory of faith development and Loevinger's theory of ego development, Helminiak (1987) offers a stage theory of spiritual development. While Helminiak points out there is no agreed upon definition of spirituality, the common themes in the literature lead him to define spiritual development as, "the ongoing

integration that results in the self-responsible subject from openness to an intrinsic principle of authentic self-transcendence" (p. 41). He argues that spiritual development is not only a theological phenomenon, but a human phenomenon. He proposes the following stages of spiritual development that occur within middle class American culture:

1) The conformist stage. In this stage, one has a deeply felt worldview that is based upon the views of authority figures and perpetuated by the approval of significant others in one's life.

2) The conscientious conformist stage. In this stage, one begins to become aware that one has inherited the worldview of others and, in the process, failed to think about what he or she believes and take responsibility for one's own life.

3) Conscientious stage. Helminiak argues that this is the first true stage of spiritual development as one structures one's life according to one's own understandings and perspectives. In the process, one develops an inflexible commitment to living out one's principles.

4) Compassionate stage. In this stage, one's prior inflexibility is replaced by a more realistic, nuanced and complex view of one's principles and subsequent commitments. An individual in the compassionate stage becomes more gentle with oneself and others.

5) Cosmic stage. This stage can also be described as achieving full integration, authenticity, self-actualization, mysticism, cosmic consciousness, or enlightenment.

Tisdell (2003) investigated how spiritual development can be facilitated in the adult education environment by conducting qualitative research interviews with 31 postsecondary educators. Her work led her to conclude that spiritual development is not linear in nature, but rather is a process of moving forward by continuously spiraling back to integrate reflections upon how one's life journey has been shaped by events and spiritual experiences. In this process, one is able to develop firmer commitments to living in accordance to the purpose one sees for one's life. She sees spiritual development as central to identity development and connected to cognitive development, moral development, gender identity development, and cultural identity development. Two key insights offered by Tisdell relate to how spiritual development occurs. First, exposure to new perspectives necessitates that one deeply question one's childhood religious traditions in order to develop an authentic spiritual identity. Secondly, the interviewees in her study consistently discussed how they found the spiritual in the combination of "inner reflection and outer action" (p. 246). Thus, Tisdell speaks to the importance of exposure to new perspectives, critical reflection, and action (i.e. service) in the development of spirituality. Because their observations led them to believe that service-learning has the potential to enable, "a holistic exploration of the self" (p. 3) that is spiritual in nature, Welch and Koth (2013) developed a meta-theory about how spiritual development occurs generally and offered a discussion of how spiritual development occurs more specifically through an individual experience of service-learning.

Welch and Koth suggest that spiritual formation occurs in six relational spaces and three zones of transcendence. They utilize the term space rather than phase because they do not see spiritual development as occurring in a linear fashion where one arrives at a destination and remains there permanently. Rather, they believe that individuals participate in spiritual exploration and growth within one of these six spaces and that continual discipline is required to maintain inhabitance in a particular space.

The first space, unknown, exists before knowledge of one's identity, values, or purpose. The second space, encounter, occurs when one becomes aware of existence outside of oneself. The third space, authenticate, occurs when one tries to make meaning of the cognitive dissonance that has occurred through the encounter. In this space, critical reflection enables one to connect prior experiences and knowledge to the encounter. In the fourth space, radicalization, an individual engages in a change of behavior that incorporates new perspectives in a passionate manner. Integration, the fifth stage, involves working towards the needs of the common good before meeting one's own needs. In this space, one foregoes individual needs for the sake of something larger than oneself. In the sixth space, practice, one strives to maintain values and the balance between the self and the other by engaging in spiritual disciplines or exercises.

Welch and Koth believe that these six spaces move through three levels of transcendence as described by Yates and Youness (1997). The first of these levels is transaction and occurs when one first is exposed to new information in an introductory manner. Transformation is the second level and at this level one is changed by the experience of an encounter that challenges prior assumptions. This can be a particularly

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challenging time for an individual as he or she re-composes meaning as previously known. At the third level, transcendence, one behaves in a new manner as a result of the encounter and thinks of the needs of others in addition to the needs of oneself.

Similar to other spiritual development theorists, Welch and Koth point towards the role of an encounter that is disorienting, cognitive dissonance, critical reflection, and the challenges inherent in the process of growth.

Although transformational learning theory does not explicitly incorporate the term spirituality in its definition, the outcomes of transformational learning intersect in significant ways with faith and spiritual development as outlined by Fowler, Daloz Parks, Helminiak, and Tisdell. Mezirow and Taylor (2009) define transformative learning as that which "challenges students to assess their value system and worldview…identifying problematic ideas, beliefs, values, and feelings and critically assessing their underlying assumptions" (p. 3). In the process of a transformative learning experience, a student becomes aware of how one's belief system has been shaped by one's background and becomes more open to using one's own judgment to develop more reflective and well-reasoned belief and value systems. Mezirow and Taylor argue that transformative learning begins with a disorienting dilemma that leads to self-examination and a critical assessment of one's assumptions. Among the core elements in transformative learning that provide a lens for meaning making are: experience, critical reflection, and dialogue. Because of the similarities between outcomes of transformative learning and stages of spiritual growth, one might conclude that participation in a transformative learning experience could lead to spiritual development. If transformational learning occurs

through disorienting dilemmas, experience, reflection, and dialogue then these could presumably impact the possibility for spiritual development to occur as well.

Love (2002) offers an analysis of the similarities and differences between the spiritual development theories of Daloz Parks, Fowler, and Helminiak and compares them with the cognitive development theories of Baxter Magdola, Belenky et al, King and Kitchener, and Perry. His analysis points to the idea that there is much overlap between cognitive development and spiritual development and that focusing on the first will likely impact the possibility for the second to occur. He suggests that spiritual development differs from cognitive development in that it is a more comprehensive focus on the big picture meaning of life.

In synthesizing cognitive developmental theories, Love and Guthrie (1999) argue that each of the theories includes what they label the "Great Accommodation." This is the biggest change in cognitive development and it is at this point that an individual transitions from viewing the world as comprehensible to seeing the world as complex and unknowable. Love (2002) argues that this is similar to the theological concept of metanoia—which is a "radical reorientation of one's whole being" (p. 366).

Cartwright (2001) also analyzes cognitive developmental theories in conjunction with spiritual development and discusses the importance of experience, context, and relationships in facilitating development along these lines. In particular, she points towards the role of social interactions that expose individuals to diverse viewpoints. The process of reconciling diverse viewpoints serves as a catalyst for development. Overall, she argues that, "an individual's subjective experiences, including social interactions,

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context, and life events, stimulate the process of transcendence by forcing individuals to move beyond prior cognitive processes and engage in new modes of thought" (p. 217).

Although not focused on spiritual development in particular, two foundational works within student development theory, Chickering and Reisser (1993) as well as Sanford (1962), offer understanding of how college student development occurs that are relevant to the discussion. Sanford introduces the concept of challenge and support—that is, as a student faces cognitive dissonance resulting from exposure to challenging stimuli, it is important to support the student in the process of assimilating new ways of thinking. Similarly, Chickering and Reisser point out the role that encountering difference and facing disequilibrium can play in facilitating significant personal development for undergraduates.

Empirical Studies

Astin, Astin, and Lindholm (2004, 2011a, 2011b) conducted the largest and lengthiest study to date examining the spiritual and religious development of college students. Overall, study results indicated that undergraduate religious engagement declines between the first year and junior year of college, but spirituality (especially in the area of spiritual quest) increases. Specifically, students scoring "highly" on the spiritual quest scale increased from 24% to 33% between freshman and junior year. The study found that "by the end of junior year, fully eight in ten undergraduates are at least moderately engaged in a spiritual quest" (Astin et al., 2011b, p. 31). Furthermore, the study found that growth in spirituality was related to improvement in academic

performance, psychological well-being, leadership development, and satisfaction with college.

To facilitate the possibility for spiritual development to occur among undergraduates, the researchers suggest that higher education institutions: incorporate spirituality into campus mission and vision statements; use new faculty orientation to discuss ways to attend to students' spiritual development; offer professional development to prepare faculty and staff to engage in spiritual discussions; develop guiding principles to facilitate conversations on spirituality; integrate discussions of spirituality in living/learning communities in residence halls; and offer opportunities for study abroad, interdisciplinary studies, service-learning, and self-reflection/contemplation.

Other empirical studies investigating how transitions in spiritual growth occur have found many themes consistent with those found in developmental theories. Overall, studies discuss the important role that both challenge and support play in facilitating spiritual growth among undergraduates. Challenge occurs through crisis and exposure to diverse perspectives/cultures, while support exists in the form of class experiences, relationships and community, and opportunities for reflection and/or discussion.

Similar to the theoretical discussions within Cartwright (2001), Chickering and Reisser (1993), Daloz Parks (1986; 2000), Fowler (1981), Love (2002), Tisdell (2003), and Welch and Koth (2013), empirical studies have also pointed towards crisis or disequilibrium as a precursor to spiritual growth. Holcomb and Nonneman's (2004) exploration of spiritual growth among 200 students at six Christian universities discovered that crisis was a key driver of spiritual growth. Crisis was defined as, "a

prolonged period of active engagement with, and exploration of, competing roles and ideologies" (p. 100). Through critical analysis, such crises caused students to examine their beliefs and why they hold their beliefs. The study found that the experience of cognitive dissonance caused individuals to face the inadequacy of their previously held thinking and values. Similarly, Ma (2003) investigated the impact of the Christian college environment on student spirituality through a quantitative study of 953 students at 18 colleges and universities. She found that working through a crisis or trauma while in college was one of the most influential non-academic factors reported as "helpful" to student spirituality.

Studies also report that exposure to diverse perspectives and cultures can facilitate spiritual growth. Astin et al. (2011b) found that interracial interaction positively influences equanimity, ethic of caring, ecumenical worldview, and charitable involvement (all of which are considered measures of spirituality in their instrument). Lee, Matzkin, and Arthur (2004) discovered that meeting people of different religious backgrounds was one of the greatest predictors of an increased intellectual interest in religion/spirituality and one of the sources most frequently cited by NYU students as contributing to changes in their religious/spiritual beliefs and practices. Holcomb and Nonneman (2004) reported that multicultural exposure facilitated spiritual growth and that more than half the students who scored highly on measures of spirituality had significant experience engaging with various cultures. Bryant (2007) pointed out that charitable involvement is positively associated with "self-rated spirituality" and the goal of "integrating spirituality into one's life" and that this is related to the way in which

students are exposed to "diverse viewpoints, different ways of life, and new perspectives on the world and social issues" (p. 844). Bryant (2011) analyzed the development of ecumenical worldview (which is one measure of spirituality developed by Astin et al.) and found that it can be facilitated through challenging academic experiences that bring students in contact with diversity. This growth in ecumenical worldview was enhanced by the experience of religious/spiritual struggle.

Studies have also confirmed the theories of Fowler (1981), Daloz Parks (2000), and Sanford (1962) with regard to the importance of supporting students through crisis and cognitive dissonance in order to ensure healthy processing of disequilibrium. Holcomb and Nonneman (2004) suggest that crisis does not always result in spiritual development and that the critical distinction among those students who grow from crisis and those who do not is, "environments that foster the appropriate mix of challenge balanced with communal support" (p. 102). They argue that "too much of either challenge or support effectively stunts development" (p. 102). Bryant and Astin's (2008) analysis of undergraduates facing spiritual struggle also found that spiritual struggle does not always lead to growth and, "might hinder development if one is locked into maladaptive ways of conceiving of and responding to the existential questions life poses" (p. 23). Illustrating the danger of such maladaptive responses, Faigin (2013) found that increasing levels of spiritual struggle predicted increasing levels of substance abuse among undergraduates. Bryant and Astin (2008) believe that "there must be a balance between challenge and support…without adequate challenge, growth may stagnate; without adequate support, faith may be lost" (p. 5).

Research has found that support for undergraduates processing disequilibrium and crises can come in numerous forms including: class experiences, relationships and communities, and opportunities for reflection and/or discussion. Classes have been found to play a role in spiritual growth and change among undergraduates (Bryant, 2007; Lee, Matzkin, & Arthur, 2004; Ma, 2003). Lee et al. (2004) observed that interactions with faculty can have large impacts on spirituality among undergraduates. Astin et al. (2011b) found that interactions with faculty that encourage exploration of spiritual matters have the greatest impact on increasing spiritual quest among students. This does not occur with great frequency, however, as students reported only 20% of faculty frequently encourage such discussion.

A number of studies point towards the important role of supportive peers and community in facilitating spiritual growth (Bryant, 2007; Cady, 2007; Lee et al., 2004; Lovik, 2011; Ma, 2003; Radecke, 2007). A means through which peers can specifically support one another's spiritual growth is conversation and dialogue. Cady (2007) observed that conversation among peers with a focus on spiritual questions plays a significant role in identity development as such conversations enable students to better understand themselves, others, the world, and faith. Bryant (2007) also found that spiritually-related discussions with peers play a significant role in spiritual development for both men and women. Bryant (2011) argues that dialogue and reflection can help ensure students grow from spiritual struggles rather than get stuck in the struggle. Conversation and discussion is one manner in which self-reflection can occur so it is not surprising that empirical work has also pointed towards the role of reflection in

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facilitating spiritual growth (Astin et al., 2011b; Bryant, et al., 2003; Bryant, 2008; Bryant, 2011; Lovik, 2011; Radecke, 2007).

Summary

Fowler (1981) tells us that spiritual development is a process where one moves from beliefs based upon authority and conformity to independent beliefs developed through examination and awareness of how societal structures shape one's life. Movement is due to critical reflection following exposure to diverse perspectives and it can be quite painful to go through this process of growth. Daloz Parks (1986, 2000) similarly suggests that spiritual growth is a process where one moves from reliance on authority to independent development of beliefs through critical thinking. Development occurs because of encounters that challenge one's assumptions. An individual faces significant vulnerability in these transitional periods and it is crucial that support be offered to help guide young adults through this transition. Daloz Parks believes that mentoring communities and mentoring are the ideal forms of support. Similar to Fowler and Daloz Parks, Helminiak (1987) emphasizes the movement from beliefs based upon authority figures and external forces to commitments formed independently. Tisdell (2003) speaks of the role of exposure to new perspectives that enable individuals to question childhood beliefs as well as the importance of balancing inner reflection with outer action. Transformative learning theory points towards the role of disorienting dilemmas, experience, reflection, and dialogue in enabling transformation to occur. Welch and Koth (2013) believe that spiritual development results from challenging encounters, dissonance, and reflection and that this can be a particularly difficult process.

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Love (2002) points out the similarities between cognitive development theories and spiritual development and suggests that the latter may be facilitated by the former. Love and Guthrie (1999) introduce the concept of the "Great Accommodation" in cognitive development when an individual realizes that the world is ultimately complex and unknowable. Cartwright (2001) suggests that experience, relationships, and reconciling diverse viewpoints are crucial to cognitive and spiritual development. Sanford (1962) and Chickering and Reisser (1993) discuss the importance of challenge and support as well as disequilibrium in facilitating student development more generally. Empirical studies point towards the role of crisis, disequilibrium, critical analysis, and exposure to diversity as challenges that initiate spiritual growth in undergraduates. Support comes through classes, faculty, peers, community, dialogue, and reflection.

Thus, the literature tells us that spiritual development among undergraduates involves a process of moving from beliefs inherited from authorities and the cultural norms of one's background to beliefs that are arrived at independently through critical thinking. The process of moving towards independent thinking can be initiated through experiences that expose an individual to diverse perspectives that cannot be reconciled with one's previously held assumptions. This incongruence leads to disequilibrium/cognitive dissonance and compels one to move towards new ways of thinking and believing. The process of letting go of one's prior beliefs and assumptions can be painful and, therefore, requires much support in order to ensure that students move through it in a healthy manner. Support can be offered in the form of relationships, opportunities for reflection, dialogue, and classes.

Pedagogical Practices and Spiritual Development

This second area of literature analysis investigates insights that emerge from the literature about how faculty can effectively integrate spirituality into the classroom and what pedagogical methods can be utilized to foster spiritual development among undergraduates. While the prior section discussed theoretical and empirical literature about how to facilitate spiritual development in more general terms, literature in this section focuses more specifically on what can be done by an instructor to foster spiritual development among students. There are few empirical studies in this area. Therefore, the majority of literature to be reviewed in this section was written by practitioners utilizing their own experience to advocate for particular pedagogical approaches.

Two large surveys have been conducted to investigate what methods are being utilized by faculty to integrate spirituality into their classes. Duerr, Zajonc, and Dana's (2003) mixed methods study of 117 North American colleges and universities found that the most prevalent pedagogical methods used by faculty to do so include: collaborative learning, experiential pedagogies, contemplative practices (meditation, silence, and reflective learning), journaling, service-learning, and creative/artistic expression. Survey responses and interviews demonstrated significant interest in incorporating spirituality into the academic arena, but reported little institutionalization of such efforts on campuses. Similarly, Lindholm, Millora, Schwartz and Spinosa (2011) surveyed university administrators at 1,580 higher education institutions nation-wide to discover what pedagogical approaches they are using to facilitate spiritual development of students. They found that cross-disciplinary studies, reflective writing, journaling,

contemplative practices, moments of silence, service-learning, problem solving, and understanding of multiple perspectives are frequently employed by faculty in efforts to promote spiritual development.

Other literature analyzing the question of what pedagogical practices can be utilized to foster spiritual development in the classroom point towards specific strategies in the areas of the classroom environment, relationships, experience, cognitive dissonance, and critical reflection.

Establishing the Classroom Environment

Because spirituality can intersect with religion, Miller (2000), Glazer (1999), and Love (2011) discussed how to integrate spirituality into the classroom in a manner that respects the pluralistic religious traditions of students. Miller (2000) advocates approaching spiritual issues in the classroom in an open and non-dogmatic way. In order to avoid imposing indoctrination or promoting a particular set of beliefs, Glazer (1999) recommends the use of experience. He believes that close examination of our perceptions and emotions related to our experience naturally leads to greater spiritual insight and awareness. Lovik (2011) similarly suggests that reflections on personal experience in the classroom are more effective than focusing on religion in helping students to grow spiritually.

Decisions around the physical arrangement of a classroom can impact the possibility for spirituality to be effectively integrated into a class. Miller (2000) advises paying attention to aesthetics and finding ways to "soften the physical environment" (p. 110). Palmer (1983) proposes that the arrangement of the classroom should reflect the

desire to create an "open and hospitable learning space" by placing chairs in a circle (p. 72).

The environment of the classroom can also be impacted through a faculty member's example and expectations as discussed by Dillard, Abdur-Rashid, and Tyson (2000), Miller (2000), Tisdell (2003), Hindman (2002), and Palmer (1983). In analyzing the practices of one faculty member striving to integrate spirituality into her class, Dillard et al. (2000) found that she did so by creating a welcoming, trusting environment; setting an expectation that people would struggle to understand complex topics together through discussion; and initially being open about her own vulnerabilities and passions. Miller (2000) recommends the use of storytelling, celebrations, and rituals as well as making efforts to nourish student voice to facilitate spiritual growth among students. The faculty in Tisdell's (2003) study attempted to integrate spirituality into the classroom through setting a tone that invited "students to bring their whole selves into a learning environment" (p. 212); establishing an environment that allowed for the exploration of the cognitive, the affective and relational, and the symbolic (p. 212); celebrating learning; and sharing power with students (p. 221). Hindman (2002) believes faculty should share personal life stories relating to values and beliefs and offer permission for students to do the same in order to assist students with their spiritual growth. Palmer (1983) argues it is important for faculty to allow themselves to be vulnerable and to allow for emotions to enter the classroom to enable the possibility for spiritual growth.

Research by Rockenbach and Mayhew (2013) as well as Bowman and Small (2010) demonstrates the role that the classroom environment can play in fostering

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spiritual growth. Rockenbach and Mayhew (2013) discovered that the prominence of religion and spirituality in the classroom and faculty encounters related to increasing levels of spiritual struggle. Bowman and Small (2010) found that student perceptions about faculty support for religious/spiritual development was important to fostering spiritual development.

The Role of Relationships

The literature suggests that relationships play a central role in facilitating spiritual development and, therefore, it is important that faculty create a classroom environment conducive to the possibility for authentic, supportive relationships and community to be formed (Hindman, 2002; Miller, 2000; Tisdell, 2003). Such relationships are necessary to enable the possibility for the open sharing and vulnerability integral to critical reflection (Mezirow & Taylor, 2009; Tisdell, 2003). Chickering et al. (2006) reported that Wellesley College students believe faculty mentoring and collaborative work with other students were among the most significant moments of spirituality and meaning in their academic experience. Palmer (1983) and Dillard et al. (2000) recommend that faculty invite students into a reciprocal relationship, while Parks (1986) and Hindman (2002) encourage professors to develop a mentoring relationship with students. Tisdell (2003) states "It is in the community of learners who are simultaneously teachers and learners together...that makes learning transformational and occasionally results in spiritual experiences" (p. 232).

The Role of Experience

As previously mentioned, Miller (2000) and Lovik (2011) recommend using experience as a starting point for integrating spirituality into the classroom in order to avoid promotion of a particular ideology. Others also propose that experience can play a central role in facilitating spiritual growth within the classroom (Dewey, 1938; Mezirow & Taylor, 2009; Palmer, 1983; Palmer, Zajonc, & Scribner, 2010; Tisdell, 2003). Dewey (1938) discussed how the formation of purpose is a complex intellectual operation that involves reflection upon what we observe in our experiences. He believes that teaching and learning is a continuous process of reconstruction of experience" (p. 87) and that "a fully integrated personality…exists only when successive experiences are integrated with one another" (p. 44). Palmer (1983) advocates getting out of the classroom to engage with the world in order to better integrate spirituality in education. He critiques modern education for prioritizing objectivity in a manner that artificially separates student experience in the world from classroom education and believes this is done to simplify reality and avoid vulnerability. He argues that doing so prevents the inner realities of students from entering the "knowledge equation" and hinders the possibility for seeking truth in education (p. 35). Similarly, Palmer et al. (2010) argue that experience be elevated to a central place in education. They state, "by offering students formal opportunities to pursue experiential learning in college, we give them the chance to live life's great questions in real time, to witness the struggle of others, to struggle themselves, and to form ethical positions in the face of life's genuine moral dilemmas" (p. 108). They

argue that an "intense, sustained, active, and experiential modality of engagement is required for a new way of meaning making" (p. 105).

The Role of Cognitive Dissonance

Experience can be an effective facilitator of spiritual development because of the ways in which it can initiate cognitive dissonance through exposure to diverse perspectives or complex situations without easy answers. Mezirow and Taylor (2009) point out that intense experiential activities can lead to transformative learning and meaning making by acting as "triggers or disorienting dilemmas" (p. 7). Palmer et al. (2010) argue that in order for an enduring shift in meaning making to occur, it is necessary, "to place ourselves in the world of others...temporarily inhabit other ways of being and knowing" (p. 106). Lovik (2011) found that including diverse perspectives in discussions and assignments was one of the most significant in-class factors leading to spiritual growth among undergraduates in his study. Bryant (2011) found that both religious struggle and ecumenicism were increased as a result of challenging co-curricular experiences and experiences with diversity in the classroom. Therefore, to increase pluralistic competence among students, she suggests that students be provided the opportunity for challenging co-curricular experiences that include experience with ethnic diversity.

The Role of Critical Reflection

The cognitive dissonance that can result from exposure to diversity and complex situations often leads to a processing of the experience through critical reflection. The literature consistently points towards the central role of critical reflection in facilitating

spiritual growth in the classroom. Critical reflection can be facilitated through the use of class discussions, reflective writing/journaling, meditation, contemplation, and silence. Roehkepartain et al. (2008) and Palmer (1983) discuss the importance of compelling, open-ended questions to facilitate deeper thinking in reflective practice.

Chickering et al. (2006) believe that reflection is the activity that converts experiences into "meaningful working knowledge" (p. 143). Similarly, Palmer et al. (2010) argue that intellectual framing and reflection are necessary to make meaning of experience. Bryant (2011) suggests that students need the opportunity to reflect upon challenges in order to promote growth rather than alienation. The importance of reflection had been confirmed in the empirical work of Astin et al. (2011b) as they discovered that the use of self-reflection and contemplative practices by faculty in the classroom can have a significant impact on students' spiritual development.

Mezirow and Taylor (2009) argue that critical reflection is a central element in transformative education and that this reflection can be initiated because of "conflicting thoughts, feelings, and actions" (p. 7) and can lead to perspective transformation through "questioning the integrity of deeply held assumptions and beliefs based upon prior experience" (p. 7). They suggest that there are three forms of reflection involved in this process including reflection related to: 1) content (reflecting on what one perceives and the thoughts/feelings related to these perceptions) 2) process (reflecting upon the process that led to one's perceptions) and 3) premise (an awareness of the underlying assumptions related to why one's perceptions exist).

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Numerous writers advocate the use of classroom dialogue as a means to spiritual development (Hindman 2002; Ma, 2003; Mezirow & Taylor, 2009; Palmer et al., 2010). Mezirow and Taylor (2009) state that dialogue is the medium "where experience is reflected upon, assumptions and beliefs are questioned, and habits of mind are ultimately transformed" (p. 9). Palmer et al. (2010) also believe that genuine conversation is a primary means through which transformational learning can occur. Ma's (2003) study of spiritual spirituality at 18 Christian colleges and universities found that class interaction and discussion were reported to be among the most influential academic factors in the development of student spirituality.

Reflective writing and/or journaling are another suggested method of engaging in self-reflection (Astin et al., 2011b; Lindholm, et al., 2011; Miller, 2000). Lindholm, et al. (2011) argue that reflective writing or journaling facilitates deeper thinking about how one's actions reflect one's values.

Mediation or silence in the classroom can be used to create space for self-reflection and contemplation (Astin et al., 2011b; Chickering et al., 2006; Duerr et al., 2003; Lindholm et al., 2011; Miller, 2000; Palmer, 1983). Chickering et al. (2006) believe that contemplation is the "cerebral metabolic process for meaning making" (p. 143). Palmer advocates the use of silence at the beginning of class to settle in and during the middle of class before discussion is opened. He also believes it is important for faculty to have the courage to use silence and avoid filling empty spaces so that there is space in the classroom for truth to enter.

Service-Learning as a Pedagogical Method to Integrate Spirituality in the Classroom

Both Duerr et al. (2003) and Lindholm et al. (2011) found that service-learning is a frequently utilized pedagogical technique among faculty seeking to promote undergraduate spiritual development. Chickering et al. (2006) argue that service-learning is perhaps the most powerful pedagogical strategy to facilitate spiritual growth and believe this is because of the way in which service-learning creates encounters with diversity followed up by reflection upon the questions these experiences bring up in terms of identity, values, mental models, and meaning making. Hindman (2002) believes that classroom integration of service opportunities and reflection upon service can facilitate spiritual growth. Bryant's (2008) synthesis of the literature about how higher education institutions can promote spiritual development of undergraduates suggests that service-learning is among the best practices.

Summary

The literature includes numerous recommendations about how to best facilitate spiritual development in the classroom by being attentive to the classroom environment, building relationships, integrating experiences that lead to cognitive dissonance, and reflecting upon experience. In establishing the classroom environment, authors recommend that the instructor avoid dogmatism, arrange the physical space in an appropriate manner, and set the expectation that it is appropriate to discuss spiritual matters in the classroom. A professor can emphasize this expectation through the personal example of storytelling. The faculty member should build reciprocal, mentoring

relationships with students while also making efforts to assist students in building authentic friendships. A focus on relationship building can lead to the creation of a supportive community within the classroom which will better enable the possibility for open, critical reflection in group discussions. Experience can be used as a way to avoid dogmatism while enabling spirituality to enter the classroom. Experience can facilitate cognitive dissonance through exposure to diverse perspectives and complex situations while also enabling education to be better integrated with students' lives and the realities of the world. Cognitive dissonance can lead to reflection as one attempts to understand the complexities observed in experiences. Reflection can occur through classroom discussions, reflective writing/journaling, meditation, contemplation, and silence. This process of reflecting upon the disorienting dilemmas one faces through experience can lead to a shift in meaning making and spiritual growth. Service-learning can be an ideal pedagogical tool to promote spiritual growth as it typically involves experiences that expose students to diverse perspectives or complex situations, cognitive dissonance, and reflection upon this dissonance through group discussions and reflective writing/journaling.

Spiritually-Related Service-Learning Outcomes

The third area of literature analysis reviews empirical studies investigating spiritually-related growth related to service-learning participation. A limited number of empirical studies have specifically found a relationship between service-learning participation and the spiritual development of undergraduates (Astin et al., 2011b; Cherry

et al., 2001; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2011; Radecke, 2007; Yeh, 2010).

A number of other studies point towards a relationship between service-learning participation and spiritually-related developmental outcomes among undergraduates. Kiely (2005) investigated how transformative learning occurs through service-learning participation. Others have found that service-learning can impact the desire to develop a meaningful philosophy of life (Astin, Sax, & Avalos, 1999; Astin, Vogelgesang, Ikeda, & Yee, 2000; Astin et al., 2006; Sax & Astin, 1997), increased racial understanding (Astin et al., 1999; Astin et al., 2000). Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Gray et al., 1998; Gray et al., 1999), increased social responsibility/desire to help others in difficulty (Astin et al., 1999; Eyler et al., 2001; Fenzel & Peyrot, 2005; Gray et al., 1998; Gray et al., 1999; Mabry, 1998; Sax & Astin, 1997), increased commitment to service (Astin et al., 1999; Astin et al., 2000; Eyler et al., 2001; Fenzel & Peyrot, 2005; Mabry, 1998), and clarification of values (Astin et al., 2000; Mabry, 1998; Jones & Abes, 2004; Yeh, 2010).   Detailed analysis of each of these studies follows.

Eyler and Giles (1999) surveyed 1,136 students who participated in service-learning at 30 colleges and universities in 1995 and asked students to reflect upon the importance of various aspects of learning that occurred from their experience. They discovered that service-learning participation had positive outcomes in the areas of personal and interpersonal development; understanding and applying knowledge; critical thinking; perspective transformation (pertaining to one's assumptions about societal and political structures); and citizenship. Four aspects of the personal development variable

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closely relate to spirituality including: spiritual growth, understanding myself/personal growth, appreciating different cultures, and the idea that the "people I served are like me" (p. 243). Seventy-eight percent of participants believed that knowing themselves better was either a very important outcome or the most important outcome of their service-learning experience. Sixty-eight percent reported that appreciation of other cultures was a very important or the most important outcome. Fifty-two percent believed that learning that the "people I served are like me" was a very important or most important outcome. Forty-six percent of students selected spiritual growth as a very important or the most important outcome of their service-learning experience. While this study is useful in demonstrating a relationship between service-learning participation and spiritual growth, the evidence is limited to one, subjective question asking students to report the importance of spiritual growth relative to other learning outcomes after they have completed their service experience. This measure of spirituality is not as robust as the survey instrument and scales created by Astin et al. (2004, 2011a, 2011b).

Astin, et al. (2004, 2011a, 2011b) did investigate the impact of service-learning on undergraduate spirituality and results indicate that service-learning participation has powerful impacts on the spiritual quest, ethic of caring, and ecumenical worldview scales of spirituality. The authors suggest this is related to the way in which service-learning exposes students to diversity, offers opportunities for self-reflection, and develops critical thinking by moving students from dualistic knowing. They state, "service-learning appears to work because it enables students to identify and direct their personal goals through an exploration of moral and ethical positions about themselves and their

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communities, and to relate larger social issues to their own lives" (p. 146). While this research demonstrated a relationship between spiritual growth and service-learning participation, there were no distinctions made between the types of service-learning experiences as the survey simply asked whether students had participated in service as part of a course.

Following numerous conversations with Susquehanna University undergraduates describing how meaningful and life-changing their service-learning experience had been, Radecke (2007) decided to conduct a qualitative study investigating undergraduate students' perceptions of the impact of a short-term, international service-learning course on their spiritual lives and faith formation. The course was based in religious studies and entitled, "Images of Jesus in Central America." He analyzed papers, journals, and interview transcripts from 44 different students who had participated in international service-learning trips from 2004-2006. He found that over half of the students specifically stated that the experience led to a deepened religious faith, nearly half of the students reported that their vocational goals had been impacted by the experience, and that students consistently reported a transformation of perspective resulting from the experience. Radecke offers the only study with a primary focus on both spiritual growth and service-learning participation, but the generalizability of findings are limited due to the unique nature of this international service-learning course, the unique subject matter of the course, and the religious focus of the experience.

Cherry et al.'s (2001) ethnographic study investigating religious life on four college campuses included an analysis of outcomes pertaining to student participation in

a service-learning class at East University. The service-learning participants consistently reported that the "course had given them the opportunity to undergo a process of personal transformation and spiritual growth" (p. 181).

Both Kuh and Gonyea (2006) and Lovik (2010, 2011) analyzed 2004 NSSE data to conduct their studies examining spiritual growth among undergraduates. Kuh and Gonyea included 149,801 first-year students and seniors at 461 different four year colleges and universities and found that participation in service-learning had a significant relationship to self-reported participation in spiritual practices and a deepened sense of spirituality. Lovik (2011) also utilized 2004 NSSE data from 7,172 first year students at 442 institutions to analyze which organizational features and student experiences led to a self-reported "deepened sense of spirituality" (p.3). Study results indicated that the strongest predictor of a deepened sense of spirituality among all curricular experiences was participation in a community-based learning course. Exposure to diverse perspectives in classroom discussions and assignments was another significant predictor of deepened spirituality. The results of both studies are limited by the fact that students were surveyed at only one point in time and a limited measure of spiritual growth was utilized.

Yeh (2010) conducted a qualitative study with a sample of six service-learning participants at two colleges to investigate the question of whether service-learning can play a role in the retention of low income, first generation students. Although spiritual growth was not the primary focus of the study, students reported that the service-learning experience caused them to examine their values, beliefs, and purpose in life. This

examination of beliefs was prompted by new experiences and encounters that were reflected upon in class discussions. Because of this, she concluded that one of the primary areas of growth and development for the students in the study was spiritual growth and that spiritual growth played a role in persistence for the students in her study.

Jones and Abes (2004) investigated the long-term impact of service-learning on identity development through a qualitative study with eight students who had participated in a service-learning course two to four years prior to the study. Study findings indicated that the service experiences did influence the values, meaning making, and identity development of participants and that this occurred because of being challenged by exposure to new experiences and people, reflection upon these experiences, and subsequent reframing of thinking. The authors reported that "nearly all participants spoke explicitly about how their service-learning experiences caused them to reflect on their values, beliefs, and attitudes in ways very few other activities had encouraged" (p. 154). This resulted in shifting career goals to more service-oriented professions for all of the participants. Service-learning participation subsequently increased students' ability to make decisions based upon internally defined values rather than the expectations of others. Although the author did not utilize the term spirituality, the process of making decisions internally rather than following the expectations of authorities parallels the process of spiritual growth described by Fowler (1981), Daloz Parks (1986, 2000) and Helminiak (1987). Furthermore, meaning making, reflection on values and beliefs, and further understanding of self are all components in definitions of spirituality.

Kiely (2005) utilized document analysis, observation, focus groups and interviews

to analyze the experience of 57 participants in a service-learning immersion program in Nicaragua between 1994-2005. Mezirow's model of transformative learning was used as a framework for the study in an effort to better understand how transformation occurs through the service-learning experience. He found that service-learning participants did experience a transformation as he observed a powerful emotional response to service-learning that many students described as being "stripped raw" and seeing "themselves for what they are really worth" (p. 13). He argues that service-learning can affect students' "worldview, relationships, lifestyle, and consumption habits" (p. 11). Again, this study did not use the term spirituality, but the observed transformation in perspective relates to the dynamic process of better understanding oneself and one's purpose in life described in definitions of spirituality.

Sax and Astin (1997) analyzed CIRP data from 3,450 students at 42 institutions to investigate the benefits of participating in service-learning in the areas of civic responsibility, academic attainment, and life skills. All 35 student outcomes were found to increase as a result of service-learning participation. Although the study did not look directly at spirituality, it did find service-learning participation positively impacted student commitment to develop a meaningful philosophy of life, helping others in difficulty, and promoting racial understanding.

Astin, Sax, and Avalos (1999) found similar results to Sax and Astin (1997) in examining the question of how community service participation affects the educational and personal development of undergraduates and whether there are any lasting effects on post-college behaviors and values. This study did not distinguish between extracurricular

and co-curricular service. Thus, data were not disaggregated among non-service-learning

participants and service-learning participants. Data were collected from the same 12,376

students upon entry to college in 1985, then in 1989, and 1994-1995. The primary

independent variable was the amount of time a student spent participating in volunteer

work during his/her fourth year of college. Findings indicated that service participation

did have a long-term association with the values of: promoting racial understanding,

helping others in difficulty, and developing a meaningful philosophy of life.

The findings of Sax and Astin (1997) and Astin et al. (1999) directly relate to the

measurements of spirituality developed by Astin et al. (2011). The first of these variables

became a measure in the spiritual quest scale and the latter two became incorporated into

the ethic of caring scale.

Astin et al. (2000) built upon the work of Astin et al. (1999) in seeking to

compare the effects of service-learning participation and community service participation

on undergraduate cognitive and affective development and explore how service enhances

learning. This mixed methods study included 22,236 students in the quantitative sample

and case studies of three campuses. Quantitative data were collected in 1994 and 1998 to

investigate the impact of community service and service-learning on 11 dependent

variables including: GPA, writing skills, critical thinking skills, commitment to activism,

commitment to promoting racial understanding, self-efficacy, leadership activities, self-

rated leadership ability, interpersonal skills, choice of a service career, and plans to

participate in service after college. Study results indicated that all 11 measures were

positively impacted by service participation and that service-learning participation led to

increased positive outcomes above and beyond community service in all variables except interpersonal skills, self-efficacy, and leadership. Qualitative results indicated that service-learning enables students to explore their values as both "students and faculty believe that service-learning courses heighten the students' awareness both of the world around them and of their own personal values and beliefs…" (p. 72).

Astin et al. (2006) investigated the long-term impact of service-learning participation by conducting a follow-up study to Astin et al. (2000). In this study, data were gathered in 2004 on a sub-sample of 8,474 students that previously provided data during their first year of college in 1994 and their fourth year of college in 1998. Results demonstrated that students who had participated in service-learning during college had an ever-increasing interest in developing a meaning philosophy of life from 45.1% in 1994 to 56.7% in 1998 to 63.3% in 2004 (p. 56).

Fenzel and Peyrot (2005) also sought to investigate the long-term impact of community service and service-learning participation through surveying 1,537 alumni in the spring of 2001 who had graduated from an east coast Catholic, liberal arts college between 1992-1999. Findings demonstrated that both community service and service-learning participation have a long-term positive impact on attitudes toward social and personal responsibility, beliefs about the importance of personal political participation, and continued service involvement through volunteering and career choices. Similar to Astin et al. (2000), the study also found that service-learning participation had effects beyond that of community service participation.

Mabry (1998) conducted a study with 144 students participating in 23 different service-learning courses in the fall of 1997. Students were given a survey at the beginning and at the end of the service-learning course. Findings demonstrated that service-learning participation led to increases in the values of helping others, commitment to service, and social responsibility.

Gray et al. (1998, 1999) analyzed survey data from 1,300 service-learning participants at 28 institutions and found that service-learning participation had a correlation with self-perceived student development in civic responsibility, interpersonal skills, and understanding people of a different background.

Summary

A review of the literature clearly demonstrates that this is a topic worth of additional study. While Astin et al. (2011b), Cherry et al. (2001), Eyler and Giles (1999), Kuh and Gonyea (2006), Lovik (2011), Radecke (2007), and Yeh (2010) demonstrated a relationship between service-learning participation and spirituality, only Radecke's study investigated these two topics as a primary focus of the study. Thus, either the measures used to analyze spiritual growth or the measures used to analyze service-learning participation were not well developed in most studies. For example, Astin et al. included extensively developed measures of spiritual growth, but had only one question asking students whether they participated in community service as part of a class. On the contrary, Eyler and Giles offered extensive analysis differentiating among varying service-learning experiences, but included only one measure of self-reported spiritual growth relative to other types of growth through service-learning. Lovik as well as Kuh

and Gonyea had limited measures of both service-learning participation and spiritual growth. The qualitative studies of Cherry et al. and Yeh were focused on entirely different research questions than a potential relationship between service-learning and spirituality and thus devoted little discussion or analysis to this finding. While Radecke offers the only study investigating these two variables as the primary research question, his qualitative study is limited by the fact that it included 44 students from only one university who had participated in only one type of service-learning course. This course was a two week, international immersion experience in Central America. Given the unique nature of this service-learning course, the generalizability of these findings among the larger population of service-learning participants is limited.

As previously outlined, definitions of spirituality include the themes of being engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life; living out one's philosophy of life with authenticity and integrity; seeking a connection/relationships with others and a higher power, and believing in the interconnectedness of humanity leading to a desire to serve others. Given the intersections of these themes with developing a personal philosophy of life, further understanding of self, increased compassion for others, and transformation of perspective, a number of studies (Astin, et al., 1999; Astin et al., 2000; Astin et al., 2006; Fenzel & Peyrot, 2005; Gray et al., 1998; Gray et al., 1999; Jones & Abes, 2004; Kiely, 2005; Mabry,1998; Sax & Astin, 1997) offer further evidence to complement the seven studies that directly investigated the relationship between service-learning participation

and spirituality among undergraduates (Astin et al., 2011b; Cherry et al., 2001; Eyler &
Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2011; Radecke, 2007; Yeh, 2010).

Service-Learning Components Contributing to Student Development Outcomes

The fourth area of the literature review investigates the question of which service-
learning components have been found to relate to desired developmental outcomes in
prior empirical research. Findings in this area generally fall under the categories of:
cognitive dissonance; connection between academic coursework and service; reflection;
relationships; duration of service; and the quality of the service placement.

Challenging Preconceived Beliefs

The possibility for development to occur through service-learning is often
initiated by experiences that challenge students' beliefs and assumptions through
exposure to diversity or a disorienting dilemma (Astin et al., 2000; Eyler et al., 2001;
Eyler & Giles, 1999; Hatcher, Bringle, & Muthiah, 2004; Jones & Abes, 2004; Kiely,
2005; Radecke, 2007; Yeh, 2010). Such a challenge facilitates growth by creating
dissonance and a subsequent desire to resolve this dissonance. Hatcher, Bringle, and
Muthiah (2004) explained this process in stating:

> Service-learning experiences often introduce students to new environments and
> experiences that cross cultural and socioeconomic boundaries. Students may
> interact with others who challenge previously held stereotypes and values. Such
> experiences can create perplexity for students, and perplexity is often the
> beginning point for learning to occur (p. 42).

The students and faculty in the Astin et al. (2000) study consistently spoke of how service-learning increased students' awareness of their own values and beliefs by challenging "their preconceived ideas about the "way the world works" or "certain groups in society" (p. 68). Jones and Abes (2004) similarly found that exposure to unfamiliar people and experiences enabled students to develop "internally generated values" rather than values conforming to "external expectations" (p. 162). Many of the students in Yeh (2010) reported that reflection upon new experiences enabled them to learn more about themselves and "examine their values and motivations" (p. 56).

Eyler and Giles (1999) discussed how the types of social problems that students face in their community service sites are "ill-structured" problems that are not easily defined and do not lend themselves to easy solutions. As a result, "experts" often disagree on how to approach solving the issues to which students are exposed in their community service sites. Seeing the fact that authorities can legitimately disagree may create cognitive dissonance and initiate the possibility for students to move from dualistic thinking to more relativistic thinking as outlined in theories of cognitive development (Daloz Parks, 2000; Love, 2002). As discussed by Love (2002), the possibility for spiritual development to occur seems to be intertwined with cognitive development. Thus, the cognitive development that can occur through facing "ill structured" problems may simultaneously impact spiritual development.

Connection between Academic Coursework and Service

Studies have pointed towards the importance of a strong connection between academic coursework and the service experience in creating an effective service-learning

experience (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999). Gray et al. (1998, 1999) reported that structured reflection through papers and journals; studying the causes of social problems; discussing service experiences in class or with a faculty member; and reading about community service were among the most prevalent efforts utilized to connect service experiences to coursework.

In qualitative interviews conducted by Astin et al. (2000), both students and faculty indicated that applying course content to service experiences was among the major factors influencing the possibility for service-learning outcomes to be achieved as this enabled the material to become relevant in a manner that facilitated student awareness of personal values and beliefs.

Reflection

A recurring theme in the service-learning literature is that reflection plays a key role in facilitating development through service-learning (Ash & Clayton, 2004; Astin et al., 2000; Eyler, 2002; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999; Jones & Abes, 2004; Kiely, 2005; Hatcher & Bringle, 1997; Hatcher et al., 2004; Mabry, 1998; Radecke, 2007; Yeh, 2010). Reflection has been discussed as a means of connecting course material to service experience as well as a means of processing the complex topics and dissonance faced through service (Astin et al., 2000; Eyler, 2002). Reflection takes many forms with the most prominent being discussions with other students, discussions with faculty, journal writing, and reflective papers (Gray et al., 1998). The quality of reflection in service-learning can vary

tremendously and the quality level can have an impact on the student development that occurs (Ash & Clayton, 2004; Eyler & Giles, 1999; Eyler, 2002; Gray et al., 1998; Hatcher & Bringle, 1997; Hatcher et al., 2004). Reflection can lead to a transformation in thinking (Eyler & Giles, 1999; Jones & Abes, 2004; Kiely, 2005) and clarification of values (Astin et al., 2000; Hatcher & Bringle, 1997; Hatcher, et al., 2004; Yeh, 2010).

Hatcher et al. (2004) investigated the role of reflection in the quality of learning that took place among 471 service-learning participants in 17 service-learning classes at nine postsecondary institutions. To determine the quality of the learning environment, students were asked to rate their service-learning class in terms of: active learning, course satisfaction, faculty interaction, peer interaction, perceived learning, and personal relevance. Students were then asked to rate the quality of the reflection experiences in terms of structure (clear directions and guidelines), regularity (measured in terms of hours per week and total written pages of reflection), and the opportunity reflection provided for exploration and clarification of personal values. The study findings indicated that there is a correlation between each of these aspects of reflection and the perceived quality of the learning environment and that the nature of the reflection is more important than the quantity of the reflection. Hatcher et al. (2004) believe that integrating the opportunity to reflect upon values is particularly important because service experiences are exposing students to experiences that may challenge prior values. They suggest that writing assignments ask students to analyze their values in relation to their service experience and students should be offered the opportunity to reflect on values in group discussions.

Hatcher and Bringle (1997) offer guidelines on developing effective service-learning reflection activities. They suggest that reflection should link service experiences to course learning objectives through journals, directed writing, and class discussions; have guidance that includes clear expectations and criteria for evaluation; occur at least once a week; include feedback and assessment of student understanding of how course material connects to service; and include the opportunity for students to clarify values in light of service experiences.

Eyler (2002) argues that the quality of reflection is paramount to the quality of a service-learning experience and that greater attention should be paid to creating high quality reflection in service-learning. Eyler believes that reflection on the service-learning experience is "the process by which individuals develop the capacity to understand and resolve complexity; reflection is the mechanism for stimulating cognitive development" (p. 522). She analyzed how reflection can be structured in a manner that best integrates service experience with academic content and utilizes knowledge about how learning occurs from Dewey, Kolb, Schon, and Piaget. She offers specific suggestions on the types of reflection activities that can occur before, during, and after the service experience. Generally, reflection that occurs before service should provide the opportunity to "explore assumptions about the community, about the issues to be addressed as part of the course, and to identify gaps in understanding" (p. 524). Reflection at this stage should prepare students to be observant of how their experiences might not match their assumptions. She suggests that group reflection in this stage can include exploration of hopes and fears as well as reflection upon contrasting "expert"

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opinions. Individual reflection can include a letter to oneself or a goal statement.

Students can engage in reflection with community partners at this stage through creation

of a contract or conducting a needs assessment. During service, Eyler believes that there

needs to be continual opportunities for student observations to be "processed, challenged,

and connected with other information" (p. 526). Individual reflection at this time can

occur through a reflective journal. Group reflection can occur through list serve

discussions or group conversation around critical incidents. Students can reflect with

community partners through site debriefings and analysis of lessons learned. After

service, reflection can "consolidate learning, to examine where one has traveled in

understanding over the course of the term, and to identify questions and issues yet

unresolved" (p. 530). Individually, this can be done through paper writing, artwork,

and/or film. Group reflection can be done through team presentations. Reflection with a

community partner can be done by presenting the paper, artwork, film or group project to

the community partner.

     Eyler and Giles (1999) argue that it is important for faculty to encourage "critical"

reflection that pushes "students to explore the assumptions that underlie their own

perceptions and the way that society is organized" (p. 198). They believe that such

critical reflection is integral to enabling the possibility for transformational learning to

occur, but that challenging students in this way must be balanced by faculty support to

ensure students do not become discouraged and give up on the growth process.

Relationships

Relationships also play a key role in service-learning. Relationships built with the beneficiaries of service, faculty, classmates, and staff at community partners can initiate challenges to assumptions and beliefs and serve as a source of support while students are working to process and reflect upon the dissonance they are experiencing. Mabry (1998) discovered that service-learning is a more effective pedagogy when students have frequent contact with beneficiaries. Even two to four years after participating in service, students in the Jones and Abes (2004) study consistently described the significant role of relationships in their evolving sense of self. Through reflection on observations about interactions with new people in new environments, students transformed their thinking about themselves, their values, the community, and the people they met. Even two to four years after participating in service, students in the Jones and Abes (2004) study consistently described the significant role of relationships in their evolving sense of self. Radecke (2007) observed that when service experiences, "are enriched by life in close community with peers and potential mentors, the participants' developmental and affiliative needs are addressed, and the potential for expanding young adults' horizons of meaning is multiplied" (p. 5). Astin et al. (2000) found that discussing service with peers and "emotional" faculty support "account for more of the effects of service on the dependent measures than do other mediating activities. Thus, service-learning and community service enhance student development in part because they increase the odds that students will interact with each other and experience personal support from professors" (p. 33). Eyler and Giles (1999) found that 30 % more of service-learning

participants reported a close relationship with a faculty member than non-service-learning

participants in their study (p.52). Hatcher et al. (2004) found that faculty interaction and

peer interaction correlated with the quality of the learning environment as reported by

students. Kiely (2005) concluded that transformational learning through service-learning

"is more apt to occur and persist over the long-term if there are structured opportunities

for participants to engage in reflective (i.e. processing) and non-reflective (i.e.,

personalizing and connecting) learning processes with peers, faculty members, and

community members" (p. 17).

Duration of Service

A few studies have investigated whether the duration of service has an impact on

achievement of desired developmental outcomes (Astin et al., 2000; Astin & Sax, 1998;

Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1999; Mabry,

1998). Astin and Sax (1998) found that the duration of service had a significant effect on

34 of the 35 variables in their study. The results of Mabry (1998) demonstrate that

students need to participate in at least 15-20 hours of service to maximize the

developmental potential of service-learning. Gray et al. (1999) reported that volunteering

more than 20 hours in a semester or academic quarter resulted in stronger effects. Fenzel

and Peyrot (2005) discovered that long-term effects of service-learning existed if alumni

had completed more than 10 hours of service in an undergraduate service-learning

course.

Placement Quality

Gray et al. (1999) found that receiving training and supervision were among the factors that resulted in stronger student development effects through service-learning. Mabry (1998) reported that frequent contact with beneficiaries of service and discussion of service with a placement site supervisor had a relationship to developmental outcomes. Eyler and Giles (1999) found that placement quality related to the possibility for spiritual growth, knowing oneself, and belief in the idea that the "people I served are like me." Elements of placement quality included "a context in which students can exercise initiative, take responsibility, and work as peers with practitioners and community members" (p. 169). Measurements of placement quality included: "had important responsibilities," "had challenging tasks," "made important decisions," "what I did was interesting," "did things myself instead of observing," "talked with people receiving service," "professionals at site took an interest in me," "met for seminars/formal discussions of the service" (at service site), "had variety of tasks to do at site," "was appreciated when I did a good job," "felt I made a real contribution," and was "free to develop and use my ideas" (pp. 240-241). Eyler et al. (2001) also reported that among the components most important to consider in developing a quality service-learning course is placement quality. It is interesting to note, however, that the qualitative portion of Astin et al. (2000) discovered no significance in the type of service students did at their placements.

Studies Directly Investigating Spiritual Development

There are only a few prior studies that have directly considered the question of which service learning components have a relationship to spiritual development (Cherry, DeBerg, & Porterfield, 2001; Eyler & Giles, 1999; Radecke, 2007). The most prominent of these is Eyler and Giles (1999). Eyler and Giles included four independent variables that directly relate to the definitions of spirituality outlined in the literature including: "spiritual growth," "understanding myself better/personal growth," appreciating different cultures, and the idea that the "people I served are like me" (p. 243). The following service-learning program characteristics that were found to have a significant relationship to spiritual growth: placement quality, written reflection, application of service, and exposure to diversity. Knowing oneself was related to placement quality, application, reflection (both group and written), and exposure to diversity. Appreciation of other cultures related to application and exposure to diversity. The idea that the "people I served are like me" related to placement quality, application, written reflection, and community voice.

Radecke's (2007) qualitative study focused on spiritual growth through a service immersion experience. Findings indicate that the transformation students experienced was initially fostered by a "disorienting dilemma" such as the paradox of seeing people living in poverty, but living with joy, tranquility, and generosity; seeing images of a non-white Jesus; and having stereotypes challenges through building relationships with Central Americans living in poverty. This disorienting dilemma was then followed by

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reflection through papers, conversations, and journaling. He concluded that disequilibrium and reflection are of central importance to facilitating growth through service-learning. Of disequilibrium, he stated "It opens them to the disorienting dilemmas, transformation of perspective, dissolution, and recomposition of meaning that are core components of faith formation" (p. 28).

Cherry et al.'s (2001) ethnographic study found that students participating in a service-learning class at East University consistently reported undergoing spiritual growth as a result of the course. Students described this growth as occurring through "direct experience of society's ills and participation in a community of students, professors, and supervisors committed to compassion and justice" (p.181). A focus group with students indicated that this transformation involved a questioning of received beliefs about religion, God, and spirituality and led students to develop clearer commitments to personal beliefs as a result of this questioning.

Although Kiely (2005) does not utilize the language of spirituality, there is much overlap between the way in which Kiely conceptualizes transformational learning and the way in which spiritual growth is conceptualized in the literature. Kiely (2005) found that students experienced transformational learning through five different categories: contextual border crossing (encounter), dissonance, personalizing (emotional response to dissonance), processing (group and individual reflection), and connecting (building relationships with Nicaraguans and empathizing with their lives). Students experienced high intensity dissonance as a result of having direct contact and building relationships with people living in poverty. Kiely argued that critical reflection upon the experience of

high intensity dissonance causes a transformation in perspective to occur. Students in his

study benefitted from multiple forms of reflection including readings, seminars,

presentations, journals, group reflection, community based research, and dialogue with

members of the local community. A key component of each of these reflective activities

was the fact that diverse perspectives were presented and that this diversity in

perspectives challenged students' assumptions and views on cultural norms.

Summary

Literature in the fourth area offers much insight into which service-learning

components contribute to desired developmental outcomes among undergraduates.

Studies have found that cognitive dissonance resulting from a disorienting dilemma or

exposure to diversity plays a crucial role in the possibility for development to occur

(Astin et al., 2000; Eyler & Giles, 1999; Eyler et al., 2001; Hatcher, et al., 2004; Jones &

Abes, 2004; Kiely, 2005; Radecke, 2007; Yeh, 2010). The application of the service

experience to the course content also plays a significant role in achieving service-learning

outcomes (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot,

2005; Gray et al., 1998, 1999). Reflection is an important component of high quality

service-learning as it enables processing of cognitive dissonance as well as integration of

the service experience with course material (Ash & Clayton, 2004; Astin et al., 2000;

Eyler, 2002; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al.,

1998, 1999; Hatcher & Bringle, 1997; Hatcher et al., 2004; Kiely, 2005; Mabry, 1998;

Radecke, 2007, Yeh, 2010). Not surprisingly, the quality of the placement and the

duration of the service also can impact the possibility for development to occur (Astin et

al., 2000; Astin & Sax, 1998; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1999; Mabry, 1998). Relationships built with faculty, other students, and those at the service site also play a role in development (Astin et al., 2000; Eyler & Giles, 1999; Hatcher, et al., 2004; Jones & Abes, 2004; Kiely, 2005; Radecke, 2007). Overall, these studies offer insight into how service-learning courses can be structured to maximize the potential for student development to occur among participants. However, Eyler and Giles (1999) is the only of these studies that offers a comprehensive analysis of service-learning structural components that relate to spiritual growth in particular. As previously mentioned, Eyler and Giles utilized a limited measure of spiritual growth. Therefore, while existing literature may offer guidance on how service-learning might be structured to maximize the potential for spiritual development to occur, additional research could offer greater certainty to faculty and administrators seeking to do so.

Conclusion

How Does Spiritual Development Occur Among Undergraduates?

The literature tell us that young adult spiritual development centers around movement from inherited beliefs to beliefs that are arrived at independently following a period of critical thought and reflection (Daloz Parks, 1986, 2000; Fowler, 1981; Helminiak, 1987). This process of reflection and critical thinking is often initiated through disorienting dilemmas or experiences with diverse perspectives that lead to disequilibrium/cognitive dissonance (Cartwright, 2001; Daloz Parks, 1986, 2000; Fowler, 1981; Mezirow & Taylor, 2009; Tisdell, 2003; Welch & Koth, in press). Because the process involves letting go of previously held assumptions and distancing oneself from

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the culturally normative beliefs of one's background, it can be a protracted and painful experience that requires much support in order to ensure that an individual moves through it in a healthy manner (Daloz Parks, 1986, 2000; Fowler, 1981; Welch & Koth, in press). Relationships, mentoring, and a mentoring community can be key sources of support through this process (Cartwright, 2001; Daloz Parks, 1986, 2000).

Cognitive development may also play a role in the possibility for spiritual development as Love (2002) suggests that the latter may be facilitated by the former. Theories of cognitive development consistently point towards a period of "Great Accommodation" that initiates the possibility for cognitive growth (Love & Guthrie, 1999). The "Great Accommodation" occurs when an individual moves from dualism to more nuanced and complex ways of thinking. This can be initiated from experiences where an individual encounters problems that are too complex to be fully understood or easily solved.

Empirical studies examining how the process of spiritual development occurs are consistent with spiritual development theories as well as foundational student development theories. Chickering and Reisser (1993) and Sanford (1962) pointed out that student development is often initiated by challenging experiences and that support is necessary to ensure that these challenging experiences lead to healthy growth. The results of empirical studies generally fall into these categories of challenge and support. Studies have found that spiritual growth can arise after an individual experiences the challenges of crisis, disequilibrium, critical analysis, and/or exposure to diversity. The empirical literature reports that classes, relationships with faculty and peers, a strong

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community, and the opportunity for dialogue and reflection can serve as supports that help facilitate the process of healthy spiritual development.

Thus, spiritual development theories, cognitive development theories, student development theories, and empirical research all point towards the possibility for service-learning to be a facilitator of spiritual growth. A service-learning experience that causes disequilibrium resulting from exposure to diverse perspectives, a disorienting dilemma, or complex problems that are not easily solvable can initiate the process of spiritual development. To ensure that a student is supported through this experience of disequilibrium and growth, a service-learning class should provide the opportunity for dialogue, reflection, relationship building, community, and mentoring.

What Pedagogical Practices Might Facilitate Undergraduate Spiritual Development?

The ideas within this literature area are consistent with those presented in the theoretical and empirical work examining how spiritual development occurs. This literature recommends that spiritual development be facilitated in courses by being attentive to the classroom environment, building relationships, integrating experiences that lead to cognitive dissonance, and reflecting upon experience. Therefore, this area of literature also points out how service-learning might be used as a pedagogical tool to promote spiritual growth when it involves challenging experiences that lead to cognitive dissonance in conjunction with reflection upon this dissonance. Strong relationships and community in the classroom can enable more effective group reflection as students become more open in sharing with one another (Mezirow & Taylor, 2009; Tisdell, 2003).

What Spiritually-Related Outcomes Have Been Found to Relate to Service-Learning Participation?

Literature directly demonstrating a relationship between service-learning participation and spiritual growth is limited to seven studies—none of which have quantitatively investigated both of these variables as the primary focus of the study (Astin, et al., 2011b; Cherry et al., 2001; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2011; Radecke, 2007; Yeh, 2010). Therefore, the quantitative studies that have been done, offer limited measures of spiritual growth or limited distinction between the types of service-learning experiences. There are also empirical studies investigating the relationship between service-learning participation and growth in variables that could be considered components of spirituality. Studies have found that service-learning participation can lead to a greater commitment to developing a personal philosophy of life, further understanding of self, increased compassion for others, and transformation of perspective (Astin, et al., 1999; Astin et al., 2000; Astin et al., 2006; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998; Gray et al., 1999; Jones & Abes, 2004; Kiely, 2005; Mabry,1998; Sax & Astin, 1997; Yeh, 2010). Hence, empirical studies have found a relationship between service-learning participation and spiritual growth; however, limitations in the measures of spiritual growth and/or service-learning demonstrate that there is a need for additional research in this area.

What Service-Learning Components Have Been Found to Facilitate Developmental Outcomes among Undergraduates?

Literature investigating which service-learning components can contribute to

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desired developmental outcomes among undergraduates offers insight into how a service-learning experience might be structured to maximize the potential for student growth to occur. Important components of a service-learning experience that have been found to lead to desired student development outcomes include: cognitive dissonance resulting from a disorienting dilemma or exposure to diversity (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Hatcher et al., 2004; Jones & Abes, 2004; Kiely, 2005; Radecke, 2007; Yeh, 2010); application of the service experience to the course content (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999); high quality reflection (Ash & Clayton, 2004; Astin et al., 2000; Eyler, 2002; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999; Hatcher & Bringle, 1997; Hatcher et al., 2004; Kiely, 2005; Mabry, 1998; Radecke, 2007, Yeh, 2010); a high quality placement that includes at least ten hours of service (Astin et al., 2000; Astin & Sax, 1998; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1999; Mabry, 1998); and relationships built with faculty, other students, and those at the service site (Astin et al., 2000; Eyler & Giles, 1999; Hatcher, et al., 2004; Jones & Abes, 2004; Kiely, 2005; Radecke, 2007).

Overlapping Themes among the Literature Areas

A review of the literature clearly establishes that there is overlap between how spiritual development can be facilitated among undergraduates in the classroom and the components of a high quality service-learning experience. Spiritual development theories and empirical studies investigating spiritual development suggest that spiritual growth can occur through experiences that lead to cognitive dissonance or disequilibrium. In

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order to effectively process this disequilibrium, it is necessary for students to receive support through relationships and reflection. Literature on pedagogical methods to facilitate spiritual development also speaks of the role of relationships, cognitive dissonance, and reflection. Literature investigating the components of a high quality service-learning experience that maximizes the potential for student development to occur also points toward the role of relationship building, cognitive dissonance/disequilibrium, and reflection. Thus, it is apparent that a service-learning course including experiences leading to cognitive dissonance, reflection upon this dissonance, and supportive relationships has the potential to facilitate spiritual growth among undergraduates.

Implications for Future Research

A review of the existing literature demonstrates that the potential for service-learning to facilitate spiritual growth among undergraduates needs further empirical investigation. Despite the apparent connections between the pedagogical methods utilized in service-learning and the processes necessary to facilitate spiritual growth, there are a limited number of studies that have demonstrated this relationship. The existing quantitative studies (Astin, et al., 2011b; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2011) examining this relationship have either a) not used thorough measures of spiritual growth or b) not made distinctions among service-learning experiences. No quantitative study exists that utilizes a thorough measure of spiritual development to investigate how the components of a service-learning course might be affecting the possibility for spiritual growth to occur.

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The existing qualitative studies that have found a relationship between service-learning participation and spiritual growth also have significant limitations in their ability to inform the question of which aspects of the service-learning experience might lead to spiritual growth.

Two of the three qualitative studies (Cherry et al., 2001; Yeh, 2010) that demonstrated a relationship between service-learning participation and spiritual growth discovered this relationship while focused on a different research question. Thus, the relationship was not thoroughly explored. The one study (Radecke, 2007) that did explore the relationship between service-learning and spiritual development as the primary research question offers much insight into how spiritual development occurred for the participants. However, the study only included participants in a two week, internationally-based, mission trip affiliated with a course entitled, "Images of Jesus in Central America." The course was a unique type of service-learning experience with a sample that specifically chose to take a religiously-based course. Thus, the possibility for study findings to inform thinking about how to structure a more traditional service-learning course with students who may or may not have an interest in religion is limited.

Therefore, there is need for both additional quantitative study and qualitative study simultaneously focused on spiritual development and service-learning components. A mixed methods study is ideal for further examining the question of which aspects of a service-learning experience might lead to spiritual growth. The quantitative piece can include a pre-test/post-test survey instrument with adequate measures of both spiritual development and service-learning components. Astin, Astin, & Lindholm (2011a; 2011b)

have provided an instrument which can be adapted to thoroughly measure spiritual growth quantitatively. The literature review makes it clear that service-learning components to measure in a survey instrument include details pertaining to: relationships, reflection, and experiences that lead to cognitive dissonance. Following a quantitative survey with a qualitative inquiry can enable deeper understanding of how various aspects of the service-learning experience are facilitating spiritual growth. Interviews with select study participants can provide further explanation and detailed description of processes that are difficult to capture quantitatively.

A mixed methods study that further examines the relationship between service-learning participation and spiritual development as well as the varying components of a service-learning experience and how each might relate to spiritual growth can contribute significantly to our understanding of how spiritual growth can be fostered pedagogically. This understanding would enable faculty and higher education administrators to intentionally structure service-learning programs to maximize the potential for spiritual growth and enable higher education institutions to better achieve the mission of fostering holistic student development.

CHAPTER 3

METHODOLOGY

The method of inquiry utilized in this study was selected to enable a fuller

understanding of: 1) the relationship between service-learning participation and the

occurrence of spiritual growth, 2) which components of a service-learning experience

relate to whether spiritual development occurs among service-learning participants, and

3) what role "challenge" and "support play in the process of spiritual growth. This

chapter begins by providing an overview of the theoretical perspective and conceptual

framework guiding the study. This is followed by the research questions, an overview of

the chosen strategy of inquiry, a description of the site utilized in conducting the study,

and details pertaining to the participant selection process. The remainder of the chapter

focuses on details of the data collection procedures, and an overview of the data analysis

procedures.

Theoretical Perspective and Conceptual Framework

The theoretical perspective guiding this study is derived from Nevitt Sanford's

(1962, 1966, 1967) college student development theory of challenge and support.

Sanford proposed that an individual naturally seeks to maintain internal equilibrium that

can be disrupted when facing challenging stimuli. As a result of facing challenging

stimuli, one seeks to reduce the tension associated with disequilibrium by using coping

strategies and responses that have been successful in the past. However, some stimuli are so challenging that prior strategies and responses are ineffective. Because former modes of response will not suffice in the face of this new challenging stimulus, the person is required to innovate and respond in a new manner (Sanford, 1967, p. 51). It is in this innovative process of developing a new response that Sanford argues the possibility for growth occurs.

Sanford also argues that is necessary to balance challenge and support throughout this difficult process of development. Too much challenge can hinder the possibility for growth because: a) a student may react defensively and resist change or b) a student may face such excessive strain that it leads to mental health problems (Sanford, 1966, p. 45). To counter these possibilities, Sanford (1966) believes it is crucial to offer a student the appropriate level of support when challenges become overwhelming.

Thus, according to Sanford (1962, 1966, 1967), optimal student development occurs when there is an appropriate mix of challenge and support. That is, as a student faces cognitive dissonance resulting from exposure to challenging stimuli, it is important to support the student in the process of assimilating new ways of thinking. Without enough challenge, students do not have the impetus to grow. Without enough support, students won't be able to effectively move through the difficult process of growth.

Sanford (1966) speaks specifically to the painful process faced by undergraduates when the values inherited from their upbringing are challenged. In this situation, he believes the student "faces a difficult choice: to remain loyal to his traditional values, making true education impossible, or to make a painful break with them. If he dares to

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make this break, he will probably need a good deal of support from the faculty, fellow students, and the whole educational community" (p. 43). This is consistent with how Daloz Parks (2000), Fowler (1981), and Helminiak (1987) describe young adult spiritual development as a challenging process whereby an individual moves away from inherited assumptions and begins to think critically about those assumptions and the "experts" that have previously been relied upon to form one's worldview. Daloz Parks and Fowler observed that this questioning and letting go of prior assumptions can be a painful process that can leave a young adult feeling vulnerable and uncertain. In order to ensure that students successfully make it through this challenging transition, they also believe it is crucial that adequate supports are in place (Daloz Parks, 2000; Fowler, 1981).

Also consistent with Sanford's (1962, 1966, 1967) theory of challenge and support, the literature on spiritual development points towards the following as challenges that can initiate cognitive dissonance and spiritual growth: 1) experience that introduces diverse perspectives that do not fit with prior assumptions or worldviews (Cartwright, 2001; Daloz Parks, 1986, 2000; Fowler, 1981; Mezirow & Taylor, 2009; Tisdell, 2003; Welch & Koth, 2013) and 2) experience with complex issues that do not have easy solutions and initiate what Love and Guthrie (1999) refer to as the "Great Accommodation" in cognitive development.

Service-learning has the potential to provide such challenges as well as the necessary support to enable students to develop in a healthy manner. A service-learning experience can present a student with challenging stimuli in the following manner: 1) experience with and analysis of social problems that seem unfair, intractable, and where

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"experts" often disagree on solutions (Cherry, et al., 2001; Eyler & Giles, 1999); 2) being exposed to diverse viewpoints at service sites and in group reflection discussions (Astin et al., 2000; Eyler & Giles, 1999); and 3) being asked to think critically and reflectively about assumptions and values in class discussions or written assignments (Eyler, 2002; Hatcher et al., 2004). Service-learning also has the potential to offer support in the form of: 1) integration of class material with the service experience (Astin et al., 2000; Eyler et al., 2001; Hatcher & Bringle, 1997) and 2) caring relationships (Astin et al., 2000; Eyler & Giles, 1999; Hatcher, et al., 2004) with faculty members, peers, or site supervisors as well as group reflection in a supportive, mentoring community as advocated by Daloz Parks (2000).

Based upon Sanford's theory of college student development and the spiritual development theories of Fowler and Daloz Parks, the process of how spiritual growth might occur through service-learning can be conceptualized in the following manner:

Figure 2

Conceptualization of How Spiritual Growth May Occur
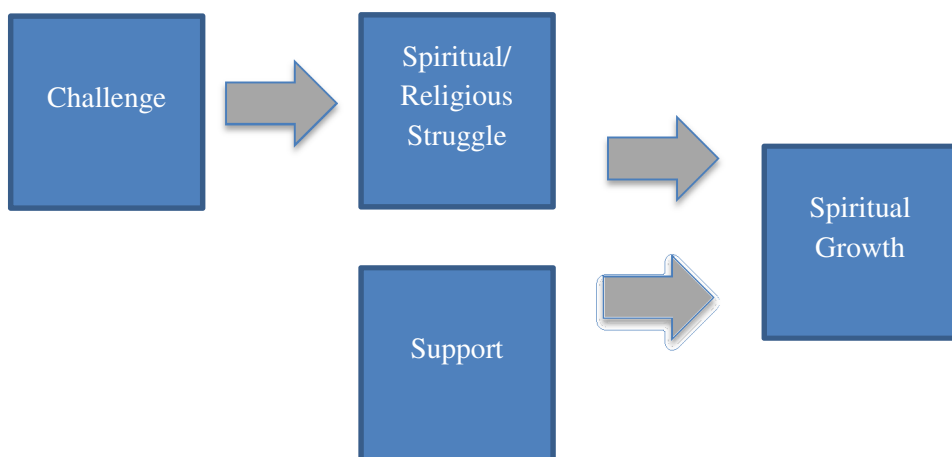
As outlined in this conceptualization, a student who faces significant enough challenge as a result of his or her service-learning experience will be led to question and struggle with the religious and spiritual beliefs of his or her upbringing. When a student is effectively supported through this period of struggle, the possibility for spiritual growth exists.

Research Questions

The overall research questions guiding this study are the following:

1) Did spiritual growth occur among undergraduates participating in service learning?

2) Which aspects of the service-learning experience relate to the occurrence of spiritual growth?

3) What role did "challenge" and "support" play in the process of spiritual growth?

Strategy of Inquiry

These research questions were addressed through an explanatory design mixed methods study (Creswell, 2009; Creswell & Plano Clark, 2011) that incorporated a quantitative phase followed by a qualitative phase. Through the use of mixed methods, a researcher is able to utilize the advantages of both quantitative and qualitative research methods to enable a deeper understanding of the research questions (Creswell & Plano Clark, 2011; Greene, 2007; Tashakkori & Teddlie, 2003). Creswell and Plano Clark (2011) explain the benefits of mixed methods in stating,

> Qualitative research and quantitative research provide different pictures, or perspectives, and each has its limitations. When researchers study a few

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individuals qualitatively, the ability to generalize the results to many is lost. When

researchers quantitatively examine many individuals, the understanding of any

one individual is diminished. Hence, the limitations of one method can be offset

by the strengths of the other method, and the combination of quantitative and

qualitative data provide a more complete understanding of the research problem

than either approach by itself. (p. 8)

Tashakkori and Teddlie (2003) argue that complex social phenomenon "cannot be fully

understood using either purely qualitative or purely quantitative techniques" (p. 16) and

that a more complete understanding of complex realities can be enabled by the use of

mixed methods. Given the complex nature of analyzing the spiritual development

process through service-learning participation, the sole use of either a quantitative

research approach or a qualitative research approach would lead to an incomplete

analysis of the research questions.

In this study, quantitative methods point towards the components of the service-

learning experience that have a relationship to spiritual growth for the sample as a whole,

but cannot explain complex details of how these components are facilitating spiritual

growth for an individual. Qualitative methods enable a deep understanding of how the

various service-learning components are facilitating spiritual development for a limited

number of individuals, but cannot offer insight on trends in the relationship between

service-learning structural components and spiritual development of participants. Thus,

the use of mixed methods results in a fuller understanding of the research questions by

offering insight on trends through quantitative methods and further explanation and clarification behind these trends through qualitative methods.

In a mixed methods study utilizing explanatory sequential design, the researcher conducts research in two distinct phases. First, the researcher collects and analyzes quantitative data to understand overall trends among study participants. The results of this quantitative data analysis are then used to inform the second qualitative phase of the study. The qualitative phase of the study attempts to explain and offer greater depth of understanding to the findings of the quantitative phase (Creswell & Plano Clark, 2011). Creswell & Plano Clark (2011) suggest that this approach enables the researcher to utilize quantitative results to "guide purposeful sampling for a qualitative phase" in order to explain "quantitative significant or nonsignificant results, positive-performing exemplars, outlier results, or surprising results" (p. 82).

In choosing a mixed methods approach to conduct this research, the philosophical paradigm underlying and guiding this study is one of pragmatism that is informed by both positivistic and constructivist approaches. In the positivist paradigm the researcher attempts to discover an objective reality that is "independent of human cognition" and "the same for different individuals" (Bess & Dee, 2008, p. 14). Through constructivism, the researcher values the idea that there are multiple individual perspectives on reality and that these perspectives on reality are constantly being recreated as an individual interacts with his/her surroundings and environment (Bess & Dee, 2008; Merriam & Associates, 2002). Tashakkori and Teddlie (2003) argue that pragmatism rejects the belief that a researcher must choose between either positivism or constructivism and

instead values the advantages provided by both worldviews. Creswell and Plano Clark (2011) explain that within pragmatism the focus is on "what works" in practice in order to answer the research question and the use of "multiple methods of data collection to inform the problems under study" (p. 41).

Therefore, this study embraces the assumptions of positivism in the quantitative strand by seeking an objective reality that might exist for different individuals and embraces the assumptions of constructivism in the qualitative strand of the study in an effort to deeply understand multiple individual perspectives. The quantitative strand utilized a pre-test/post-test survey design to investigate whether spiritual growth occurred and what components of the service-learning experience might relate to the existence of spiritual growth. The qualitative strand of this study utilized semi-structured interviews to gain an in-depth understanding of individual perspectives related to the phenomenon of how spiritual growth through service-learning might be occurring (Merriam, 1998; Merriam, S. B. & Associates, 2002).

Site Selection

The site from which study participants were selected was the PULSE Program for Service Learning, an interdisciplinary academic program housed in the philosophy department of Boston College. According to the program website, the mission of the PULSE Program is to educate

> students about social injustice by putting them into direct contact with
> marginalized populations and social change organizations and by encouraging
> discussion on classic and contemporary works of philosophy and theology. Our

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goal is to foster critical consciousness and enable students to question
conventional wisdom and learn how to work for a just society.

Approximately 365 undergraduates (mostly sophomores) participate annually in
PULSE and the program typically has a wait list of approximately 100 additional students
who would like to participate. Its popularity derives from its positive reputation for
significantly changing the lives of students while simultaneously meeting real community
needs. Students are usually engaged in the community in a meaningful and significant
manner resulting from the fact that partnerships are initiated by community-based
organizations and based upon community-defined needs.

Additionally, students find the PULSE Program option to be an attractive avenue
to fulfill their required 12 credits in philosophy and theology in a two-semester class that
meets for three hours per week in the classroom and one hour each week in a discussion
group. The additional four credit hours are awarded based upon learning that takes place
during the 10-12 hours of community service done on a weekly basis. This opportunity
to tie academic coursework to real-life experience is particularly appealing for students
who might be intimidated by the study of philosophy and/or theology.

The PULSE Program was chosen as the study site for a number of reasons. First,
there was some prior evidence that the phenomenon of spiritual growth through service-
learning participation exists among PULSE participants and some indication of what may
be enabling this growth. Second, the structures of the PULSE Program enable the
possibility for the ideal balance of challenge and support to exist. Finally, there are both
structural similarities and differences in the PULSE Program that were conducive to the

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focus of this study. The following paragraphs elaborate on each of these elements.

Cherry, De Berg, and Porterfield's (2001) multi-site case study examining religion in higher education included two small group interviews with more than 20 students who participated in an unnamed service-learning program that is structured identically to the PULSE Program at a university that fits the description of Boston College. Through these interviews, the researchers found that students who participated in this service-learning program consistently reported experiencing spiritual growth as a result. In the focus groups, students reflected upon how the course led to personal transformation and/or spiritual growth and individual students offered the following explanations: seeing those they had built relationships with at their service sites experience unfair suffering; the challenge of facing "unsolvable" problems, exposure to readings and speakers that challenged students to look critically at a social issue, and questioning received beliefs because of these challenging experiences. Students also mentioned the importance of receiving support through community in the classroom discussions (Cherry, DeBerg & Porterfield, 2001).

As the Assistant Director of the PULSE Program for nearly a decade, I also observed spiritual growth among PULSE participants that is consistent with the findings of Cherry, DeBerg & Porterfield. Thus, there is some evidence that spiritual growth through PULSE participation can occur for students and there is some initial explanation as to why this growth might be occurring.

The PULSE Program is structured in a manner that enables the possibility for a balance of challenge and support to exist for student participants (Sanford, 1962, 1966,

1967). The PULSE vision is that students will be challenged by the long duration of service as well as exposure to the social justice issues that arise during the service experience. Similarly, it is hoped that students will experience support through the weekly small group reflection discussions facilitated by their PULSE faculty member.

The selection of the PULSE Program as the study site offered additional benefits including: a large number of student participants, variations in some aspects of the service-learning experience, and similarities in other aspects of the service-learning experience. The students in the PULSE Program are divided among approximately 50 community service sites, 14 distinct service-learning classes, and 9 different faculty members. This variability in service sites, classes, and instructors ensures that study participants will be exposed to a wide range of experiences with regard to quality of reflection; exposure to disorienting dilemmas; and quality of relationships in the classroom and at community-based organizations. On the other hand, student participants experience some similarities regardless of their class or service site.

All PULSE students are enrolled in an interdisciplinary philosophy and theology course entitled, *Person and Social Responsibility*. While all sections of the class do not use the same texts, there is consistency in that all courses include some classical works in philosophy and theology (i.e. Plato, Aristotle, Rousseau, Augustine) as well as modern works in these disciplines (i.e. Arendt, Foucault, Lewis, Nolan). Furthermore, class readings typically include some books from the Bible as well as a contemporary text illuminating personal stories of those facing injustice (i.e. Kozol, Shipler). The overall aim of each instructor is to integrate coursework and community service to engage

students in self-reflection upon the question of what responsibility each individual has towards the common good as a member of society.

The program structures also ensure that students will have similar experiences in the duration and frequency of service as well as the frequency of group reflection activities. All PULSE students do 10-12 hours of service a week for the full academic year and participate in a weekly, hour-long, group reflection discussion led by the professor. This consistency in duration of service and frequency of classroom reflection is important because prior research has found that these two components of a service-learning experience are essential to achieving desired student development outcomes through service-learning participation (Fenzel & Peyrot, 2005; Hatcher & Bringle, 1997; Mabry, 1998).

Participant Selection

All 361 students enrolled in the PULSE program during the 2012-2013 academic year were invited to participate in the quantitative strand of the study. Because the purpose of the sequential explanatory mixed methods design is to gain a deeper understanding of the quantitative results, Creswell and Plano Clark (2011) explain that study participants in the qualitative strand of the study should be selected from those who were also participants in the initial quantitative strand. Specifically, Creswell and Plano Clark suggest that it can be useful to analyze the statistical results "to select the participants best able to help explain the phenomenon of interest" (p. 186). Therefore, after collecting and analyzing quantitative data, semi-structured interviews were conducted with study participants whose survey results indicated an extremely high level

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of spiritual growth (as indicated by change in pre-test and post-test scores) and study participants who exhibited an extremely low level of spiritual growth. Thus, enabling the possibility for in-depth understanding of how the components of the service-learning experience may have differed among students in these two extreme groups.

Patten (2005) argues that it is not necessary to have a large sample in qualitative research because qualitative research is focused on gaining a depth of understanding rather than breadth of understanding. Patten believes that anywhere from one to twenty participants is sufficient. Similarly, Creswell and Plano Clark (2011) suggest that the qualitative strand in a sequential explanatory mixed methods study "can be limited to a few participants" (p. 85). The most important aspect to consider in selecting a sample size for qualitative research is collecting enough data so that "meaningful themes can be developed" (Creswell & Plano Clark, 2011, P. 186). Following these suggestions, the qualitative strand of this study aimed to include five participants at each extreme of spiritual development for a total of ten interviewees.

Characteristics of the Sample

Of the 272 study participants in the quantitative strand, 36% were male and 64% were female. Overall, 223 (62%) PULSE students were female and 138 (38%) were male. Although no data are available about the ethnic breakdown of all PULSE students, the overall Boston College undergraduate population in 2012-2013 was 68.4% white, 11.9% Hispanic, 11.3% Asian, and 5.0% Black (Boston College Fact Book, 2013, p. 38). As illustrated in Table 1, Asian students are overrepresented in the PULSE sample in comparison with the overall Boston College population. The proportion of other ethnic

groups in the study is comparable to the overall Boston College undergraduate population.

Seventy percent of Boston College undergraduates identify as Catholic (http://www.bc.edu/content/bc/offices/pubaf/about/facts.html). At 60%, Catholics are underrepresented in the PULSE sample in comparison with the overall undergraduate population.

Similar to the overall Boston College population, the most popular majors among the sample were: Economics (15.1%), Finance (13.6%), Communications (8.8%), and Psychology (8.8%). Among Boston College undergraduates in 2013, the most popular majors were Economics, Finance, Communications, Biology, Political Science, and Psychology (Boston College Fact Book, 2014, p. 44). It is interesting to note that only two students were theology majors and none were philosophy majors (the disciplines integrated into the PULSE class). Of the 272 students in the sample, 230 listed a major that enabled categorization into one of Boston College's four undergraduate schools. The School of Management, School of Education, and School of Nursing were overrepresented in the PULSE sample in comparison with the overall undergraduate population (26.8% versus 21.5%, 11.3% versus 7.4%, and 5.6% versus 4.3% respectively). The College of Arts & Sciences, on the other hand, had a lower proportion of students in the PULSE sample than the overall Boston College population (56.3% versus 66.7%) (Boston College Fact Book, 2013).

Overall, the study sample is disproportionately female, Asian, non-Catholic, and studying outside the College of Arts & Sciences in comparison with the Boston College undergraduate population.

Table 1

Characteristics of Survey Respondents (N=272)

Variable	Frequency	Percent
Gender		
Male	97	36%
Female	175	64%
Ethnicity[a]		
White/Caucasian	190	69.9%
Asian American/Asian	46	17.0%
Hispanic/Latino/a	34	12.5%
African American/Black	15	5.5%
Religious Preference[a,b]		
Catholic	155	60.0%
None	66	24.3%
Jewish	9	3.3%
Presbyterian	8	2.9%
Nondenominational	7	2.6%
Buddhist	6	2.2%
United Church of Christ	5	1.8%
Agnostic	5	1.8%
HS Community Service		
Never Involved	6	2.2%
< 1 hour a week	31	11.6%
1-2 hours a week	95	35.4%
3-5 hours a week	99	36.9%
6 or more hours a week	37	13.8%
HS Service-learning Course		

Yes	42	15.4%
No	230	84.6%
Undergraduate College[c]		
College of Arts & Sciences	130	56.3%
School of Education	26	11.3%
School of Management	62	26.8%
School of Nursing	13	5.6%

[a]Total adds up to more than 100% because students could choose more than one category. Categories selected by fewer than 5 students were not listed

[b]Current religious preference selected in post-survey

[c] Forty one responses are unable to be categorized

Data Collection Procedures

Data collection was done in conjunction with the Boston College PULSE Program for Service Learning's annual assessment process. The PULSE administrative staff issued an invitation to participate in a web-based survey (utilizing Survey Monkey software) via e-mail to all PULSE students. PULSE faculty also encouraged students to complete the survey as results were utilized in PULSE Program assessment. The PULSE administrative staff sent e-mail reminders to all non-respondents until response rates reached satisfactory levels. Among the 361 total students in the PULSE Program, there were 272 completed pre-surveys that were able to be matched with a post-survey. This results is a total response rate of 75%.

All year-end survey respondents were offered the opportunity to participate in semi-structured interviews for which they would be compensated with a $50 gift card. To be eligible to participate in the qualitative portion of the study, students were required to provide a contact phone number. As a result, anonymity was not guaranteed to all

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survey respondents, but confidentiality was. Further details regarding data collection are outlined below.

Quantitative Strand

The quantitative strand of the study included both a pre-service and post-service survey that was distributed to all 2012-2013 PULSE students. The pre-service survey (see Appendix A) was conducted in September through early October of 2012 after receiving Institutional Review Board approval from the University of Massachusetts, Boston and Boston College. A similar post-survey (see Appendix B) was distributed at the end of the service-learning experience in mid-April through May of 2013. All interviewees reviewed a consent form before completing the survey (see Appendix E). Completion of the survey was assumed to be consent to participate as outlined in the form.

Consistent with the positivistic paradigm, the quantitative strand of this study sought to objectively investigate whether spiritual growth occurred and understand the components of a service-learning program that related to spiritual development among undergraduates. The survey collected information on demographics and personal characteristics that could serve as control variables to minimize the effect covariates could have on survey results. Spiritual growth was measured through indicators developed by Astin, Astin, & Lindholm (2011a). The survey also included items to ascertain the existence of various service-learning components.

Control variables.

Creswell (2005) explains that control variables, or demographic and personal characteristics that are not the focus of a study, can influence a dependent variable. In

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examining spirituality among undergraduates participating in service-learning, it is plausible that one's background with service and/or spirituality could influence study results. Astin, Astin, and Lindholm's (2011b) study also demonstrated a relationship between gender, academic major, and religious affiliation in some of the spirituality scales. Therefore, in an effort to neutralize the potential effects of personal characteristics on the dependent variables, the pre-survey gathered information about students' prior service-learning experience, religious background, gender, major, and ethnic background.

Independent Variables.

Based upon the literature review and theoretical framework, the components of the service-learning experience that were examined in this study fall into the general categories of challenge and support. The literature review indicates that the primary challenge associated with service-learning results from disorienting dilemmas or exposure to stimuli that lead to cognitive dissonance (Hatcher, Bringle & Muthiah, 2004; Kiely, 2005; Radecke, 2007). These challenging stimuli can include: exposure to diverse perspectives/perspectives that do not fit with prior perspectives (Astin et al., 2000; Eyler et al., 2001; Jones & Abes, 2004; Kiely, 2005; Radecke, 2007; Yeh, 2010); exposure to complex social problems without easy solutions (Eyler & Giles, 1999; Kiely, 2005); exposure to social problems that seem unjust (Cherry et al., 2001; Kiely, 2005); and written reflection activities and class discussions that ask students to think critically about prior assumptions, values, or beliefs (Astin et al., 2000; Eyler et al., 2001; Eyler, 2002; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Hatcher & Bringle, 1997; Hatcher et al.,

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2004; Kiely, 2005; Radecke, 2007; Yeh, 2010).   In order to effectively process these

challenges and integrate a new way of thinking into one's being, support can exist in the

following ways: reflection activities (written assignments or group discussion) that

provide a student the opportunity to process his/her cognitive dissonance by connecting

what he/she is observing in the placement with what he/she is studying in class (Astin et

al., 2000; Eyler et al., 2001; Fenzel & Peyrot, 2005; Hatcher & Bringle, 1997); supportive

relationships with a faculty member, peers, or placement site supervisor (Astin et al.,

2000; Eyler & Giles, 1999; Hatcher, et al., 2004; Jones & Abes, 2004; Kiely, 2005;

Radecke, 2007); or the existence of a mentoring community as described by Daloz Parks

(2000).

Specifically, each student responded to his or her level of agreement (disagree

strongly, disagree somewhat, agree somewhat, agree strongly) with the indicators in

Table 2 that were developed based upon the literature review and the theoretical

framework of challenge and support. Variables focused on the following overall

categories: support through relationships, support through integration of class and

service; challenge to think critically about one's perspectives; challenge through seeing

the world's complexity and unfairness; and challenge through exposure to diverse

perspectives. Note that the term "placement" is utilized to describe community partners

as that is the language consistently used by PULSE students and the PULSE Program.

Table 2

Independent Variables Measuring PULSE Components

Variable	Coding
I felt supported by my PULSE professor.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I felt supported by the other students at my placement.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I felt supported by other students in my class.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I felt supported by my PULSE supervisor(s)	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
A supportive community formed among those in my PULSE discussion group.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I felt supported by my PULSE Council Member.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
The service component of this course was well integrated with the academic coursework.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Written assignments enabled me to connect what I was observing in my placement with what I was studying in class.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Discussion groups enabled me to connect what I was observing in my placement with what I was studying in class.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
The class readings helped me to make sense of what I was observing in my placement.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Class journaling/reflective writing challenged me to think critically about my assumptions, values, and/or beliefs.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
The problems that caused people at my placement to need social services were frequently the result of circumstances beyond their control.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Social problems are more complex to solve than I used to think.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
Those served at my PULSE placement faced unfairness in life.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I observed unfair human suffering at my PULSE placement.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I built caring relationships with those served at my placement.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
This course exposed me to diverse perspectives that did not fit with my prior opinions and assumptions.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
PULSE exposed me to diverse viewpoints that challenged me to think differently.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
I heard perspectives expressed at my PULSE placement that were different from those I typically hear.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;
There was a diversity of perspectives expressed in my PULSE class and discussion group.	1=Disagree strongly; 2=Disagree somewhat; 3=Agree somewhat; 4=Agree strongly;

Dependent variables.

Recall that the definitions of spirituality found throughout the literature include the following components: 1) being engaged in a dynamic process of inner reflection to better understand oneself and the meaning and purpose of one's life; 2) living out one's personal philosophy of life with authenticity and integrity; 3) seeking a connection/relationship with a higher power; and 4) belief in the interconnectedness of humanity and a related desire to be of service to others (Astin, Astin, & Lindholm, 2011b; Braskamp et al., 2006; Love & Talbot, 1999; Overstreet, 2006; Roehlkepartain et al., 2008; Tisdell, 2003; Zabriskie, 2005).

Based upon their seven year study, Astin, Astin, and Lindholm (2011a) developed an instrument, the College Student Beliefs and Values (CSBV) survey that parallels these dimensions of spirituality and through which the spirituality and religiosity of undergraduates can be measured. Permission to use these scales was granted by the authors in the article introducing the instrument. The authors stated, "We encourage other researchers to use these scales in their own research. We request only that they cite the source of the scales in any documents that are produced." (Astin, Astin, & Lindholm, 2011a, p. 57).

The variables in the CSBV fall into twelve scales that were adapted to varying degrees for this study. Five of the twelve scales developed by Astin, Astin and Lindholm (2011a) were incorporated in their entirety: Spiritual Quest, Ethic of Caring, and Ecumenical Worldview, Spiritual Identification, and Religious Struggle. The first three of

these were included because the variables directly relate to how spirituality has been defined in the literature. These scales were also included as each was found to have a significant relationship to service-learning participation in the Astin, Astin, and Lindholm (2011b) study results. Although not corresponding as directly to the definitions of spirituality found in the literature, the latter two scales are also relevant to this study. The Spiritual Identification Scale enables a student self-description of engagement with spirituality. The Religious Struggle Scale could indicate whether a student is in the process of questioning one's religious upbringing as described by Daloz Parks (2000) and Fowler (1981). Seven variables from the Religious Commitment and Religious Engagement scales that directly correspond to dimensions of spirituality in the literature were incorporated into the study instrument.

An overview of the specific variables utilized in this study, the names of the spirituality scales utilized in this study, as well as the corresponding results of reliability analyses for these scales are outlined below.

The *Spiritual Identification (SI) Scale* measures whether one identifies him or herself as spiritual.

Table 3

Spiritual Identification Variables (α=.837)

Variable	Coding
Interest in spirituality[a]	1=Not at all 2=To some Extent 3=To a great extent
Desire to integrate spirituality into one's life	1=Not important 2=Somewhat important 3=Very important 4=Essential
Seeking opportunities to grow spiritually	1=Not important 2=Somewhat important 3=Very important 4=Essential
Being on a spiritual quest[a]	1=Not at all 2=To some Extent 3=To a great extent
Belief in the sacredness of life[a]	1=Not at all 2=To some Extent 3=To a great extent
Having a spiritual experience while:	1=Not at all or Not applicable 2=Occasionally
Engaging in athletics[d]	3=Frequently

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Participating in a musical or artistic performance[d]	1=Not at all or Not applicable 2=Occasionally 3=Frequently
meditating[d]	1=Not at all or Not applicable 2=Occasionally 3=Frequently
Viewing a great work of art[d]	1=Not at all or Not applicable 2=Occasionally 3=Frequently
Listening to beautiful music[d]	1=Not at all or Not applicable 2=Occasionally 3=Frequently
Witnessing the beauty and harmony of nature[d]	1=Not at all or Not applicable 2=Occasionally 3=Frequently
Belief that people can reach a higher spiritual plane of consciousness through meditation or prayer	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly

[a]Extent to which the variable describes the respondent.
[b]Importance to the respondent.
[c]Level of agreement with the statement.
[d]Frequency of Occurrence

The *Spiritual Quest (SQ) Scale* refers to whether one is engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life.

Table 4

Spiritual Quest Variables (α=.834)

Variable	Coding
Close friends searching for meaning/purpose in life	1=None 2=Some 3=Most 4=All
Developing a meaningful philosophy of life	1=Not important 2=Somewhat important 3=Very important 4=Essential
Attaining wisdom	1=Not important 2=Somewhat important 3=Very important 4=Essential
Having discussions about the meaning of life with friends	1=Not at all 2=To some Extent 3=To a great extent
Attaining inner harmony	1=Not important 2=Somewhat important 3=Very important 4=Essential
Searching for meaning/purpose in life	1=Not at all 2=To some Extent 3=To a great extent
Seeking beauty in my life	1=Not important 2=Somewhat important 3=Very important 4=Essential
Finding answers to the mysteries of life	1=Not important 2=Somewhat important 3=Very important 4=Essential
Becoming a more loving person	1=Not important 2=Somewhat important 3=Very important 4=Essential

[a]Extent to which the respondent engages in the activity.
[b]Importance to the respondent.

The *Interconnectedness of Humanity (IH) Scale* measures one's belief in the interconnectedness of humanity and whether one exhibits a related desire to be of service

to others. This scale incorporates variables from Astin, Astin, and Lindholm's (2011a)

Ecumenical Worldview (EW) and Ethic of Caring (EC) scales.

Table 5

Interconnectedness of Humanity Variables (α=.869)

Variable	Coding
Influencing the political structure[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Becoming a community leader[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Love is at the root of all the great religions[b]	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
Trying to change things that are unfair in the world[c]	1=Not at all 2=To some Extent 3=To a great extent
Having an interest in different religious traditions[d]	1=Not at all 2=To some Extent 3=To a great extent
Feeling a strong connection to all humanity[d]	1=Not at all 2=To some Extent 3=To a great extent
All life is interconnected[b]	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
Improving the human condition[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Believing in the goodness of all people[d]	1=Not at all 2=To some Extent 3=To a great extent
Influencing social values[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Helping to promote racial understanding[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Reducing pain and suffering in the world[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Helping others who are in difficulty[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Improving my understanding of other cultures and countries[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Becoming involved in programs to clean up the environment[a]	1=Not important 2=Somewhat important 3=Very important 4=Essential
Most people can grow spiritually without being religious[b]	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
We are all spiritual beings[b]	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
Nonreligious people can lead lives that are just as moral as those of religious believers[b]	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
Accepting others as they are[c]	1=Not at all 2=To some Extent 3=To a great extent

[a]Importance to the respondent.
[b]Level of agreement with the statement.
[c]Extent to which the respondent engages in the activity.
[d]Extent to which the variable describes the respondent.

The *Living One's Philosophy of Life with Integrity (PLI) Scale* measures the

desire to live out one's philosophy of life with integrity and authenticity.

Table 6

Living One's Philosophy of Life with Integrity Variables (α=.949)

Variable	Coding
My spiritual beliefs lie behind my whole approach to life	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
My spiritual beliefs provide me with strength, support, and guidance	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
My spiritual beliefs help to define the goals I set for myself	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
My spiritual beliefs have helped me to develop my identity	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly

The *Relationship with God (RG) Scale* measures the degree to which one is

seeking a relationship with a higher power/God. The following variables are included in

this scale and a reliability analysis conducted with this scale resulted in a Cronbach's

Alpha of .837.

Table 7

Relationship with God Variables (α=.837)

Variable	Coding
Desiring a sense of connection with God/a Higher Power that transcends my personal self	1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
I gain spiritual strength by trusting in a Higher Power	1=Not at all 2=To some Extent 3=To a great extent
Frequency of prayer	1=Not at all or Not applicable 2=Occasionally 3=Frequently

The *Religious/Spiritual Struggle (RS) Scale* considers the degree to which one is

struggling with and questioning one's religious/spiritual background and beliefs.

Table 8

Religious/Spiritual Struggle Variables (α=.779)

Variable	Coding
Feeling unsettled about spiritual/religious matters[a]	1=Not at all 2=Occasionally 3=Frequently
Feeling disillusioned with my religious upbringing[b]	1=Not at all 2=To some Extent 3=To a great extent
Questioned my religious/spiritual beliefs[a]	1=Not at all 2=Occasionally 3=Frequently
Disagreed with my family about religious matters[a]	1=Not at all 2=Occasionally 3=Frequently

Struggled to understand evil, suffering, and death[a]	1=Not at all 2=Occasionally 3=Frequently
Felt distant from God[a]	1=Not at all 2=Occasionally 3=Frequently
Felt angry with God[a]	1=Not at all 2=Occasionally 3=Frequently

[a]Frequency of occurrence since entering college
[b]Extent to which the variable describes the respondent.

For the purpose of analyzing overall spiritual growth, a *Spiritual Orientation* (SO) *Scale* was also created for this study by including all of the spirituality variables except those in the *Religious/Spiritual Struggle Scale*. This scale had a Cronbach's Alpha of .932. The *Religious/Spiritual Struggle Scale* was excluded so that the phenomenon could be considered independently and because positive change in this scale is not necessarily measuring spiritual growth in the same way the other variables do.

Table 9 outlines the correlation between change in spirituality scales from the fall 2012 pre-test measurement and the spring 2013 post-test measurement. As illustrated, all of the spirituality scales had a statistically significant relationship to one another. The strongest relationship was between change in *Interconnectedness of Humanity* (IH) and *Spiritual Quest* scales among PULSE students. The weakest correlation was between the *Relationship with God* and *Spiritual Quest* scales.

Table 9

Correlations among Change in Spirituality Scales

Measure	SI	SQ	IH	PLI	RG	RS
SI	1	.328[**]	.443[**]	.442[**]	.349[**]	.174[**]
SQ	.328[**]	1	.579[**]	.183[**]	.159[**]	.207[**]
IH	.443[**]	.579[**]	1	.264[**]	.257[**]	.290[**]
PLI	.442[**]	.183[**]	.264[**]	1	.415[**]	.203[**]
RG	.349[**]	.159[**]	.257[**]	.415[**]	1	.208[**]
RS	.174[**]	.207[**]	.290[**]	.203[**]	.208[**]	1

Note. Data reflect relationships between change in spirituality scales as measured in September 2012 and May 2013. ** $p < .01$, two-tailed

Qualitative Strand

The quantitative survey was followed by qualitative interviews in the late spring of 2013. The intention was that interviews would be conducted with five students who experienced a high degree of spiritual growth and five students who experienced a low degree of spiritual growth to determine if there were any differences in the individual service-learning experiences that may have related to the potential for spiritual growth to occur. However, 11 interviews were eventually conducted because of a discrepancy between the qualitative and quantitative results as explained below.

With the exception of one interviewee, participants were not told before or during the interviews that their quantitative results were outliers. This one interviewee spoke extensively about the spiritual growth she experienced during PULSE, but her quantitative results did not indicate that such growth occurred. Because of the significant inconsistency between her words and survey responses, she was asked to elaborate on this discrepancy near the end of the interview. She explained that her small change in quantitative results was not an accurate representation of the high degree of

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spiritual growth she experienced during the year and, instead, resulted from not realizing how much potential for growth she had when the year began. Therefore, she believes that her pre-survey responses were inflated in comparison with where they should have been. Because of this explanation, analysis of her interview was included in the high spiritual growth category.

Patten (2005) explains that "qualitative researchers often used open-ended interviews (i.e. questions are asked but respondents are not provided with choices to use as answers). Typically, these are semi-structured, meaning that some questions will be developed in advance with follow-up questions developed on the spot in light of participants' responses" (p. 77). The qualitative data collection occurred as outlined by Patten and included individual, one-on-one, open-ended, semi-structured interviews. Semi-structured interviews enabled the flexibility to adapt the interview questions as necessary in response to "the emerging worldview" of the interviewee (Merriam, 1998).

Quantitative results were analyzed and students were invited to interview based upon their quantitative scores in combination with their demographic information. Interviewees represented a variety of academic disciplines, ethnic backgrounds, religious backgrounds, PULSE classes, and PULSE placements. All interviewees completed a consent form (see Appendix C) explaining the purpose of the study, the risks involved in study participation, the anticipated time involved in study participation, the plans for data storage and future use of the data, and a statement of confidentiality regarding the use of data (Creswell, 2007). After obtaining permission from the interviewee, interviews were

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recorded and transcribed. Interviews were conducted in the PULSE Program

administrative offices and lasted approximately 35 to 60 minutes.

An interview protocol was utilized (see Appendix D) that included a list of open-

ended questions to be asked during the interviews (Creswell, 2007). Consistent with the

semi-structured interview approach, the protocol included a list of specific questions and

a list of potential probes to be asked depending upon interviewee responses (Merriam,

1998). The final interview questions were determined after preliminary analysis of

quantitative results in order to assess which topics needed further explanation. Creswell

and Plano Clark (2011) explain that the data collection questions used in the qualitative

phase of a sequential explanatory mixed methods study should be guided by the results of

the quantitative analysis that need further explanation. The interview questions were

consistent with the research questions and explored the role that each of the following

may have played in spiritual growth: group reflection discussions, written reflection,

relationships, cognitive dissonance, a high quality service experience, and connection

between coursework and service experience. Similar to the quantitative strand, study

participants were also asked about demographic and personal characteristics that might

have influenced the possibility for spiritual growth including: prior community service

and service-learning experience, religious background, and family background.

<div align="center">**Data Analysis Procedures**</div>

Quantitative Strand

Before beginning analyses, data were cleaned and missing values were reviewed.

In situations where there were a large number of missing values from one respondent, all

responses from this individual were completely deleted from the database. After deletion

of these survey responses, there were only 46 missing values (less than .2%) across all

dependent variables in the pre-survey and post-survey from the 272 respondents. A

Missing Values Analysis was done in SPSS to ensure that missing values were missing

completely at random and impute estimated values utilizing the expectation-

maximization method. Little's MCAR Test was not significant and demonstrated that

values were missing completely at random. Therefore, the expectation-maximization

method was utilized.

Data analysis in the quantitative phase began by examining pre-survey and post-

survey results to determine if spiritual growth appeared to have occurred for study

participants. Spiritual growth was analyzed through paired samples t-tests and Cohen's

(1998) dependent measure for effect size with each of the individual spirituality variables

as well as the spirituality scales.

An analysis of kurtosis and skewness statistics indicated that there were a number

of variables without normal distribution (skewness or kurtosis >1 or <-1) as illustrated in

Table F1 in Appendix F. In these cases, the non-parametric Wilcoxon Signed Ranks test

was conducted. The large sample size meant that the probability levels remained nearly

the same for all of these variables (and statistical significance did not change for any

variables) when utilizing non-parametric tests instead of the paired samples t-test.

Levene's Test for Equality of Variance ensured that the proper t-statistic was

utilized when there was not homogeneity of variance. Statistical analyses indicated that

there was not normal distribution in terms of kurtosis for nearly all of the spirituality

scales as illustrated in Table F2 in Appendix F. On the other hand, skewness statistics

fell within the -1 to +1 range for all spirituality scales. Despite the non-normality in

kurtosis, Tabachnick and Fidell (2001) state that, "In a large sample, the impact of

departure from zero kurtosis also diminishes. For example, underestimates of variance

associated with positive kurtosis disappear with samples of 100 or more cases" (p. 74).

Indeed, this was true as attempts to transform data yielded no differences in statistical

results for the spirituality scales.

Statistical tests and analysis of scatter plots were conducted to consider whether

assumptions for correlation and multiple regression were met. Scatterplots demonstrated

that there were no severe violations of homoscedasticity or linearity.   Although there

were some violations in normality, as outlined in Appendix F, the large sample size

mitigates against the non-normality in kurtosis impacting results as previously explained

(Tabachnick and Fidell, 2001). Histograms were reviewed to discover outliers. While

there were some outliers, these were generally well balanced on both sides of the mean in

a manner that would cancel their effects. Because removal of outliers may cause the

kurtosis to become more significant, a decision was made to keep the outliers in the

dataset. Results of collinearity statistics found that the VIF (Variance Inflation Factor)

was not greater than 10 and tolerance was greater than .1 (Mertler and Vannatta, 2002,

p.169) for any of the multiple regression analyses conducted.

The work of Astin, Astin, and Lindholm (2011b) offers much guidance about

potential inputs to consider in analysis. In their study of student spirituality, they

controlled for forty to fifty inputs and the following inputs are particularly poignant for

this study: gender, race, major, and high school activities. Astin, Astin, and Lindholm's study results also demonstrated a relationship between spiritual change and the variables of gender, academic major, and religious affiliation. Data analysis in this study, therefore, utilized hierarchical multiple regression to review the potential significance of the following input characteristics: gender, ethnicity, religious affiliation, frequency of religious participation, academic college, and prior community service/service-learning experiences.

After considering the question of whether spiritual growth occurred among PULSE students, data analysis then turned to investigating whether Sanford's theoretical perspective of "challenge" and "support" played a role in the occurrence of spiritual growth and which aspects of the PULSE experience related to whether spiritual growth occurred. Analysis of these questions was conducted by: 1) categorizing independent variables according to the theoretical perspective of "challenge" and "support" and 2) conducting an exploratory factor analysis to enable analysis of independent variables through a more specific lens.

In order to consider the theoretical perspective of challenge and support, summative scales of *Total Support* and *Total Challenge* were created by adding all variables that related to each of these components. The *Total Support Scale* included the independent variables that measure whether students received support through relationships and/or support through integration of the classroom material with the service experience. The Cronbach's Alpha is not reported with the *Total Support Scale* because these relationships developed in different contexts (e.g., class and community) and, therefore,

the scores should not necessarily be consistent with one another or conceptually related. The *Total Challenge Scale* refers to the ways in which students were challenged to think critically about their own perspectives, challenged to see complexity in the world, challenged by building relationships with those suffering unfairly, and challenged through being exposed to diverse perspectives. This scale has a Cronbach's Alpha of .839.

Exploratory factor analysis was done through a principal components analysis with Varimax rotation and Kaiser normalization to reduce the number of independent variables into a more concise number of factors. Taking into account the literature review, qualitative interview results, and which factors had eigenvalues higher than 1.0, five factors were selected for further analysis: 1) Class experiences 2)An "eye opening" experience 3) Witnessing injustice 4)Relationships at PULSE placements and 5) Peer support in class. Together these factors explained 57.4% of the variance. See Appendix H for factor analysis output and an overview of the specific variables included in each scale.

The first factor, *Class Experience*, includes nine variables measuring the way in which class experiences challenged students to think critically, course content was integrated with the service experience through reflection and class assignments, and the students felt supported by the professor. The variables in this factor generally correspond with prior studies finding that reflection as well as connections between coursework and service are key components of a high quality service-learning experience. The variables included in this factor result in a Cronbach's Alpha of .885.

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The second factor includes five variables referring to the way in which PULSE exposed students to new perspectives that did not fit with prior perspectives. Because so many students in the qualitative interviews used the phrase "eye opening" to describe their PULSE experience, this factor is entitled the *Eye Opening Experience Scale*. The variables in this factor generally align with literature review findings that high quality service-learning experiences expose students to diversity in a manner that leads to cognitive dissonance and disorienting dilemmas. The variables included in this factor result in a Cronbach's Alpha of .767.

The third scale, *Witnessing Injustice*, relates to whether students observed social justice issues impacting the lives of those served at their placement site. As with the *Eye Opening Experience Scale* this scale aligns with the literature review finding that cognitive dissonance and disorienting dilemmas are important components of a high quality service-learning experience. The three variables included in this factor result in a Cronbach's Alpha of .635.

The *Relationships at PULSE Placements Scale* considers the quality of relationships students developed with clients, staff, and others students serving at their placement sites. These variables align with prior studies finding that relationships are an important component of a high quality service-learning experience. The three variables included in this factor result in a Cronbach's Alpha of .509.

The final scale, *Support of Peers in Class*, relates to whether students felt that their class peers supported them through the PULSE experience. Along with the fourth factor, these variables also align with literature finding that relationships are key to

student development through service-learning. The two variables included in this scale result in a Cronbach's Alpha of .661.

Creswell (2005) explains that a correlational study "is used when a need exists to study a problem requiring the identification of the direction and degree of association between two sets of scores" (p. 338). It can investigate, "complex relationships of multiple factors that explain an outcome" (p. 338). While correlational research cannot demonstrate cause and effect relationships, it can describe the strength and direction of relationship between variables" (Creswell, 2005).

In this correlational study, hierarchical multiple regression was conducted to consider which of these categories of independent variables served as predictors of spiritual growth as measured by change in *Spiritual Orientation*, self-report of spiritual growth, and change in *Religious/Spiritual Struggle*. Meyers, Gamst, and Guarino (2006) explain that multiple regression techniques can assist researchers in "explaining the dynamics underlying a particular construct" (p. 147) by determining "which variables of a larger set are better predictors of some criterion [dependent] variable than others" (p.148). Multiple regression techniques also enabled the ability to control for input variables that could be biasing the dependent variables by statistically controlling the correlation between input (environmental or personal characteristics) and outcomes (Astin, 1993; Bamberger, Rugh, & Mabry, 2006). Data analysis in this study first controlled for the following input characteristics: pre-survey results, gender, ethnicity, religious background, school of study at Boston College, and prior service-learning experiences.

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To consider whether there were relationships between independent variable scales and spiritual change that were occurring differently for different categories of students, tests for moderation were done. Analysis was conducted based upon gender, prior service-learning experience, ethnicity, and religious background. Fisher z data transformations were conducted to enable testing for statistically significant differences in correlations as described in Rosenthal and Rosnow (1991).

The results of initial quantitative data analysis served to guide the qualitative strand of the study. The study participants for the qualitative strand were selected after a careful analysis of survey results. The questions utilized in the qualitative interviews were further refined based upon aspects of the quantitative results that warrant further explanation as suggested by Creswell and Plano Clark (2011).

Validity and reliability.

In quantitative analysis, internal validity refers to the concept that the "scores received from participants are meaningful indicators of the construct being measured" (Creswell & Plano, Clark, 2011, p. 210). Validity can be threatened if the survey questions do not represent all possible dimensions of the construct or if the questions do not measure what they intend to measure (Creswell & Plano Clark, 2011). Reliability refers to whether the same results would be obtained from the same participant if the participant were to re-take the survey (Creswell & Plano Clark, 2011). This study attempted to minimize threats to validity by utilizing a previously developed survey instrument to measure spirituality and extensively using the literature to determine which components of service-learning should be measured in the survey instrument.

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The thoroughness of the research conducted by Astin, Astin, and Lindholm (2011b) aids in validity and reliability pertaining to the spirituality measures utilized in the quantitative survey. The instrument known as the College Student Beliefs and Values (CSBV) was developed after a literature review, input from an advisory panel, and a pilot study. The CSBV was first administered as a pilot study in the spring of 2003 to 3700 undergraduates at 46 higher education institutions. A revised version of the CSBV was taken by 112,232 students at 236 higher education institutions in the fall of 2004. In the spring of 2007, the CSBV was given as a longitudinal follow-up to a sub-sample of 14,527 students at 136 institutions.

After completing data collection, Astin, Astin, and Lindholm (2011a) conducted factor analyses with Varimax rotation and reliability analysis to develop scales, or "clusters of items that have consistent and coherent content and that simultaneously demonstrated a high degree of statistical internal consistency" (p. 44). They report that "these scales display a high degree of robustness" and that "despite variations in sampling, survey content, and methods of administration, the measures demonstrate remarkably similar reliabilities and intercorrelations across the different surveys" (p. 57). They conclude, "if investigators choose to use most or the entire set of scales in their own research, they can expect similar reliabilities if they employ short lists of items with varying response formats from list to list" (p. 57). Their extensive pilot testing and statistical testing of reliability ensure that threats to validity and reliability in this aspect of the quantitative survey will be minimized. Indeed, reliability for the scales utilized in this study did demonstrate similar results as all were above .7.

While the majority of the questions in the pre-survey are directly taken from the Astin, Astin, and Lindholm (2011a) instrument, the post-survey instrument includes a number of new questions to measure the independent variables. As suggested by Meyers, Gamst and Guarino (2006), these variables were selected based upon "theoretical and empirical rationale" (p. 150).

Qualitative Strand

Qualitative data analysis began with preparing the data for further review by transcribing the interviews (Creswell, 2009). After interviews were transcribed, the interview text was read in its entirety to "obtain a general sense of the information and to reflect on its overall meaning" (Creswell, 2009, p. 185). During the reading, notes were taken about "any recurring regularities in the data" (Merriam, 1998, p. 180). These notes served as an initial means of developing categories that were used to classify and code data into meaningful segments (Creswell, 2007; Creswell, 2009; Creswell & Plano Clark, 2011). As suggested by Merriam (1998) categories were exhaustive, mutually exclusive, and a reflection of the research purpose and research questions. Because this is an explanatory sequential mixed methods study, Creswell and Plano Clark's (2011) suggestion of predetermining some topic codes based upon quantitative results was followed. After creating an initial set of categories, the categories were "made more robust by searching through the data for more and better units of relevant information" (Merriam, 1998, p. 185).

The codes were analyzed and combined into themes (Creswell 2007; Creswell, 2009; Merriam, 1998). These themes are described and interpreted in the written

narrative and substantiated with quotes and observations from the interviews (Merriam &

Associates, 2002). Interpretation focused on the question of what has been learned and

trying to make sense of the data (Creswell, 2007; Creswell, 2009). These interpretations

were then considered in light of how they contradict or support past research in the

literature (Creswell, 2005). NVivo software was used throughout qualitative data

analysis to manage the storing, coding, and organizing of the data.

Validity.

To increase validity and ensure findings are accurate, Creswell (2007) suggests

that researchers choose at least two validation strategies among the following options:

long-term observation; triangulation; peer review; clarifying researcher bias by

commenting on "past experiences, biases, prejudices, and orientations that have likely

shaped the interpretation and approach to the study" (p. 208); member checking; rich,

thick description; or external audits. In this study, long-term observation, member

checking, peer review, triangulation, and rich, thick description were incorporated.

Long-term observation was enabled by the fact that the researcher had observed the

experiences of PULSE students for nearly a decade and consistently heard stories of how

spiritual growth occurred through PULSE. In the process of member checking,

transcripts were shared with interviewees and their feedback on any inaccuracies was

incorporated into the final narrative (Creswell, 2007; Maxwell, 2005; Merriam, 1998;

Patten, 2005). The mixed methods approach of this study enabled the possibility for

triangulation, or the corroboration of data from different sources, to occur (Creswell &

Plano Clark, 2011; Merriam, 1998). Peer review has been conducted as the findings were

read and critiqued by the dissertation committee. The use of rich, thick description

enables readers the opportunity "to make decisions regarding transferability" of the

interpretations and findings (Creswell, 2007, p. 209).

Meta Inferences

After the quantitative data and qualitative data were analyzed, the results were

interpreted simultaneously to consider how the qualitative data built upon and enabled

further understanding of the quantitative data (Creswell & Plano Clark, 2011). As

suggested by Erzberger and Kelle (2003), "the varying perspectives opened up by

different methods may supplement each other so as to produce a fuller picture of the

empirical domain under study" (pp. 469-470). Through the analysis and synthesis of

both qualitative and quantitative strands, meta inferences were developed to consider

what has been learned in light of the study's research questions and purpose (Creswell &

Plano Clark, 2011). These are discussed in the concluding chapter.

CHAPTER 4

QUANTITATIVE RESULTS

The quantitative strand of this study utilized a pre-test/post-test survey instrument to inform the three research questions: Did spiritual growth occur among PULSE participants? Which aspects of the PULSE experience related to the occurrence of spiritual development? What role did "challenge" and "support" play in the process of spiritual growth? This chapter begins with an overview of the spiritual orientation of PULSE students upon entering and completing PULSE. This is followed by descriptive statistics associated with the independent variables. The chapter then turns towards detailed data analysis exploring each of the three research questions.

Spiritual Orientation of PULSE Students

PULSE students began the PULSE Program with generally higher levels of spirituality than the national sample from the College Student Beliefs and Values (CSBV) survey developed by Astin, Astin, and Lindholm (2011a; 2011b). These differences in mean scores were statistically significant for all of the spirituality scales (*Spiritual Identification, Spiritual Quest, Interconnectedness of Humanity, and Relationship with God*) except *Living One's Philosophy of Life with Integrity*. PULSE students also had statistically significant higher mean scores on the *Religious/Spiritual Struggle* scale. Appendix J provides further details.

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Upon entering the PULSE Program, both female students and Catholic students exhibited statistically significant higher levels of spiritual orientation when controlling for other demographic variables. There were no statistically significant differences in *Spiritual Orientation* by religious background (other than Catholic), ethnic background, or prior service-learning experience.

At the end of the PULSE Program, women and Catholic students still had statistically significant higher levels of spiritual orientation when controlling for other demographic variables and they were also joined by Presbyterian students. There were still no statistically significant differences based upon other religious backgrounds, ethnicity or prior service-learning experience. See Tables G1 and G2 in Appendix G for further details.

Descriptive Statistics

Descriptive statistics related to independent variables are reported in this section. Descriptive statistics related to the spirituality variables will be discussed in the following section analyzing the first research question.

As demonstrated in Table 10, students generally had a very strong PULSE experience. Mean responses to all of the independent variables fell between 3 and 4 indicating overall student agreement with each statement. The highest mean and lowest standard deviation was in response to whether students felt supported by their PULSE professors. It is clear that students had good relationships with their PULSE professors and were able to turn to them for support through the PULSE experience. The lowest mean was in response to whether students observed unfair human suffering at their

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PULSE placement. This variable also had among the highest standard deviation. In other words, not all students were exposed to the same level of human suffering through PULSE. The greatest standard deviation overall was whether students felt supported by their PULSE supervisor. It is not surprising that this would vary as supporting PULSE students is not a primary job responsibility for any of the PULSE supervisors (unlike the PULSE faculty). The ability to support students likely relates to the amount of time PULSE supervisors have available after attending to their primary job responsibilities— which would be dependent upon the staffing levels of each agency.

Table 10

Descriptive Statistics of Independent Variables/PULSE Components (N=272)

Variable	n	M	SD
I felt supported by my PULSE professor.	272	3.81	.481
Class journaling / reflective writing challenged me to think critically about my assumptions, values, and/or beliefs.	270	3.47	.672
There was a diversity of perspectives expressed in my PULSE class and discussion group.	270	3.50	.644
The problems that caused people at my placement to need social services were frequently the result of circumstances beyond their control.	271	3.52	.595
I felt supported by other students at my placement.	270	3.49	.740
This course exposed me to diverse perspectives that did not fit with my prior opinions and assumptions.	270	3.50	.644
I built caring relationships with those served at my placement.	271	3.61	.700
Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.	271	3.57	.604
Social problems are more complex to solve than I used to think.	270	3.65	.621
Those served at my PULSE placement faced unfairness in life.	270	3.55	.594
I felt supported by others students in my class.	272	3.54	.587
Class discussions / reflection groups enabled me to connect what I was observing in my placement with what I was studying in class.	271	3.63	.631
I felt supported by my PULSE supervisor(s).	271	3.49	.838
The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs.	269	3.57	.598
PULSE exposed me to diverse viewpoints that challenged me to think differently.	271	3.67	.502
My PULSE Placement should remain a placement in the future.	223	3.68	.666
A supportive community formed among those in my PULSE discussion	270	3.44	.664

group.

	N	Mean	SD
The class readings helped me to make sense of what I was observing in my placement.	270	3.36	.695
I observed unfair human suffering at my PULSE placement.	271	3.21	.785
The service component of this course was well integrated with the academic coursework.	271	3.57	.640
My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs.	270	3.60	.575
I felt supported by my PULSE Council Member.	271	3.54	.618
I heard perspectives expressed at my PULSE placement that were different from those I typically hear.	270	3.43	.679

Note. Level of agreement with the statement measured on the following scale:
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly

Did Spiritual Growth Occur Among PULSE Participants?

There are two different avenues through which the quantitative strand of this study sought to answer the question of whether spiritual growth occurred. The first avenue is through a self-report of spiritual growth. The second avenue is through analyzing differences between pre-test and post-test responses to spirituality variables.

The level of student agreement with the statement, "I grew spiritually as a result of my PULSE experience," is outlined in Table 11. From this self-report, it is apparent that nearly 80% of students believed they grew spiritually because of participating in PULSE. While 109 of the 272 students agree strongly with this statement, only 16 students disagree strongly.

Table 11

Response to Statement, "I Grew Spiritually as a Result of my PULSE Experience."
(N=272)

Response	Frequency	Percent
Agree Strongly	109	40.07
Agree Somewhat	106	38.97
Disagree Somewhat	41	15.07
Disagree Strongly	16	5.88

Results from the pre-test and post-test survey similarly demonstrate that nearly 80% of PULSE students grew spiritually during the time they were in PULSE. In adding all of the spirituality variables together (except those in the *Religious/Spiritual Struggle Scale*), it appears that 57 (21.0%) students had negative change, four (1.4%) had no change, and 211 (77.6%) had positive change between the time of the pre-test and the time of the post-test. Well over half of the study participants also faced religious and spiritual struggle as 66 (24.3%) students had negative change, 49 (18.0%) had no change, and 157 (57.7%) had positive change on this scale between the time of the pre-test and the time of the post-test. Therefore, it is clear that the majority of students experienced both spiritual growth and increasing religious and spiritual struggle during their time in PULSE.

While the percentage of students demonstrating positive change in pre-test/post-test spirituality measures is comparable to the proportion of students reporting spiritual growth, it is interesting to note that the two results do not precisely correspond with one another. Of the 61 students who had neutral to negative growth in pre-test/post-test scores, 52 (85.3%) agreed with the statement that they grew spiritually through PULSE. Of the 211 students whose pre-test/post-test scores demonstrated spiritual growth, 37 (17.5%) did not agree with the statement that they grew spiritually through PULSE. This calls into question which of the two approaches is a more accurate measure of spiritual growth. As a result, the following data analyses will include results based upon both measures. Further discussion of this topic will occur in Chapter 6.

A paired samples t-test was conducted to evaluate whether a statistically significant difference existed between the mean scores on each of the spirituality variables before and after participation in PULSE. Comparing mean responses for each variable also demonstrates that spiritual growth did occur. All of the variables changed in the positive direction and results of the paired samples t-test were significant for 43 of the 54 variables as illustrated in Appendix G.

Utilizing Cohen's (1998) dependent measure for effect size, it is apparent that the following variables had the largest change between the time the pre-test was administered and the time of post-test administration: Desire to influencing the political structure, develop a meaningful philosophy of life, reduce pain and suffering in the world, become a community leader, influence social values, and become a more loving person. Students also had a large increase in their struggle to understand evil, suffering, and death. This would indicate that students left PULSE with a greater desire to live a life with meaning and be loving, active citizens in response to the pain and suffering they witnessed.

The smallest change occurred in whether students accepted others as they are and whether close friends are searching for meaning/purpose in life. The first is not surprising as students had very high mean scores on this variable when they began PULSE so there was little possibility for change. On the contrary, pre-test scores were not particularly high for the number of close friends searching for meaning/purpose in life and there was room for change on this variable. Despite this, it appears that students did not change their friends during the year to match their own increased desire to seek a more meaningful philosophy for life.

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A paired samples t-test was also conducted to evaluate whether a statistically significant difference existed between the mean scores on each of the spirituality scales before and after participation in PULSE. The results of the paired samples t-test were significant for all of the spirituality scales as illustrated in Table 12. Cohen's (1998) dependent measure for effect size demonstrates a small to moderate effect occurred between the time of the pre-survey administration and post-survey administration among all scales. The *Interconnectedness of Humanity Scale* had the largest change between pre-survey and post-survey administration as measured by effect size, followed by the *Spiritual Quest*, *Religious/Spiritual Struggle*, and *Spiritual Identification* Scales. The *Relationship with God* and *Living One's Philosophy of Life with Integrity* had the smallest change between the time of pre-test and post-test survey administration.

Table 12

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to all Variables in a Specific Spirituality Scale (N=272)

	Pre-Survey		Post-Survey				
Variable	M	SD	M	SD	t	p	d
Spiritual Identification	26.05	5.58	27.82	5.44	6.74	<.001	.32
Spiritual Quest	26.26	4.20	27.74	3.99	7.28	<.001	.36
Interconnectedness of Humanity	55.56	7.17	59.35	6.91	10.31	<.001	.54
Living Phil. of Life with Integrity	10.85	3.51	11.64	3.62	4.53	<.001	.22
Relationship with God	6.87	2.16	7.15	2.22	3.54	<.001	.13
Religious/Spiritual Struggle	12.16	2.88	13.25	3.14	6.74	<.001	.36

While results demonstrate increases in all dimensions of spirituality, students changed most on the dimensions associated with: 1)being engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life and 2)belief in the interconnectedness of humanity and a related desire to serve humanity.

Students did not grow as much on the dimensions of seeking a relationship/connection with God and living one's philosophy of life with authenticity and integrity. Students also exhibited increasing levels of spiritual identification and increased levels of questioning their religious/spiritual background and beliefs during their time in PULSE.

Which Aspects of the PULSE Experience Relate to Spiritual Growth?

After determining that spiritual growth did indeed occur for well over three-quarters of PULSE students, analyses were conducted to examine which aspects of the PULSE experience related to the growth that occurred. Independent variables were categorized into the following "PULSE components" that were developed through factor analysis: *Class Experiences,* an *Eye Opening Experience, Witnessing Injustice, Relationships at Placements,* and *Support of Peers in Class*. Survey results indicate that students had overwhelmingly positive responses to all of these categories, but that the *Eye Opening Experience* and *Support of Peers in Class* scales had the highest levels of agreement among variables.

The maximum possible score for the *Class Experience Scale* was 36. Any score greater than or equal to 27 would indicate student agreement (a response of 3 or 4) with all of the variables. The mean score was 31.9 and 90.2% of the 266 respondents had a score greater than or equal to 27.

The *Eye Opening Experience Scale* had a maximum possible score of 20. Any score greater than or equal to 15 would indicate student agreement with all of the variables. The mean score was 17.8 and 92.9% of the 268 respondents had a score greater than or equal to 15.

The maximum possible score for the *Witnessing Injustice Scale* was 12. Any

score greater than or equal to nine would indicate student agreement with all of the

variables. The mean score was 10.3 and 84.8% of the 270 respondents had a score

greater than or equal to nine.

The *Relationships at Placements Scale* had a maximum possible score of 12. Any

score greater than or equal to nine would indicate student agreement with all of the

variables. The mean score was 10.58 and 87% of the 270 respondents had a score greater

than or equal to nine.

The maximum possible score for the *Support of Peers in Class Scale* was eight.

Any score greater to or equal to six would indicate student agreement with both of the

variables. The mean score was 6.99 and 92.6% of the 270 respondents had a score

greater to or equal to six.

Detailed data from hierarchical regression analyzing which PULSE components

and demographic variables are predictors of change in the aggregated *Spiritual

Orientation Scale,* self-report of spiritual growth, and each of the spirituality scales can

be found in Appendix I.

After controlling for pre-test scores, ethnicity, religious background, prior service-

learning experience, and PULSE components, it is apparent that Presbyterians and

Catholics were more likely to experience an increase in overall *Spiritual Orientation*

during PULSE and higher self-reports of spiritual growth. Those that previously

participated in service-learning had increased levels of self-report of spiritual growth, but

not increased levels of *Spiritual Orientation*. None of the other demographic variables

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had a statistically significant relationship to change in spiritual orientation or self-report of spiritual growth.

Because the nature of spiritual and religious struggle differs from the other spirituality scales and the *Religious/Spiritual Struggle Scale* is not included in the *Spiritual Orientation Scale*, demographic results on this scale were also analyzed in greater detail. It was found that students who had a prior service-learning experience and Baptist students were less likely to face religious/spiritual struggle after controlling for pre-test scores, ethnicity, religious background, prior service-learning experience, and PULSE components. None of the other demographic variables had a statistically significant relationship to change in religious/spiritual struggle.

Overall, the PULSE components of *Class Experience*, *Witnessing Injustice*, and an *Eye Opening Experience* were the strongest predictors of positive change among the spirituality measures. Details about which spirituality measures were predicted by which PULSE components follows.

Class Experience was a statistically significant predictor of increases on the *Spiritual Orientation*, *Interconnectedness of Humanity*, *Spiritual Identification*, *Spiritual Quest,* and *Living One's Philosophy of Life with Integrity* scales as well as the self-report of spiritual growth after controlling for other PULSE components, demographic variables, and pre-test scores.

Witnessing Injustice was a statistically significant predictor of increases on the *Spiritual Orientation*, *Interconnectedness of Humanity, Religious/Spiritual Struggle*

scales as well as the self-report of spiritual growth after controlling for other PULSE components, demographic variables, and pre-test scores.

An *Eye Opening Experience* was a statistically significant predictor of *Religious/Spiritual Struggle* after controlling for pre-test scores, ethnicity, religious background, prior service-learning experience, and PULSE components. It was also a statistically significant predictor of *Spiritual Orientation*, *Interconnectedness of Humanity, Living One's Philosophy of Life with Integrity*, and self-report of spiritual growth before being knocked out of significance by other independent variables.

Support of Peers in Class had no statistically significant positive relationships to any of the spirituality measures. However, it was a significant predictor of *Spiritual Orientation*, *Interconnectedness of Humanity, Spiritual Identification*, *Spiritual Quest, Relationship with God* and self-report of spiritual growth before being knocked out of significance by other independent variables.

Relationships at Placements also had no statistically significant positive relationships to any of the spirituality measures. It was a predictor of *Interconnectedness of Humanity* and self-report of spiritual growth before being knocked out of significance by other independent variables. However, it did have a statistically significant negative relationship to *Religious/Spiritual Struggle* after controlling for pre-test scores, ethnicity, religious background, prior service-learning experience, and PULSE components. In other words, students were less likely to struggle spiritually/religiously if they built strong relationships with PULSE supervisors, other students, and clients at their placement site.

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In terms of the dis-aggregated spirituality scales, increases in *Spiritual Quest* were predicted by *Class Experience*. *Interconnectedness of Humanity* was predicted by *Class Experience* and *Witnessing Injustice*. *Living One's Philosophy of Life with Integrity* was predicted by *Class Experience*. *Religious/Spiritual Struggle* was predicted by *Witnessing Injustice* and an *Eye Opening Experience*. *Relationships at Placements* was a negative predictor of *Religious/Spiritual Struggle*. *Spiritual Identification* and *Relationship with God* were not predicted by any of the PULSE components.

What Role Did "Challenge" and "Support" Play in the Process of Spiritual Growth?

The third and final research question of this study was to consider how Sanford's theory of challenge and support might relate to spiritual development during PULSE. To analyze this question, independent variables were categorized into *Total Challenge* and *Total Support* scales. Survey responses indicated that students felt quite challenged by the PULSE experience, but well supported through the challenges.

Each of the thirteen variables included in the *Total Challenge Scale* had responses coded from "1" (strongly disagree) to "4" (strongly agree) for a maximum potential score of 52. Any score greater than or equal to 39 would indicate a student agreed that he or she was challenged in each of the thirteen variables. The mean score was 45.9 and 90.9% of students had a total score of 39 or above.

Each of the nine variables included in the *Total Support Scale* had responses coded from "1" (strongly disagree) to "4" (strongly agree) for a maximum potential score of 36. Any total score greater than or equal to 27 would indicate a student agreed that he

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or she received support in each of the nine variables. Student responses overwhelmingly indicated that they felt supported through the PULSE experience as the mean score was 31.7 and 91.8% of students had a score of 27 or above.

As illustrated in Appendix I, it is clear that *Total Challenge* and *Total Support* are predictors of change in *Spiritual Orientation* as well as the self-report of spiritual growth after controlling for ethnicity, religious background, prior service-learning, and pre-test scores. Both *Total Challenge* and *Total Support* were also statistically significant predictors of change in all of the disaggregated spirituality scales except *Religious/Spiritual Struggle* after controlling for pre-test scores and demographic variables. Only *Total Challenge* was a predictor of *Religious/Spiritual Struggle*.

Presbyterians, Catholics, and African Americans/Blacks are more likely to have an increased level of *Spiritual Orientation* after controlling for pre-test scores, other demographic variables, and *Total Challenge*. All three groups were also more likely to have an increased level of *Spiritual Orientation* after controlling for pre-test scores and other demographic variables, but this only remained statistically significant for Presbyterians after *Total Support* entered the model. In the self-report of spiritual growth, Catholics and Presbyterians were more likely to have increased scores after controlling for pre-test scores, other demographic variables, and *Total Challenge*. Similarly to the measure of *Spiritual Orientation*, Catholics and Presbyterians had higher self-report of spiritual growth when controlling for other demographic variables and pre-test scores. However, only Presbyterians remained statistically significant after controlling for *Total Support*.

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The *Religious/Spiritual Struggle Scale* was again considered separately from the other spirituality scales because of its unique nature. After controlling for demographic variables, *Total Challenge* was a statistically significant predictor of *Religious/Spiritual Struggle*, but *Total Support* was not. It was found that being Baptist and having a prior service-learning experience were predictors of decreasing *Religious/Spiritual Struggle* after controlling for all demographic variables, pre-test scores, and both *Total Challenge* and *Total Support*.

Moderation

Analyses was conducted to consider whether relationships between independent variables and the spirituality measures of *Spiritual Orientation*, *Religious/Spiritual Struggle* and self-report of spiritual growth might differ based upon ethnicity, religious background, gender, or prior service-learning experience. Findings indicate that moderation occurred much more frequently in the self-report of spiritual growth than the pre-test/post-test spirituality measures.

As illustrated in Table 13, some moderation occurred based upon religious background (Asian, Catholic, Non-Denominational, and None), ethnicity (Asian), and prior service-learning experience for the self-report of spiritual growth. There were generally stronger relationships between variables for students who were Catholic and those who had had prior service-learning experience. There were generally weaker relationships between variables for students who were Asian and had no religious background.

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Minimal moderation occurred based upon ethnic background (Asian, Latino) for change in *Spiritual Orientation*. Asian students had a weaker relationship between *Total Challenge* and change in *Spiritual Orientation* than non-Asians. Latinos, on the other hand, had a stronger relationship between *Witnessing Injustice* and change in *Spiritual Orientation* than non-Latinos.

Gender was the only moderating variable for change in *Religious/Spiritual Struggle* as men had a stronger relationship between *Support of Peers in Class* and *Religious/Spiritual Struggle* than women. This suggests that men might be more willing to open themselves up to religious and spiritual struggle if they have a structured place where they can process this struggle with peers or that men may find the support of peers in class to be more important than women do when facing religious/spiritual struggle. Women, on the other hand, may find it easier to access the support of peers without the formal structures of a class discussion group that facilitates relationship building.

Table 13

Significant Results from Moderation Tests

			Yes[a]		No[b]		
Outcome Variable[c]	Predictor Variable 1	Predictor Variable 2	*r*	*n*	*r*	*n*	*p*
SO	Total Challenge	Asian	-0.12	46	0.293	222	.011
SR	Total Support	Asian	0.236	46	0.567	218	.016
SR	Eye Opening	Asian	0.112	46	0.489	222	.011
SR	Class Experience	Catholic	0.576	170	0.357	96	.029
SR	Total Support	Catholic	0.535	172	0.33	95	.050
RSS	Support of Peers	Female	-0.002	173	0.248	97	.047
SO	Witnessing Injustice	Latino	0.504	33	0.131	237	.029
SR	Witnessing Injustice	Non-Demominational	-0.651	7	0.347	263	.024
SR	Relationships at Placements	None (Religion)	-0.073	43	0.359	227	.009
SR	Witnessing Injustice	None (Religion)	0.035	43	0.371	227	.039
SR	Class Experience	Prior Service-learning	0.72	40	0.455	226	.019

		Prior Service-					
SR	Eye Opening	learning	0.696	40	0.396	227	.013
SR	Total Support	Prior Service-learning	0.683	41	0.434	226	.035
SR	Total Challenge	Prior Service-learning	0.723	40	0.487	224	.032

[a]Those responding yes to Predictor Variable 2
[b]Those responding no to Predictor Variable 2
[c]SO=Spiritual Orientation SR=Self-Report of Spiritual Growth RSS=Religious/Spiritual Struggle

Summary

Study results indicate that spiritual growth did occur for students participating in the PULSE Program for Service Learning. Nearly 80% of students reported that they grew spiritually as a result of their PULSE experience. Similarly, 77.6% of students demonstrated a positive change between their pre-test and post-test scores in all spirituality indicators other than those in the *Religious/Spiritual Struggle Scale*.

The pre-test and post-test mean scores changed in the positive direction for all of the individual variables measured and all of the individual spirituality scales. This change was statistically significant for 43 of the 54 individual variables and all six of the spirituality scales. Among the individual variables, the largest change (in terms of effect size) occurred among the following variables: Struggled to understand evil, suffering, and death; Influencing the political structure; Developing a meaningful philosophy of life; and Influencing social values. Among the spirituality scales, the largest change (in terms of effect size) occurred in the *Interconnectedness of Humanity Scale* followed by the *Spiritual Quest* and *Religious/Spiritual Struggle Scales.*

Through factor analysis, five categories of PULSE components were discovered: *Class Experience,* an *Eye Opening Experience, Witnessing Injustice, Relationships at Placements,* and *Support of Peers in Class.* Hierarchical regressions indicate that all of

the PULSE components had a significant relationship to change in *Spiritual Orientation* except *Relationships at Placements* in at least one regression model. In terms of self-report of spiritual growth, all five PULSE components were predictors of this measure in at least one model. *Class Experience* and *Witnessing Injustice* were the strongest predictors among PULSE components in both the self-report and change in *Spiritual Orientation* measures. An *Eye Opening Experience* was the strongest predictor of Religious/Spiritual Struggle.

Furthermore, the results confirm Sanford's (1962; 1966; 1967) theory of challenge and support as change in *Spiritual Orientation* and self-report of spiritual change had a statistically significant relationship to both *Total Challenge* and *Total Support*.

Tests for moderation demonstrated that there were generally stronger relationships between variables for students who were Catholic and those who had had prior service-learning experience. There were generally weaker relationships between variables for students who were Asian and those that had no religious background.

Religious/Spiritual Struggle was looked at independently of the other spirituality measures because of its unique nature. An *Eye Opening Experience* and *Witnessing Injustice* were statistically significant predictors of increasing *Religious/Spiritual Struggle*, while strong *Relationships at Placements* were a predictor of decreasing Religious/Spiritual Struggle. *Total Challenge* was a predictor of *Religious/Spiritual Struggle,* but *Total Support* was not.

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Overall, hierarchical regression analyses point out that religious background has some influence on whether spiritual development occurred. Presbyterians and Catholics were more likely to grow spiritually, while Baptists were less likely to face religious/spiritual struggle. The finding in regard to Catholics is not entirely surprising given that PULSE operates out of a Catholic higher education institution. Perhaps the course content, faculty approach, or a higher proportion of Catholic students in the classroom enabled the PULSE experience to resonate more for Catholic students. It is unclear why there would have been increased spiritual growth among Presbyterians. Similarly, it is unclear why Baptist students might have been less likely to face religious/spiritual struggle. Perhaps there is something about the Baptist religion that causes students to ask difficult questions about their faith life prior to entering college.

A lower likelihood of *Religious/Spiritual Struggle* among students who previously participated in service-learning points towards the possibility that these students had already faced questions/issues that were being faced for the first time by other PULSE students. As a result, students with prior service-learning experience may have undergone *Religious/Spiritual Struggle* in the past.

CHAPTER 5

QUALITATIVE RESULTS

Ten students were originally selected to participate in qualitative interviews to enable a deeper understanding of their PULSE experience and how PULSE impacted their spiritual development. Half of the interviews were conducted with students who grew spiritually during PULSE and half were conducted with students who did not in order to gain insight into what might have differed in their service-learning experiences. Based upon an analysis of quantitative survey results, five of the interviewees were selected because there was a neutral/negative change between their pre-test and post-test responses. Five interviewees were selected because there was a large, positive increase between their post-test scores and pre-test scores.

One of the students (Vicky), originally selected as a neutral/negative growth interviewee, shared that she did grow spiritually through the experience despite the fact that her quantitative scores indicated she did not. Upon further reflection, she has come to believe that her pre-survey scores were not an accurate representation of how much she grew through the experience. She reported that taking PULSE "made me realize that I have a lot more growing to do" and that she initially believed she had already reached the "maximum level" of spirituality when she took the pre-test.

As a result, one additional student was selected to replace Vicky as a neutral/negative growth interviewee and eleven total interviews were conducted. Therefore, there are six students included in the high growth analysis and five students in the neutral/negative growth analysis.

In the quantitative survey, all five of the neutral/negative growth interviewees and Vicky "somewhat disagreed" with the statement, "I grew spiritually as a result of my PULSE experience." In contrast, all five of the high growth interviewees strongly agreed with the statement. Mean changes on each of the spirituality scales among the neutral/negative growth (NNG) interviewees, high growth (HG) interviewees, and overall sample are outlined in Table 14. The final two columns report maximum and minimum change on each spirituality score for the overall sample.

Table 14

Change in Spirituality Scales Among Neutral/No Growth Interviewees, High Growth Interviewees, and Overall Sample (N=272)

Spirituality Scale	NNG Mean[a]	HG Mean[a]	Overall Sample Mean	Min. Change in Sample	Max. Change in Sample
Interconnectedness of Humanity	-2.0	9.0	3.8	-12	25
Religious/Spiritual Struggle	-2.2	7.9	1.1	-13	10
Spiritual Quest	-.80	4.5	1.5	-8	13
Living Phil. of Life with Integrity	0	4.8	.8	-9	12
Relationship with God	-.40	.9	.3	-5	5
Spiritual Identification	-1.6	8.0	1.8	-13	17

[a]n=5

Overview of Neutral/Negative Growth Interviewees

Among the five neutral/negative growth interviewees, two are female and three are male. Three of the students are Caucasian, one is Asian, and one is African

American. One of the interviewees has no religious background, two have a Catholic background, one has a Baptist background, and one was raised Episcopalian and Catholic. There was a wide range in frequency of childhood church attendance as one student never went to church, one went very occasionally, one went less than monthly, one went weekly, and one went several times a week. Currently, two of these interviewees consider themselves to have no religious affiliation, one considers himself Catholic despite the fact that he never participates in any religious activities, and two are Catholics that go to church "less than monthly."

All of the students were involved in community service during high school, but the amount of time devoted to service varied widely. One interviewee was involved in high school community service over 10 hours a week, one for six to ten hours a week, one for three to five hours a week, one for one to two hours a week, and one for less than an hour each week.

The type of service they did during PULSE also varied. Jing served as an ESL tutor, childcare aide, and front desk greeter at a community organizing/advocacy non-profit. Blake served as an administrative assistant at the front desk of a community health clinic throughout the year. During the latter part of the year, he was given the additional responsibility of co-leading an after-school fitness program for youth. Alie served at an after-school mentoring program for girls. Michael and Jack served as one-on-one mentors to boys living in a public housing facility.

The five students were taught by four different PULSE Professors. One student had not yet selected a major and the others are studying biology, economics, English, and sociology.

Themes within Neutral/Negative Growth Interviews

The themes discovered through interviews fall into the following overall categories: prior experience and openness to being changed through PULSE; PULSE placement experiences; PULSE class experiences; integration of class and placement experiences; the availability of support through the PULSE experience; and the spiritual effects of PULSE.

Prior Experience and Openness to Being Changed through PULSE

Five of the five interviewees had significant prior service experience or were already highly aware of poverty/social justice issues before entering PULSE. Michael grew up in a lower income neighborhood and had previously done a spring break service immersion trip to Appalachia. "When I came to PULSE, I felt like since I've been around the oppressed and the impoverished all my life I could already relate to them and empathize with them. I didn't really feel like PULSE was going to show me much more than I already knew." Blake reported, "In high school…we had community service every day of the week…I loved doing it and coming here I wanted to still continue that process." Jack had done three years of community service in high school and found that his PULSE service experience was not that much different than what he had previously done. "I had been doing similar things to [my PULSE placement] before college," he said.

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Three of the five interviewees made statements demonstrating a lack of openness to being changed through this experience. Alie stated, "I'm a pretty outspoken person so I've always had these strong opinions and strong values and I think it would have been hard to change those…I came in having this strong set of values." Jing was motivated to take PULSE because she was seeking the most unchallenging route possible to fulfill her core requirements in philosophy and theology. "At first I thought it was an easy chance to get rid of the philosophy and theology requirements in one year." Similar to Alie, Jing also indicated that it would have been unlikely for her to change as a result of PULSE. "Some of the values I've learned were too deep in my mind, so it's difficult to change greatly in just a short period of time." Michael also expressed an unlikelihood he could have grown through the experience as he said, "I've already been doing that [reflecting upon identity and philosophy of life] before taking PULSE."

Service Experiences

Students spent the majority of the interview time discussing their experiences with the community partners. There were a number of consistent themes in the placement experiences of neutral/negative growth interviewees. All five of the interviewees faced significant logistical issues with administrative aspects of placements. In all five cases, the relationships built between interviewees and clients of PULSE placements were unable to reach their full potential due to impediments beyond the control of PULSE students. Likely related to the lack of strong relationships, three of the five interviewees made no mention of hearing stories or observing suffering and injustice faced by those served by their placements. Only one of the five interviewees reported

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being overwhelmed by the placement experience in a manner that led to spending significant time reflecting upon observations made in the placement experience. Overall, it was apparent that the PULSE placement experience did not challenge the neutral/negative growth interviewees in the same way that it challenged the overall sample.

Administrative issues. All five of the interviewees discussed administrative issues faced in their PULSE experience that prevented the experience from reaching its full potential. Blake found himself quite frustrated by the fact that he was under-utilized and felt like, "I wasn't doing anything productive." He continued, "One of my supervisors was very busy, and I understand why, but as a result she couldn't really delegate what I should be doing a lot of the time so I felt lost sometimes and felt like my time was just being wasted."

Because of administrative issues that came to the forefront midway through PULSE, Alie's experience left her feeling as if she was "at two different placements this year." "It was overall a good experience, but my first semester was unbelievable. I was having a great time, a really good experience. Then second semester things kind of fell apart." She reported there were a lot of days when she had nothing to do second semester and that administrative issues became more of her focus than the girls in the program.

When asked about the most challenging aspect of his placement experience, Jack did not discuss what he learned from the placement experience or how it challenged him to think differently. Instead, he discussed the change in leadership at his placement site and the resulting lack of communication. He said that a lot of PULSE students, "kind of

struggled" with the leadership change and that the "shift was very abrupt." He lamented the "rough adjustment" that occurred during this transition.

Jing and Michael also had frustrating experiences with their placement supervisors. In describing his supervisor, Michael stated, "she was really disconnected from everything" and "very unprofessional." Jing's challenges with her supervisor were so significant that her responsibilities were shifted and she began reporting to someone else. "She yelled at me…another time she blamed me for something I never did." The supervisor also expressed to Jing that, "We don't need you here."

Relationships. In all five cases, these administrative issues and other impediments beyond the control of PULSE students hindered the development of relationships between those being served by the placement sites and the interviewees. Blake regretted that he "didn't really get to build relationships because people would come in for one appointment and then I would never see them again." In reflecting upon the relationship with his mentee, Michael also expressed regret. "It was a very complex relationship. It didn't turn out the way I wished it would have…it was just a bad experience." When asked whether she built relationships with the kids she worked with at her placement, Jing replied, "Not really. The kids are only three to four years old and I was only there about two hours a week." Jing did build relationships through other assignments at her PULSE placement, but the depth of these relationships was impacted by inconsistent contact with the same people. Alie was beginning to build solid relationships with the girls at her placement, but was quite disappointed when the youth stopped attending her placement because of administrative issues. "There was one day

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where there were more PULSE kids than there were kids…It was really sad to watch that happen." Jack explained that he had to switch mentees in the middle of the PULSE experience because his first mentee moved. Thus, his time to build a strong relationship with either of his mentees was limited.

The views expressed in these interviews were substantiated by the quantitative survey. When asked about whether they "built caring relationships with those served at my placement," students were given the option of: disagree strongly (1), disagree somewhat (2), agree somewhat (3), and agree strongly (4). (This same scale is relevant for data reported throughout the qualitative results section). The mean response among the five interviewees was 3.2 in comparison with a 3.61 mean response among the overall sample.

Lack of stories or observations of injustice and suffering. In contrast to the high spiritual growth interviewees, the neutral/negative growth interviewees did not spend as much time discussing the stories they heard in conversations with those being served by their placement. Three of the interviewees did not mention story telling or meaningful conversations as having occurred. Jing did refer to interesting conversations she had with clients, but did not talk about these conversations as having an impact on her perspectives. Alie mentioned stories she heard at her placement site and did seem impacted by these stories in a manner that led to reflection.

Neither Blake, Michael, nor Jack discussed conversations or stories they had with those being served by their PULSE placement. Because he did not have consistent or lengthy contact with clients at the health clinic, Blake did not have the opportunity to

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hear stories. Michael's complex relationship with his mentee prevented him from learning more about his mentee's life. Jack reported that he was aware his mentee lived with his aunt and uncle because his parents were too poor to care for him, but "we never really talked specifically about it."

Jing explained that she had "the opportunity to hear about all kinds of social problems, especially with immigrants who have a hard time achieving better lives because their English isn't very good…It allowed me to see all the different problems that really exist in society." Despite the fact that these stories provided her greater awareness of social problems and the challenges of trying to solve them, the stories did not seem to impact Jing in a manner that caused her to reflect upon her beliefs or perspectives. Perhaps this was related to the fact that she built the strongest relationships with those from a background most similar to her own "because we had a lot more things in common that we could talk about." As an international student, she also might not know the United States well enough to have assumptions or engrained stereotypes that could be challenged through the PULSE experience.

Alie seemed to be the most impacted by the stories she heard at her placement site. Before the administrative issues at her placement caused youth attendance to drop significantly, Alie "was learning about their school lives, their family lives, and their outside school/friend lives." With a heaviness in her tone, Alie said "There's a story for every girl." However, due to the age of the girls, these stories did not cause her to see suffering and injustice in as raw a form as she might have with girls a few years older. In reflecting upon the violence and gang life that the girls may be exposed to in the future,

Alie explained, "I would try to think about how right now it's not real for them because they're young, like 13 or 14 years old, but it's going to become real very soon." The emotional weight of hearing stories was also limited because the girls stopped attending her placement regularly.

Although none of the quantitative survey items specifically asked about "stories," there was one survey question related to the topic. PULSE students were asked how strongly they agree with the statement, "I heard perspectives expressed at my PULSE placement that were different from those I typically hear." Among these five interviewees, the mean response was 2.6 compared to the overall sample mean of 3.43.

Also in contrast to the high spiritual growth interviewees, only one of the five interviewees talked about feeling overwhelmed by the experience of witnessing injustice or suffering among those served at the placement. This likely relates to the lack of strong relationships and subsequent possibility of hearing stories of struggle faced by others with whom one has built a relationship.

Unlike the other four interviewees, Alie expressed how she could not stop thinking about her placement site after she left.

> I think you can't really say, "Oh now we're going home. We're going to forget about this and go back to BC to have dinner with our friends and study for our tests." It kind of comes back home with you…I was fortunate not to experience a lot of what they have which made me think about social justice and inequality."

The quantitative survey confirms that these five students were not as impacted by suffering and injustice as other PULSE students. When asked about their agreement with

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the statement, "I observed unfair human suffering at my PULSE placement," the five interviewees had a mean response of 2.6. This compares with a 3.21 mean in the overall sample. When asked about their agreement with the statement, "Those served at my PULSE placement faced unfairness in life," the mean response of the interviewees was 3.0 compared to the sample mean of 3.55.

Lack of challenge through the placement. Given their prior service experience, lack of openness to being changed through PULSE, administrative issues at placement sites, relatively weak relationships built with clients of PULSE placements, and lack of exposure to suffering and injustice, it is not surprising that the PULSE placement experience did not challenge the neutral/negative growth students in the same way it challenged many other PULSE students.

In fact, Jing originally chose her specific PULSE placement because she perceived it would be less challenging than some other options due to a shorter commute and the fact that its clientele were of a similar ethnic background to her own. In retrospect, she wonders if this was the best approach. "Sometimes I think that if I had a second chance, I would choose another program…I might choose and American program that isn't related to Asian culture so I could get a chance to learn more about America."

When asked about whether there was anything in his placement experience that he found particularly challenging, Jack said, "There wasn't anything that big." He said that his first semester mentee did not face much suffering as a result of injustice and Jack felt that the biggest issue faced by his second mentee was the lack of homework assigned by his school. While Jack's second semester mentee could not live with his parents because

of poverty, Jack did not think the child was particularly bothered by this as he did not ever talk about it with Jack.

Blake found the most challenging aspect of his placement experience to be the lack of meaning and value in the tasks.

When I thought about going to do service, I thought it would be…helping someone…When you go and do paperwork it seems trivial and it doesn't seem like you're being as effective…I wasn't enjoying going in every week just to do filing, paperwork, or copying IDs…I would say that's the biggest challenge.

The quantitative survey confirmed that these five students were not nearly as challenged by their PULSE placement experience as the overall sample. When asked about their agreement with the statement, "My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs," interviewees had a mean response of 2.8, while the overall sample mean was 3.6.

Class Experiences

Four of the five students also were not challenged to think critically about their beliefs, values, and assumptions through their class experience. Blake reported, "I wouldn't say it was challenging, but it offered a new perspective that I had never really had before." With frustration Michael stated, "Honestly, I felt like every time we talked about poverty I instinctively knew." He also, "felt like some of the questions [in reflection assignments] were really stupid." Jack said, "I don't know if anything challenged my way of thinking…it was kind of a new area for me [philosophy and theology]...it was really interesting."

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While Jing did find the class content to be challenging, the challenge was so overwhelming that it did not enable the possibility for critical thinking about her views. Jing stated, "almost everything we learn is about theology…[the professor] assumed that everyone had some [religious] background so she takes some things for granted…sometimes it's really hard to understand."

On the other hand, Alie spoke about how the professor "was always ready to challenge everyone's thinking. In a way she played devil's advocate which worked really well." Furthermore, she challenged students "to think about our own individual beliefs….I've never had a class where my teacher flat out asks, 'Well, what you believe? Do you know?" Alie was impacted by some of the stories she heard in her discussion group, "Hearing him talk about the relationships he was building with [people at his placement] was really powerful because it was so different from what I was experiencing."

Quantitative survey results demonstrated that these five students were not as challenged in class as their peers in the overall sample. When asked how strongly they agreed with the statement, "Class assignments challenged me to think critically about my assumptions, values, and/or beliefs," the five interviewees had a mean response of 3.2 compared to a 3.57 mean for the overall sample. When asked about their agreement with the statement, "This course exposed me to diverse perspectives that did not fit with my prior opinions and assumptions, the five interviewees had a mean response of 2.8 in comparison with the overall sample mean of 3.5. Students were also asked how strongly they agreed with the statement, "The class discussions/reflection groups challenged me to

think critically about my assumptions, values, and/or beliefs." The interviewees had a mean response of 3.2 compared to an overall sample mean of 3.57.

Integration of Service Experiences and Class

The service experience and class were not well integrated for the neutral/negative interviewees as illustrated in the quantitative survey. When asked how strongly they agreed with the statement, "The service component of this course was well integrated with the academic coursework," the interviewees had a mean response of 2.8, while the overall sample had a mean of 3.57.

As one-on-one mentors, Jack and Michael both found that their service experience did not offer as much to reflect upon as the experiences of their classmates. Michael said, "trying to connect my classroom work with my placement work has been really tough." Jack described how mentoring a younger child impacted his ability to make connections between class and the placement experience

> It was a little hard because he [the professor] would ask questions to some of the students, and for some students it was easy to see the implications because they worked with older kids, but a lot of the younger kids are more unaware…

Jing seemed too overwhelmed by the academic experience to make many connections between class and her service. She was especially affected by her lack of familiarity with religion that made it difficult for her to enter class dialogue. "I don't know where to begin to ask the questions. I didn't have a religious background. I couldn't even tell the difference between Christian and Catholicism."

Support

Despite the fact that they were not generally overwhelmed by challenging service experiences, the majority of neutral/negative change interviewees felt they had people they could turn to for support if necessary.

Alie built a great community with other PULSE students at her placement and the T ride gave them a lot of time to reflect on their service experiences together. She said, "We would travel there and back together so we would have time to talk about what was going on without anyone else interfering." Similarly, she had a very supportive class dynamic.

> Our class became such good friends…Everyone was really into discussing things and interested in what other people were going through in their placements…the class dynamic was really something I've rarely experienced in a classroom setting…It was just a really good working and learning environment where people were really interested in what was going on with the text that we were reading and with what people had to share about what was going on with them.

Jack's class took a little longer to build a comfortable dynamic, but eventually developed into a supportive community.

> Being in the first semester can be really awkward because kids don't know each other but the past couple months had been great because everyone is really friendly with each other and knows each other well. My professor has been great…he's really interactive with the students and very open especially in discussion.

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Blake's class might not have been as close, but he felt his class was "respectful" and "everyone felt comfortable enough to say what they wanted to say."

Jing felt that she did get support from her class discussion group, her placement discussion group, and her professor. "She's really supportive" she said about her professor. Despite this, she was challenged to get the support she needed in understanding theology because she was so underprepared to study this discipline.

Michael struggled more than any of the interviewees to find the support he needed through the difficulties he faced in the relationships with his mentee. He felt "like I didn't really have anyone to talk about it with." He tried to bring it up in class discussion, but ultimately felt these discussions could "only go so far."

Spiritual Effects of PULSE

Although Blake, Jack, Jing, Alie, and Michael might not have experienced spiritual growth to the same degree as many PULSE students, some of them described growing in some dimensions of spirituality. While Alie reported that her spiritual beliefs were not changed as a result of PULSE, she did find PULSE to be a "spiritual experience."

Alie reported that PULSE "really challenged" her "faith a lot and it strengthened it in a way because I've thought to myself, there's no way I could have done that if I didn't have my religion or my spirituality." She says, "I don't think PULSE gave me life changing views, but I think it did in a way reinforce them. There were times where I was really struggling with my faith and I kind of came out of that with… more spirituality." She also reported that through PULSE,

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I've been learning about myself, what really matters to me, what I want to

accomplish, and what it's like to do the right thing…I think I was kind of pushed

to reevaluate why I believe the things I do and if I actually believe them.

When asked about the impact PULSE had on his spirituality, Blake similarly
responded,

I don't think it has changed any huge beliefs I've held, but I think I've thought a

little bit more, and have questioned a little bit more about certain things. Now

I'm more knowledgeable about a lot of different religions and different histories

of religions so I think that makes me more well-informed to make decisions on

how I might want to continue spirituality and religion in the future.

Blake especially thought about his beliefs and purpose in life on T rides home.

I wouldn't say it changed what I fundamentally believed, but I was just pondering

it from different perspectives and wondering certain things about my life like,

Why I'm in placement. Why I'm here. Why I'm at B.C. What do I want to do

with my life?

Jack reported that "I don't know if I've changed all that much because I had been

doing similar things [to my placement] before college. However, he said that PULSE

made me think more about my spirituality which I hadn't really thought about

since like eight-grade when I decided to stop going to church. I started to think

about why I stopped going to church and certain things…it kind of reaffirmed

what I already believed in because it made me question it and think about if what

I believe in was the right thing.

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Along with causing some students to reflect upon their beliefs and philosophy of life, PULSE also impacted the way in which some students viewed the interconnectedness of humanity and their desire to serve. Blake described how PULSE enabled him to see how "people can still connect" despite differences in "cultures, beliefs, and ideas…I saw that we all have the same fundamental desires and needs." The combination of his international immersion trip and PULSE have given Blake a greater desire to "pursue more service-oriented work." Jack said that PULSE "made me think about how I should, and how other people should try and help with [social problems]." Jack reported that he plans to continue doing volunteer work after PULSE. Michael reported that PULSE has "given me the belief to really help others." Similarly, Jing said that PULSE has made her "a more caring person" and that she thinks she will "continue to find more opportunities to get involved in community service.

Aspects of PULSE Most Influential to Spiritual Growth

When asked about which aspect of the PULSE experience might have made the greatest contribution to their spiritual growth or spirituality, Jing, Jack, and Blake could not think of anything in particular. Michael felt that his increased desire to serve was influenced by, "talking about people like Jesus and Dorothy Day who have gone out of their way to really help other people" as well as "getting to know people and learning to really love one another." Alie said that the challenges she faced through her placement led her to prayer and relying on her faith. "If I was having a bad day I'd still have to get on that bus and I'd say, "Help me God. This is going to be a rough day." She also explained how important it was to have a PULSE professor that challenged "us to think

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about our own individual beliefs…She was very good at asking us tough questions and getting really interesting answers out of everyone."

Summary of Neutral/Negative Growth Interviews

Despite the low amount of change between pre-test and post-test scores as well as the self-report indicating disagreement with the idea that spiritual growth occurred through PULSE, it is apparent that their time in PULSE was not devoid of spirituality for these five interviewees. Whether it was thinking about what they truly believe and why they believe it or having an increased desire to serve humanity, all of these students could point toward some dimension of spirituality that was present in their PULSE experience even if they did not name it as such.

Therefore, the question is not whether PULSE enabled spirituality to be integrated into an academic context for these students, but why spiritual growth did not occur more significantly than it did. The answer seems to lie in prior experiences, openness to change, and the type of challenges experienced by students.

For students who had prior significant service experiences or had already reflected upon and were committed to what they believed, it was less likely that PULSE would challenge them in a manner that would lead to disequilibrium and eventual growth. Similarly, the types of challenges faced by most of these interviewees were also unlikely to lead to disequilibrium. While it may be irritating to have administrative issues such as tasks that feel meaningless, being under-utilized, or a supervisor change mid-year, these are not the type of challenges that shake one's foundation to the core.

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However, such administrative challenges are pertinent to the topic of spiritual

development if they impede to the possibility for relationships to be built.

It seems more than coincidental that the only one of these five interviewees to

speak of PULSE as a spiritual experience, was also the only one to speak of the strong

relationships she built at her placement (before administrative issues arose), the stories

she heard at her placement site, having her thinking challenged in the classroom, and

pondering the injustice faced by those at her placement once she came back to campus.

In the next section, it will become apparent that Alie's experience has many similarities

to the experiences of the high growth interviewees.

Overview of High Growth Interviewees

Among the high growth interviewees, four are female and two are male. Two of

the students are Caucasian, two are Asian Americans, one is Latino/Caucasian/Native

American, and one is Latino/White. Two of the interviewees have no religious

background, three have a Catholic background, and one has a Buddhist background.

There was a wide variety in frequency of childhood religious service attendance as two

students never went to services, two went less than monthly, one went weekly, and one

went less than monthly until four years old and then never went again. Currently, three

of these interviewees consider themselves to be Catholic. One of these goes to Mass less

than monthly, one monthly, and one never attends church. One student is "very

confused" and never participates in religious services. One is nondenominational and

participates in religious services daily and one has no religious affiliation.

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Similar to the neutral/negative growth interviewees, all six students were involved in community service during high school. Two interviewees did high school community service six to ten hours a week, one for three to five hours a week, two for one to two hours a week, and one for less than an hour each week.

The six students worked at six different PULSE placement sites. Kasey served at an after school tutoring program for primary school children. Mei Ling worked with HIV positive patients in recovery from addiction. Vicky served at a homeless shelter and soup kitchen for women. Elizabeth mentored youth and assisted with homework at a neighborhood teen center. Tyler answered phone calls at a suicide hotline. Tim tutored and mentored children in a transitional housing shelter for women and children.

The six students were taught by three different PULSE Professors. Two of the students are nursing majors. The other students are studying English, psychology, biology, and finance.

Themes within High Growth Interviews

The themes discovered through interviews with the high growth students parallel the themes discovered through the neutral/negative growth interviews. The themes fall under the following overall categories: PULSE was a different type of experience than prior community service; openness to growth and change; PULSE placement experiences; PULSE class experiences; the availability of support through the PULSE experience; and the spiritual effects of PULSE.

Different Type of Experience

Although all of the students had done service in high school, five of the six interviewees explained how the PULSE experience was different and more intense than any service they had previously done. Kasey was the only one who found her PULSE placement to be similar to what she had done in high school when she tutored children at an after school program. Vicky conveyed,

> Throughout all of high school, I was very involved with doing fundraisers for various types of charities…I never really had the opportunities like I did in PULSE to really integrate myself into the system of what it was like to be one of the people who needed help.

Elizabeth said that her PULSE experience was quite different because of the frequency, the population she was serving, and the opportunity to work directly with people and build relationships. Elizabeth also found, "all the reflection we've done in PULSE has definitely been different because we didn't reflect when I was volunteering at home." Tim had a forty hour high school community service requirement, "that was predominately done volunteering for soccer tournaments that my family was involved in. I wasn't really volunteering in the same way I am now."

Openness to Growth and Change

In contrast to the neutral/negative growth interviewees, five of the six students demonstrated openness to growth and change through PULSE. Neither Mei Ling nor Kasey had a religious background and both were looking forward to this opportunity to study theology and philosophy. Kasey said,

My parents are pretty much atheist agnostic and believing in God was definitely

something that was made fun of… I think the reason I wanted to go to a Catholic

affiliated school was because it was something that was so vague in my family

that I felt like I wanted to explore it. I've always kind of had an interest in

spirituality.

On the other hand, Tim was not particularly interested in philosophy and theology, but

reported that this lack of interest, "definitely helped me to grow as a result because it was

way more than I was bargaining for. I didn't know there was going to be so much to it

and so it kind of all hit me."

Service Experiences

Consistent with the neutral/negative growth interviewees, when high growth

interviewees talked about their year in PULSE, they focused much more on the service

than the classroom experience. There were a number of themes apparent when students

discussed their service experiences. Unlike the neutral/negative growth interviewees, the

high growth interviewees did not spend much time focusing on administrative problems

with their community partner. Instead, they spoke extensively about the strong

relationships they built at their placement sites, the importance of hearing stories and

diverse perspectives at their placements, how overwhelmed they were by witnessing the

suffering and injustice faced by others, and how the PULSE placement experience

challenged their assumptions and beliefs by opening their eyes, breaking down

stereotypes, and bringing up complex questions without easy answers.

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Relationships. Five of six interviewees talked about the strong relationships that they built with those being served by their agency. Although Kasey did not mention this specifically in her interview, the quantitative scores indicate that she built strong relationships as well. All six of the interviewees strongly agreed with the statement, "I built caring relationships with those served at my placement." Their mean score of 4.0 compares with a mean score of 3.61 for the overall sample.

Vicky illustrated the connections she made with the homeless women at her placement in saying, "I've gotten many hugs after talking with people. They would say, "Thank you so much for listening I really needed that." Tim also described the type of relationships he built with mothers at the transitional housing shelter where he worked. "There were two women that I got pretty close with…I knew that they definitely cared at least a little bit about me. It was just really nice getting to know them."

Stories and hearing diverse perspectives. Five of the six interviewees discussed the importance of conversations with those being served by their agency that enabled them to hear stories and perspectives that were unlike any they had previously heard. Kasey, the student who had had similar service experience in high school, was the only one who did not mention the importance of conversations at her placement.

Working with HIV positive patients in recovery from addiction Mei Ling said that she,

learned about their struggles and what they go through…Sometimes I would

listen in on group meetings, and I'd hear stories about how their parents did drugs

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with them, or how when they were younger they stuck a needle in their arm, and

stuff like that. I was thinking like, "Wow."

Vicky also discussed how impacted she was by interactions with clients at her PULSE

placement.

They would talk to me about what was going on in their lives. I would listen to

their stories and try to make them feel better…less lonely…I would hear all of

these stories and all of these perspectives that otherwise I don't think I would've

ever had the opportunity to hear.

Tim talked about a particularly intense conversation he had while playing

basketball with one of the youth with whom he worked.

He opened up to me almost instantly and told me his story and what he had gone

through…It was really incredible to hear about all the things he was thinking

about at his age—especially compared to what I was going through at that time

which was totally different.

Elizabeth was also impacted by a conversation with one of the teens at her center

in stating,

She's obviously the woman of the household, and that was just ridiculous to learn

about because…she's only 15 years old. She has all these responsibilities that

you never would have known about. If you hear her and see the way she interacts

with people, you'd think she's really rude and tough, but then you learn about all

of the underlying things she's going through.

When asked about their agreement with the statement, "I heard perspectives

expressed at my PULSE placement that were different from those I typically hear," the high growth interviewees had a mean response of 3.8. This is much higher than the overall sample mean of 3.43.

Being overwhelmed by witnessing suffering and injustice. Either through conversations or observations, students became aware of the suffering and injustice faced by those with whom they had built strong relationships. Six of the six students discussed this awareness in their interviews and five of six conveyed how overwhelming it was to be in the midst of this suffering and injustice.

Vicky expressed this in stating,

Some of the things the women went through were very hard for me to handle. There was a woman I was talking to last night whose son had just been shot and killed and she was incredibly upset about that. It was hard to hear her talking about how she didn't really have time to grieve because she was worried about paying bills and other things because she has so many things that she has to take care of. She was actually employed, but it was a job that didn't really pay enough for you to grow or sustain yourself very easily. Hearing her talk about the pain in that whole situation was very hard. Listening to her talk about it was one of those things where I didn't even know what to say to console her. What do you say to someone who just lost their child? Especially someone who is still so stressed about staying alive and sheltered that they can't even properly focus on their pain.

Elizabeth also talked about an overwhelming situation she faced at her placement. "A student told me and [another volunteer]…that her father was sexually abusing her. We were the first people she's ever told…that was a little overwhelming for me and obviously made me sad." Tyler explained how he responded emotionally to the heaviness of answering phone calls at a suicide hotline. "Samaritans has really affected me…it's changed how I think…When I was initially getting all these depressing calls about people it was really upsetting me…I was acting differently…I was more sad and not really having any emotion."

Tim reflected upon the unfairness faced by kids at his placement.

In terms of social justice issues, it's hard to see kids fall into a system that downplays their abilities. A lot of the kids that I dealt with were incredibly smart but were doing work that was way below their level. They didn't really know of any options and their parents didn't know of any options for them. Then there were kids with obvious learning disabilities like ADD and then other kids that you could tell there was something wrong, but couldn't put a name on it. It was difficult to see how they're falling behind…A lot of those disabilities definitely go unnoticed, and you can foresee them falling behind, staying behind, or dropping out of school. We were able to see how that actually happens which was incredibly eye-opening.

Their responses on the quantitative survey confirm that the high growth interviewees observed suffering and injustice more than the overall sample. In response to the statement, "I observed unfair human suffering at my PULSE placement," the high

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growth interviewees had a mean score of 3.5 compared to a 3.21 overall mean. In response to the statement, "Those served at my PULSE placement faced unfairness in life," the high growth interviewees had a mean score of 3.83 compared to 3.55 in the overall sample.

Service experiences challenged prior perspectives. Students described their PULSE placement experiences as opening their eyes, breaking down stereotypes, making them realize the world is more complex than previously thought, and bringing up questions without easy answers.

Six out of six students described the experience as eye opening and this phrase was often used more than one time by each interviewee. Tim said, "I was able to see the different ways that kids grow up in this country compared to my own town and childhood and that really just took me back. It was really interesting and very eye opening for me." Vicky said that her PULSE placement, "really opened my eyes to what it means to be homeless and what it means to be poor." Elizabeth similarly conveyed, "It's definitely opened my eyes to a lot that I wasn't aware of before." Despite the fact that she had prior service experience and grew up in Manhattan, Kasey still found the experience to be eye opening. "Some of my other classmates who didn't grow up in urban neighborhoods like mine, it was definitely more eye opening for them. It's still eye opening to me."

Relatedly, students discussed the way in which having their eyes opened made them aware of how social problems and injustice had previously been portrayed to them and hidden from their view. Tim expressed this in stating,

I guess it made me think about how we don't like to think about that sort of

thing…people who don't have to, don't think about those things. It was the first

time I had ever really experienced that sort of poverty or that sort of instability

and hearing all the stories of people dealing with addiction. It's not something

you think about if you're not involved in it.

Tyler similarly discussed the stigma of mental illness as he said, "I really believe that

mental illness is very taboo and a lot of people don't like to talk about it and kind of avoid

it…I don't know why really…but I feel like mental illness is something that should be

brought up.

Vicky focused on the role of the media in shaping impressions of poverty. She

described how PULSE "gave me more of an open mind. It allowed me to realize that

people are in different situations, and it isn't always like what the media tells us…so we

actually have to pay attention and be aware."

This eye opening experience contributed to the breaking down of stereotypes—

which was specifically mentioned by five of six students. Vicky said that serving at a

homeless shelter changed her view of what it means to be homeless.

They were such hard-working women and the things that they were talking about

made me see that they were people. I never would've admitted it before, but I

realized that I definitely did have stigmas towards what it means to be homeless.

I always thought that there had to be something different about them, but for so

many of those women it's just their circumstances.

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Similarly, Mei Ling said,

My preconceptions about people with drug abuse were totally wrong…I just

thought that a lot of times people just brought it on themselves. I always thought

that addiction was a matter of choice, but after listening to their stories, I realized

that when you're in recovery, and you go home back to a place where everyone is

doing that, it's very difficult, especially if all of your friends do that.

Tim shared how his stereotypes about homelessness were shattered by one

woman in particular.

She had glaucoma and lost all vision in one of her eyes. When the other one

started to go as well, she came to the United States to get better medical

care…now she's dealing with 5% total vision. She wasn't able to work, so she

became homeless with her daughter. She's struggling to make ends meet and to

find a job that she can actually do. If she had her vision she probably wouldn't be

homeless. Something that's totally out of her control is completely affecting not

only her life but her child's life as well. It's pretty intense. A lot of people have

the misconception that homelessness is the fault of the people who are homeless.

That's definitely something I would've considered…In this case, however, it's just

a physical disability.

As a result of their new awareness, students were faced with questions that had no

easy answers and recognized that the world is more complex than previously thought.

Five of the six interviewees specifically mentioned this. Vicky stated, "Hearing

everyone's experiences at their placements really opened my eyes to how things are more

complicated than I had ever imagined." Tim said that PULSE "made me question the whole system that we have, like what we tend to value in our society and our notions of a good life and how it's not attainable for so many people…"

With passion, Elizabeth proclaimed,

I've started really questioning how it's fair that some of these people, who are just amazing people, would be able to do amazing things if they had the resources, but since they don't, they're not going to. I've also been questioning why I was so fortunate to have been given all these resources...It really makes me think about what's fair and what's not fair, and how it's so hard to be the one that breaks out, goes to college, and moves on. All of these kids want to go to college, but their education levels are below the year they're actually in. Even though [one of the students being tutored] is in 10th grade, she couldn't even do multiplication. While we were doing algebra, a lot of the kids were counting on their fingers. Sometimes they wouldn't know the formulas, but once they learned them they could do it. It's been amazing to think about how someone's location in the world, how they're raised, and what schools they go to, really affect who they can be.

Overall, it is apparent that these six interviewees found their PULSE service experience to be very challenging. The quantitative survey confirms this as the high growth interviewees had a mean response of 4.0 when asked how strongly they agree with the statement, "My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs." This compares with an overall sample mean of 3.6.

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Class Experiences

Along with being challenged by their service, all six of the high growth interviewees were also challenged in the classroom. Vicky conveyed this in saying, "PULSE just all around made me think. A lot of the reflections that we did, like our written reflections and even discussions would bring up things I had never really thought about before." The quantitative survey confirmed that the high growth interviewees were challenged in the class—though they did not have quantitative scores that differed significantly from the overall sample. When asked how strongly they agreed that the statement, "class assignments challenged me to think critically about my assumptions, values, and/or beliefs," the six students had a mean response of 3.5 compared to the overall sample mean of 3.57. The six interviewees had a 3.67 mean response to the statement, "This course exposed me to diverse perspectives that did not with my prior opinions and assumptions," compared to the 3.5 mean in the overall sample. Similarly, the interviewees had a mean response of 3.67 to the statement, "the class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs" compared to a 3.57 overall mean.

All six students mentioned being challenged by class discussions focused on readings and service experiences. Kasey said, "I loved the classroom dynamic because we got a lot of readings, and he expected us to really know the readings and to think critically about them…he has us read really thought provoking material." Tim said, "Some of the things that we were talking about in class were really just super interesting and thought-provoking…"

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Both Tim and Tyler found it challenging to hear about other students' placement experiences. Tyler said, "Some other placements are pretty challenging as well and sometimes when I heard what they're going through I'm like, "Wow. I don't think I could deal with that." Tim reported, "Some of the stories that people told [in discussion group] were very intense and were things that you couldn't see and not react to an not think about after the fact."

Students also mentioned how they found readings to be influential. Mei Ling reported that all of the class readings were very "mind opening" and made her "really think." Both Tim and Elizabeth spoke enthusiastically about Thích Nhất Hạnh's writings. Tim said, "Some of the readings were incredible. When we read Thích Nhất Hạnh it was one of the coolest things I've ever read…Just his application of how you should deal with bad situations was just really cool reading." Elizabeth said, "A lot of the readings we do are interesting. We just read about Thích Nhất Hạnh, and about all the stuff that makes a person good, and how much you should give to others and keep for yourself, like how to be the best person you can be." Tim also discussed how Aristotle and Plato "specifically change the way that I would think about things and make decisions." Mei Ling found Jonathan Kozol's *Amazing Grace* caused her to observe things she otherwise would not have as she took public transportation to her community partner.

Vicky, Tyler, and Elizabeth elaborated on how classroom discussions and readings influenced their faith life. Tyler described a particular class discussion that was

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"one of the best moments in class because we were all confused about what to think…about the origins of God." He said,

> My family is a very traditional Catholic family…I've kind of been questioning
> my faith here…Before that [coming to B.C.] I was always in my family's
> mindset…now I'm hearing what other people have to say, especially in PULSE
> because we've talked about that a lot…I don't know what to believe anymore. It's
> really bothersome actually…This class had definitely made me confused as to
> what my faith is in now…I just don't know what to think anymore.

Vicky said,

> There were also some readings that really made me think more about my faith
> and…strengthened it too. All of the different perspectives [on religion] we've
> read over the year…has really made me think more about that [what it means to
> be a Christian] and how I want to be connected with God. It made me think about
> the idea of social justice with my religion a lot more directly than I did before.

Elizabeth discussed how reading Bonhoeffer influenced her view of religion. She explained how Bonhoeffer,

> questioned his faith a lot during World War II...We also learned that even though
> Bonhoeffer switched his religion a lot, that doesn't mean he's not a religious
> person…he talked about how you can have faith without being religious, and you
> can be a religious person without believing in one religion. I thought that was
> really interesting because he took a bunch of things from different religions to

form what he believed in. I felt like that definitely opened my eyes more to different religions.

Three of the six interviewees said that writing assignments challenged them to think. Kasey explained how challenged she was by how the final paper asked students to "argue the purpose of your life…Who are we? Where do we come from? How should we live? For what reason? That was definitely a difficult paper to write…how we were supposed to define the purpose of our life was definitely the most challenging thing.

Two of the six students directly mentioned how their professor challenged them to think. Kasey said, "He'll make a point, and then he'll kind of counter it to really get you to make sure that what you're saying is what you believe. He does kind of challenge what you believe and what you value…"

Support

Given the fact that each of these students was significantly challenged by his or her PULSE experience, it is not surprising all six interviewees sought and found sources of support to assist them through the challenge. Support existed in two forms: 1)integrating class with the service experience and 2) relationships. These forms of support provided students the opportunity to reflect upon their experience with the guidance of theoretical frameworks and the opportunity to receive feedback and encouragement from others. While some students sometimes found that their primary family and friend relationships could not effectively support them through this experience, they all found a number of other avenues through which relationships provided support. Students described a supportive community in class, support from the

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professor, support from community partner staff, and support from the PULSE Council

Member as well as other students serving at the same community partner.

Four of six interviewees specifically mentioned the fact that the class and service

experiences were well integrated. While Kate and Vicky did not directly use this

language, it was apparent that they felt similarly and their quantitative scores also

indicate effective integration occurred. The six interviewees all agreed strongly with the

statement, "The service component of this course was well integrated with the academic

coursework." Their mean response of 4.0 compares with the overall sample mean of

3.57.

Kasey described this integration in stating,

[My professor] really does make a point to incorporate the readings with our

experiences in PULSE. We've had tons of reflection papers that are really

about, "how do you see these social injustice issues playing out?"...and being

able to apply the readings to my own experiences with PULSE…I've

definitely been able to see how some of those issues play out.

Similarly, Tyler said, "It's interesting how it's all connecting in class and in placement

and how what we take as our experience we're applying it to class and what we take from

our class we're applying it to our placement. It's really connecting well." Mei Ling also

reported, "The experiences really tied into what we were learning in class." Tim

described how he found the class writing assignments to be a helpful form of support.

"The reflections were my favorite writing activities where we would take a reading and

apply our experiences to our placement; those were very beneficial."

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A number of students reported that their traditional sources of relational support could no longer function in the same way after having their eyes opened through PULSE. Mei Ling found, "When I talk to my friends about my PULSE placement, they don't really get it…I think it's one of those things that you don't really get unless you do it." Tim discussed how the experience distanced him from his father's perspective as his dad is, "always saying things like, 'People who don't work don't want to work. They're just lazy' and stuff like that." Because "this experience has just opened my eyes…It's harder to make any generalizations that he sees very easy to make." Tyler similarly found himself disagreeing with his mother about religion.

> I remember one day calling my mom and asking her, "what are we
> doing?"…I was asking her things like, "Why are we believing these things?
> And stuff like that. She said something along the lines of, "This is the way
> that you are brought up and this is our faith." She was actually being kind of
> close minded.

Despite the fact that students could not always rely on their traditional sources of support, they did find many other directions they could turn for relational support.

Five of the six students described how a supportive community formed in their class and how they received support from other students in the class. Elizabeth enthusiastically described her PULSE discussion group. "During our PULSE discussion I love how we always talk about what's going on in our placement…I definitely had a really great PULSE class." Tyler reported that his class, "had a pretty good dynamic…discussions normally flowed well…I love my class…even on the weekends

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when we're not in class, we still keep in contact with each other…we've become

friends…we're all pretty close." Vicky similarly said that the, "discussion group in my

class got really close."

Four of the six students enthusiastically outlined the ways in which their PULSE

professor was a great source of support. Vicky said, that her professor

would make sure that every single one of us got to talk about our placements,

and if one of us for whatever reason did get not get to sufficiently say what

we wanted to in discussion, she made it very easy for us to email her or go to

her office hours. I never had to go to her office hours because I always felt

like the discussion were sufficient. It was very easy to communicate and to

get the feedback that's needed along with her advice…she's my favorite

professor right now. She was very supportive and really insightful. You

could tell that she really listened to her students.

Tyler's professor was similarly available to students outside of class as he talked "with

my professor at lunch about how I just don't know what to believe anymore." Tim

similarly described the extra efforts of his professor.

She definitely made a point to get to know us on an individual level to a

certain extent and that was nice. I think she's a great lady and that she

genuinely cares…One time we had this really difficult discussion [in

class]…and I was kind of frustrated after the class so she sent me an email

just asking if I was okay after class…Just the fact that she did reach out and

make that initial contact was definitely cool. I don't think that every professor
here would do that.

Elizabeth described her admiration of her PULSE professor in saying, "I love her. She's
awesome."

Three of the six students described receiving support from the staff at their
placement site. Tyler said, "The supervisors there really like to help you…when I first
started, getting all those depressing calls made me kind of upset myself, but the
supervisor was there to allow me to debrief and talk about what I had just dealt with."

Three of the six also felt that they were supported by other students or the PULSE
Council Member from their placement. Vicky said, "My PULSE council member was
really awesome. She would go above and beyond and was really great about listening to
us, giving us feedback, helping us to feel comfortable, supporting us." Tim described the
support he received from other students attending his placement, "We had some very cool
conversations about the things that we had seen that day or that week on the T ride
home." He found that those conversations were, "helpful in trying to make sense of
things," because "the group that I was volunteering with obviously knew what we were
all going through a little bit better compared to just the discussion groups in our class in
general…It was really good. We all got along really well. It was a good group to go home
with, so I was really lucky." Mei Ling found the discussion groups organized by the
PULSE Council Member for all students at the same community partner to be very
helpful. "I met people that go to the same placement I do, and we'd just talk about our
experience…the things that happened."

Spiritual Effects of PULSE

Given that five of these six interviewees demonstrated a high level of spiritual growth on their quantitative survey results, it is not surprising that they all agreed with the idea that PULSE had impacted them spiritually. Recall the dimensions of spirituality outlined in the literature and utilized in the quantitative survey: 1) being engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life; 2) a desire to live out one's philosophy of life with authenticity and integrity; 3) belief in the interconnectedness of humanity; and 4) seeking a relationship/connection with a higher power that transcends human existence (Astin, Astin, & Lindholm, 2011b; Chickering, Dalton & Stamm, 2006; Love & Talbot, 1999; Roehlkepatain, Benson, Scales, Kimball, & Ebstyne-King, 2008). Among these dimensions of spirituality, the first three were each mentioned in some form by all six of the interviewees. On the contrary, only one of the six students discussed seeking a relationship with a higher power/God. Although not considered a dimension of spirituality, Daloz Parks (2000) and Fowler (1981) also outlined the importance of religious struggle in the process of spiritual development. Five of the six students discussed their experience of religious/spiritual struggle during their year with PULSE.

Inner reflection to better understand oneself and one's purpose. Although they would not have necessarily articulated it in exactly these terms, the PULSE experience led all of the students to be engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life.

Tim outlined how PULSE "made me consider what it actually means to live and what it actually means to live well." He further explained how he will now approach his life differently.

Before PULSE, my definition of what it meant to be a good person was pretty limited to myself. I didn't really think too much about what we owe people who are less fortunate…I think it gave me a very special perspective on what's important besides managing money and acquiring money. I still have a drive to make money and to do some big things but there's definitely going to be something, at least in the back of my mind, just knowing that I have a lot of ability even now as a college student to help a lot of people and I think that's definitely going to continue to affect how I look at things and even how I eventually do business eventually.

Elizabeth also described how PULSE made her reflect upon her beliefs and her purpose in life. "It has definitely opened up a lot more questions…I don't have answers yet, but it's made me start to question…" Although she may not have answers to many of her questions, Elizabeth did discover at least one goal she would like to pursue in life.

I have this goal in my head, that when I get a really good job, I'm just going to come back and donate so much money to [my PULSE placement]… It's sort of given me more motivation. I just want to make a lot of money…so I can come back and donate. I wish I was rich, so I could just give them the money to have all the resources.

Others commented upon how PULSE began a process of questioning and reflection. Tyler stated, "PULSE has definitely started me out on this conquest to find out who I am." Mei Ling said, "I'm definitely trying to figure out what I can do in the future to kind of bring about the change [structural change in society]…I wonder what my role is in all of that…I don't really know what I believed prior to PULSE, but it helped me formulate my beliefs." Vicky believes that PULSE, "changed how I see myself." Kasey described how PULSE caused her to better understand, "unconditional love and knowing the right way to talk to somebody and the right way to have beliefs…"

Living one's philosophy with integrity and authenticity. Six of six students also discussed how PULSE increased their desire to live out their philosophy of life with integrity and authenticity. Tim was particularly impacted by Aristotle's discussion of habits.

> Aristotle was one of the philosophers we read and he changed the way I would make decisions and try and form certain habits or try and actively do things to form habits so that would eventually become part of me. It may just be that I'm more aware of how each decision I make starts to define who I am…In terms of how I think and how I rationalize certain things, that has definitely changed and it's a more of an active approach whereas in the past my decision might have been sparked by emotions. I think now my decisions are more thought out and logical.

Because of the way PULSE, "has opened my eyes," Vicky believes,
"it's easier for me to find the ways to live my life with more integrity…being more aware of the people around me in the things that are being said, how it affects other people..."

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Mei Ling reported that, "because I was able to reflect more that I was more thoughtful with my actions and thinking in general." Kasey similarly felt that she reflected more upon "everyday decision making…the way you talk to people and the choices you make." Elizabeth provided a specific example of how she lives with more integrity because of her PULSE experience. "We read this whole thing about water bottles…after that I decided not to use water bottles anymore. I went to the books store and bought a reusable bottle."

Belief in the interconnectedness of humanity. All six of the students described ways in which their PULSE experience caused them to see the interconnectedness of humanity differently than they had before. This led to a related desire to be of service to others in the future as well as a more ecumenical view of the world.

Tim's view of the interconnectedness of humanity was influenced by both his service and a particular class reading.

> Thích Nhất Hạnh…would claim that everybody is responsible for everything else even if only to a small degree but I definitely see an interconnectedness. I see how just a smile or a small bit of friendliness toward someone else might change their day. I see the importance of the energy that you give off...In terms of my placement, you can definitely start to see the effect you have on people, so having the ability to do that definitely makes me question what I should be doing in that regard.

Mei Ling similarly said, "Growing up I've always had an individualist way of thinking, but now the class makes me think more communal…about the people who are

less fortunate. I was involved in a lot of programs growing up so those are the people who have helped me a lot….It really helped me think that whatever I'm going to do in the future...how we all need to grow as a society together."

> Because of PULSE, Vicky feels
>
> so much more connected to the community and the world now…now I know that
>
> we're all kind of in this together, and that has kind of changed how I see myself.
>
> My decisions are not only about whether or not it's good for me but also whether
>
> or not it's good for everybody.

Vicky further described how "my PULSE experience also made me feel more connected with other religions as well. …made me see that there are a lot of connections…so many of these religions are focused towards the same goal of people loving each other and being connected..."

Kasey described how PULSE challenged her thinking and caused her to move from an individualistic perspective to a more communal view of the world. She said that PULSE shifted "my beliefs about the way we value life and the way we value other people with this idea that your community isn't just one…I think in a less individualized way." As a result, Kasey says, "I'd like to continue my service instead of just leaving it at PULSE." Similarly, Tyler described how PULSE caused him to "realize that I really do want to help people in this world."

Elizabeth shared a specific story demonstrating her connection to the youth at her placement and her increased desire to serve. She noticed the way in which kids were folding "their homework up in little squares that they put in their pockets." When she

asked them why they did not put their homework in backpacks, they explained how their homework gets "smushed" when they do so because there are no folders or books to protect the homework. Recognizing that she could impact this situation with one small act of generosity, she went to the B.C. bookstore and purchased folders that said "Boston College" on them.   She brought them into the kids and said, "This is your homework folder. Bring it in, put it back, and don't leave it in your locker because it has your homework in it."   Now, "they all use their folders, and the love that it says, 'college' on it." About her placement, Elizabeth says, "I love it there. I was there today, and I would be there every day if I could. I just want to give them all I can give, even though it's not that much."

Religious/Spiritual Struggle. Five of the six interviewees explained how they faced religious/spiritual Struggle through the PULSE experience. Tyler said that PULSE**, "**has made me question everything about God and my religion. I like that it's challenging my faith but at the same time it can be bothersome for me because I don't know what to think anymore." He described, "one class where we discussed God…that class was intense…everyone was just spilling out things about the religious and spiritual aspects of lives…I think it was one of the best moments in class…we were all confused about what to think." During the year, Tim did "a lot of questioning my own faith and what it even means to have faith." He stated, "I'm still super confused about any notion of a higher power…I'm definitely still struggling…"

Elizabeth said that one of the reasons she has never been religious is because she cannot understand how suffering can exist in the world if there is a God. However,

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PULSE has caused her to question "religion a lot more. I've been thinking about if I want to be religious, or maybe pursue a different religion. I've also thought more about spirituality, and how that's different than being religious." Kasey also had her view of religion shifted through the year as she previously equated religion with judgment and exclusivity. PULSE showed her that "organized religion isn't completely flawed. There's people who are affiliated with organized religion who do have a way of interpreting religion in a way that is accessible and isn't exclusive towards anyone."

Interestingly, Vicky was the only interviewee that did not discuss her present struggle with religion. Instead, she explained how she had struggled tremendously in high school as she went back and forth between atheism and religiosity. She worked through many of her questions about what she believes in high school and now is very highly involved with religion. The fact that she previously worked through religious/spiritual struggles may relate to the fact that she was the only interviewee to exhibit the fourth dimension of spirituality: seeking a deeper relationship with a higher power.

Seeking a deeper relationship with a higher power/God. When asked about their relationship with God or a higher power, students focused more on the struggles they feel surrounding God or their perception of God rather than a desire to have a deeper relationship with God. Both Vicky and Kasey articulated the way in which their PULSE experience impacted their perception of God. Vicky said, "PULSE has really strengthened my faith. Ever since becoming a Christian I've felt really strongly about it but seeing people who are in hard situations and seeing their faith has just been

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completely inspiring. It's made me realize how much God does do for people. Even when you have questions like, "Why does evil exist?" and, "Why does this happen to people who believe so much in God?" Seeing how they've been strong through their faith made me realize how much God does for people." Kasey said,

> I think that my spirituality has kind of shifted…I see it more...the way that Fr. Himes defines it in his book…that God is love. It's unconditional love. And not just thinking of God as some far off figure, but really incorporating it as a life purpose; to love unconditionally. I think that's how I've really identified my spirituality.

> While it was clear that Vicky did actively seek a deeper relationship with God, this was not clear with the other five students. This makes sense as one might not necessarily be seeking a stronger relationship with God if one is still struggling to determine what one believes. It is also likely that one who is struggling in this regard may not be ready to outline the intimate topic of one's personal relationship with God to a researcher just introduced moments earlier.

Aspects of PULSE Most Influential to Spiritual Growth

When directly asked which aspects of PULSE were most significant to their spiritual growth, student responses typically paralleled the topics they discussed through the majority of the interview. Only one of the six students talked more about the classroom experience than the community experience. This student, Kasey, was also the only one who had a previous service experience that was similar to PULSE in terms of the type and extent of service done. For the other six students, the classroom experience

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was important to their spiritual growth, but could not have had the impact it did without the service experience. Overall, students greatly appreciated the connection between the two and how class and placement worked together to facilitate growth.

Mei Ling found herself most impacted spiritually by PULSE class discussions that tied in the service experience. "The experiences really tied into what we were learning in class. I was able to really see the things more…" Vicky was most impacted by placement and some class readings. She attributes this to the fact that the placement experience was "more personal." But, she also found that

all of the different perspectives that we've read over the year about what it means to be a Christian…really made me think more about that and how I want to be connected with God. It made me think about the idea of social justice with my religion a lot more directly than I did before.

Elizabeth discussed the significance of seeing injustice at her placement and the class readings (Thích Nhất Hạnh and readings that provided examples of people living their faith such as MLK, Moses, Ghandi, Bonhoeffer). Kasey found her spirituality was particularly impacted by class discussions where she could talk with her peers about the meaning of life and by some of the class readings—especially Himes. Tyler felt "every aspect" of PULSE led to his spiritual growth and focused on a particularly good class where everyone was "dumbfounded" by the intensity and insight of the discussion. He still felt, however, "it was mostly at my placement where I felt challenged." Tim discussed both class and his placement. He described how hearing stories of suffering

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and witnessing injustice at his placement challenged his preconceived notions. He also found himself impacted by reading the Bible, Aristotle, Singer, and Thích Nhất Hạnh.

Summary of High Growth Interviews

All six of these high growth interviewees grew significantly in three of the four dimensions of spirituality: 1) being engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life; 2) a desire to live out one's philosophy of life with authenticity and integrity; and 3) belief in the interconnectedness of humanity. Five of the six also faced religious/spiritual struggle through the year. While only one of six spoke of a desire for a deeper relationship with God, this may possibly be explained by the fact that the other five were in the midst of religious/spiritual struggle and were not yet certain what they believe about God and religion.

The high growth interviewees primarily attributed their growth to the combination of their placement and their class. Not surprisingly, these students had excellent experiences in both.

There were few administrative issues with their community partners and they developed strong relationships at their placement sites. Because of these relationships, they were able to hear stories and diverse perspectives in conversations at their placement sites. They all found themselves overwhelmed by witnessing suffering and injustice among people they had grown to know and care about. The experience challenged their assumptions and beliefs by opening their eyes, breaking down stereotypes, and bringing up complex questions without easy answers.

Similarly, all high growth interviewees were challenged by their class experiences. Class discussions where they heard about other students' service experiences and perspectives as well as thought-provoking readings were the most influential aspects of class. Writing assignments and professors also were mentioned as sources of challenge.

These six students needed the support of their class and others as they processed the challenges they were experiencing. Many found that they could not turn to parents or friends for support in the same way they had in the past. They were able to find such support through effective integration of class and placement, a supportive community in their class, relationships with their professor, relationships with other students serving at the same community partner and/or their PULSE Council Member, and relationships with their placement supervisor.

Comparisons between Neutral/Negative Growth Interviewees and High Growth Interviewees

The primary reason for interviewing a group of students who grew spiritually and a group who did not was to enable a comparison of how their experiences might have been different from one another in a manner that affected their subsequent spiritual growth. As detailed in the prior sections, there were significant differences between the background experiences and PULSE experiences of the two groups. A summary of these differences follows.

Prior Service Experience

All eleven of the interviewees were involved in community service during high school and they were involved in service for approximately the same number of hours per

week. While none of the neutral/negative growth (NNG) interviewees discussed how PULSE differed from the type of service they had previously done, five of the six high growth (HG) interviewees mentioned this. The HG interviewees described how the service they did through PULSE involved different populations, was more direct, was more frequent, and involved more reflection.

Openness to Growth

Among the NNG interviewees, three of the five made specific statements demonstrating an unlikelihood they could have changed spiritually through PULSE. Two of these indicated this was because they had already thought about the types of spiritually-related questions that could arise through PULSE. One stated that her Chinese values were too deeply engrained to be altered in one year. On the contrary, five of the six HG interviewees specifically demonstrated an openness to growth through the PULSE experience. This could, perhaps, relate to the fact that three of the six HG interviewees were raised with no religious background. Two of these three specifically expressed a desire to learn more about religion and spirituality through PULSE.

Service Experiences

In terms of their overall PULSE experiences, the most significant difference between the two groups was what occurred at their community partnerships. While all five of the NNG interviewees discussed some structural or logistical aspect of their service experience that was less than ideal, only one of the HG interviewees did. Furthermore, the HG interviewee found this to be a minor nuisance, while the administrative issues became a central focus for most of the NNG interviewees.

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These administrative issues hindered the development of relationships between students and the clients of PULSE placements among all five of the five NNG interviewees. In sharp contrast, five of the six HG interviewees spoke extensively about the strong relationships they had built with clients of their PULSE placements.

The weaker relationships developed among NNG interviewees meant that they were also less likely to engage in conversations with clients of their community partners. Only two of the five NNG interviewees discussed how they heard stories or new perspectives during conversations at their placement site. On the contrary, five of the six HG interviewees mentioned the importance of stories. These stories had an overwhelming emotional impact on only one of the five NNG interviewees, but on five of the six HG interviewees.

The HG interviewees described how their PULSE placement experiences challenged their thinking, beliefs, and assumptions. While six of the six HG students described at length how PULSE opened their eyes, broke down their stereotypes, or enabled them to see that the world is more complex than previously thought, none of the NNG interviewees spoke as deeply about this.

Class Experiences and Support

These differences in PULSE placement experiences carried over into the classroom. Four of the five NNG interviewees did not indicate they had been challenged to think critically about their assumptions, beliefs, or values through their PULSE class experience. On the contrary, all six of the HG interviewees found their PULSE class challenged them to think critically in this manner.

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Similarly, four of the five NNG interviewees did not find their PULSE placement and class experiences to be well connected, while four of the six HG interviewees specifically mentioned how they found the two to be integrated. Furthermore, all six of the HG students agreed strongly that the two were well integrated in the quantitative survey. This is particularly important because the integration of the service experience with class can serve as an effective support mechanism for students struggling with the challenges of their placement experience.

Another source of support for student facing challenges in service-learning is relationships. Fortunately, this form of support was readily available to almost all students. Only one of the NNG growth students expressed that he did not have any relationships through PULSE where he could turn for support. All other ten students felt they had supportive relationships with either their PULSE professor, other students in their class, other students serving with the same community partner, their PULSE Council Member, or their PULSE Placement supervisor.

Selected Quantitative Measures

The differences in experience among NNG interviewees and HG interviewees is not only apparent in the qualitative data. The quantitative data previously reported also clearly illustrates the differences in the PULSE experiences among these two groups.

Table 15

Comparisons of Means on Selected Independent Variables/PULSE Components[a]

Variable	HG Mean	NNG Mean	p
I built caring relationships with those served at my placement.	4.0[b]	3.2[c]	.099
I heard perspectives expressed at my PULSE placement that were different from those I typically hear.	3.8[b]	2.6[b]	.028
I observed unfair human suffering at my PULSE placement.	3.5[b]	2.6[c]	.024
My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs.	4.0[b]	2.8[b]	.033
Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.	3.5[b]	3.2[c]	.353
This course exposed me to diverse perspectives that did not fit with my prior opinions and assumptions	3.67[b]	2.8[c]	.064
The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs.	3.67[b]	3.2[c]	.148
The service component of this course was well integrated with the academic coursework.	4.0[b]	2.8[c]	.033

[a]Level of Agreement with the statement.
4=Agree Strongly 3=Agree Somewhat 2=Disagree Somewhat 1=Disagree Strongly
[b]n=5
[c]n=6

Qualitative Results Conclusion

The qualitative data obtained through these interviews provides valuable insight into which aspects of the PULSE service-learning experience are most likely to lead to spiritual growth among undergraduates. It is apparent that strong relationships and consistent interaction with clients of PULSE placements is foundational to growth. Strong relationships led to the possibility for students to hear stories that presented

perspectives they otherwise would not have heard. These perspectives were "eye opening" as they broke down stereotypes and preconceived notions of people facing poverty, addiction, mental illness, homelessness, and lack of educational success. Because high spiritual growth PULSE students had grown to care about the people at their community partner, they also grew to care about the injustice and suffering they faced. This was emotionally overwhelming for students and drove them towards inner reflection as they tried to makes sense of complex questions without easy answers.

At the same time students were being challenged in their service experience, class also exposed students to new perspectives. Through readings, being asked difficult questions, and hearing what other students were experiencing at their PULSE placements, students could also be pushed towards inner reflection. While students found the class aspect of PULSE to be crucial to their spiritual development, a challenging service experience seemed to be a prerequisite to this. For those that had challenging placement experiences, the class was well integrated with the service experience. For those that did not, the class and placement did not connect well.

Nearly all of the students found they were well supported as they attempted to process their experiences. For students experiencing challenging placements, class provided a theoretical framework through which they could try to make sense of their confusion. Supportive relationships existed in abundance as students had a number of different directions they could turn to discuss their experiences. Almost all students described a positive class dynamic with their peers. It was also clear that some PULSE

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faculty members went above and beyond the call of duty by inviting students to lunch or reaching out to follow up on difficult conversations that had occurred in class.

The interviews provided abundant evidence that students did grow spiritually. Even the NNG interviewees demonstrated some dimensions of spiritual growth or felt PULSE was a spiritual experience. Both NNG and HG interviewees described how PULSE caused them to deepen their commitment to service and the connection they feel towards humanity. They both also discussed how PULSE caused them to consider what they believe and why they believe it. The HG interviewees, however, seemed to be more deeply engaged in this process of inner reflection and more driven to understand oneself and one's meaning and purpose in life as a result of PULSE. Similarly, the HG interviewees also seemed to be more engaged with the question of how to live their philosophy of life with integrity and authenticity. Religious/spiritual struggle was not evident in the NNG interviewees, but was quite apparent among the HG interviewees. One dimension of spirituality was not particularly evident among either group of interviewees: desiring to build a deeper relationship with God.

Although the primary focus of this study is not on undergraduate attitudes towards religion, it is interesting to note that all of the HG and NNG interviewees expressed a generally neutral to negative view of organized religion. One has to wonder if views of religion may have influenced their desire to build a deeper relationship with God. Not one person discussed religious institutions as providing a source of support in their spiritual development or being a place they turned to when considering the spiritual questions that arose through PULSE.

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Many of the students used very negative adjectives when discussing religion including: hypocritical, judgmental, exclusive, and crazy. Tim described how he "resents" the Catholic Church for the fact that he was "confirmed at such a young age without even being able to ask these types of questions." Furthermore, he pointed out the hypocrisy he observes in people at his home parish. "When I go to church at home…I just think to myself like, 'there is no way that all of these people are doing everything that they're supposed to be doing.' I feel like it's a feel-good type of thing, you know like you're there for that hour…but that's it." Kasey twice referenced how religion was ridiculed in her family of origin and how she associated religion with judgment and exclusivity. Similarly, Vicky explained how "the ways religion made people feel out-casted" led her to atheism in junior high. Tyler talked about his fear of getting a "crazy religious person on the phone" when he answered phone calls at his PULSE placement. Michael described how he "hated Kairos [a retreat at Boston College] because it seemed very religious."

Others did not use such negative adjectives, but simply seemed unmotivated to be involved in religion. Jack decided to stop going to church in eighth grade and had not really thought about religion since then until PULSE. Elizabeth went to church through most of her childhood, "but after that I was never very religious." Mei Ling stopped going to temple with her parents when she was four because her sister stopped going. Blake and Alie both explained that they pray and believe in God, but they do not go to church regularly. Alie cannot "explain why but I think I've just gotten too busy." Blake attributes it to the idea that he is "a spiritual person, not necessarily a religious person."

As someone raised in a country without religion, Jing simply seemed to find the concept of religion to be confusing. Despite the fact that Vicky is actively involved in religion, she did not discuss how this involvement impacts her spirituality during the interview.

While it did not seem that PULSE caused any of these students to become more actively involved in religion, it did cause some of them to think about religion in a more balanced manner. For example, Kasey explained that PULSE "showed me that organized religion isn't completely flawed. There's people who are affiliated with organized religion who do have a way of interpreting religion in a way that is accessible and isn't exclusive towards anyone." Elizabeth found that her PULSE experience "opened my eyes more to different religions." Tim discussed how "reading the Bible definitely made me see certain legitimacies that I hadn't seen before. If you just read it as a text, if you were to follow Jesus's teachings you would be a damn good person. So that was cool." In the long term, it would be interesting to see if the religious/spiritual struggles initiated during PULSE may cause some students to eventually develop more positive views of institutional religion.

Open-Ended Survey Responses

At the end of the quantitative survey, students were asked, "Which aspects (if any) of the overall PULSE experience were most significant to your spiritual growth?" Of the 272 students in the final pre-test/post-test sample, 217 (79.7%) responded in a manner indicating that spiritual growth did occur. Forty eight students offered no response and seven students responded in a manner indicating that no spiritual growth

occurred through PULSE. In reviewing the following numbers, keep in mind that many students offered responses that fit in more than one category.

The most frequent responses were related to the service experience as 146 students (67%) named the placement in some form. Among these students, 67 talked about the importance of relationships built with people at the placement or conversations/interactions with people at the placement, 36 named "placement" with no further details, 19 mentioned witnessing injustice or suffering faced by people they met through the placement, nine discussed being exposed to new viewpoints/experiences at the placement, seven mentioned breaking down stereotypes through the placement experience. Twenty five students discussed the combination of class and placement as being most important.

Reflection was also a significant aspect of the experience to students as 64 students (30%) discussed reflection in some manner. Among these students, 21 specifically named "reflection", 48 named the importance of class discussions, and eight named journaling or writing assignments.

The content of the course was an important factor that led to spiritual growth for 46 students (21%). Of these students, 28 noted the importance of class readings and 22 mentioned learning about philosophy, theology, and/or religious traditions.

Twenty students (9%) referred to being challenged to think from a new perspective, but did not specify the source of this challenge.

Eleven students (5%) felt the relationships they had with other students in their class or at their placement.

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Ten students (4.6%) specifically mentioned their professor as playing a large role in their spiritual growth.

Below are a few particularly articulate responses to the question of which aspects of PULSE were most significant to spiritual growth:

●Our weekly discussions really allowed me to open up and question a lot of things that relate to my spirituality. I also feel as though becoming so close as a class and with Professor _____ has created a bond that I cannot help but feel as somewhat spiritual and good. Going to my placement and seeing the good in all of the people that work there and all of the kids also makes me feel closer to God. Even commuting to and from my placement has made me realize how I find God in nature as well. All of these things have made me grow spiritually.

●The placement made me question many of my preconceived notions, it has been a year of incredible spiritual growth that would not have happened if I was not in PULSE.

●The placement itself, with class in the background, helped me grow the most. I do not think that I would have learned as much if I did one without the other, and I have grown a great amount because of my interactions which were made meaningful due to my coursework and discussions.

●I think working with the homeless people at _____ and coming to the realization that they are just as valuable as anyone else and deserve to be treated with dignity and respect, if for no other reason than they are fellow human beings, contributed most to my spiritual growth.

●To be perfectly honest, my PULSE experience made me greatly question my faith. Seeing injustices weekly sometimes made me lose faith and become frustrated with humanity. I could write endlessly about my PULSE experience in all different aspects… Having faith through doing something like this is the only way to see through the injustice and see the ways in which we are all connected as human beings.

●The most significant was to realize that the people I am serving are just like me.

CHAPTER 6

DISCUSSION, IMPLICATIONS, & CONCLUSION

Summary of Purpose and Methods

Studies have found that undergraduates and youth have an overwhelming interest in spirituality and that students have expressed academic experiences within higher education are not adequately meeting their desire for spiritual development (Astin et al., 2004; Chickering et al., 2006; Kuh & Gonyea, 2006). The ability to effectively facilitate spiritual development in the classroom is dependent upon understanding of how to foster spiritual growth pedagogically. Service-learning is a pedagogy that has shown promise in facilitating the spiritual development of undergraduates as previous studies have found a relationship between spiritual growth and service-learning participation (Astin et al., 2011a; Cherry, De Berg, & Porterfield, 2001; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2010; Radecke, 2007; Yeh, 2010).

This research sought to further understand if and how service-learning may be utilized as a tool to foster spiritual growth within an academic context. Through an explanatory sequential design mixed methods study (Creswell, 2009; Creswell & Plano Clark, 2011) this study addressed the following research questions: 1) Does spiritual growth occur among undergraduates participating in service-learning? 2) Which aspects

of the service-learning experience relate to the occurrence of spiritual growth? 3) What role do "challenge" and "support" play in the process of spiritual growth?

The quantitative strand of this study utilized a pre-test/post-test survey based upon an instrument developed by Astin, Astin, and Lindholm (2011a; 2011b) to measure change in responses to spirituality indicators. Data were also collected about the service-learning experiences of students to consider how variation in experiences might relate to the existence of spiritual growth. Semi-structured, one-on-one interviews were conducted with eleven study participants whose quantitative survey results demonstrated particularly high or low levels of spiritual growth to gather detailed description of how service-learning experiences may have differed in relation to spiritual growth.

The study participants were drawn from a year-long academic service-learning program that included 361 students taking 14 classes taught by 9 faculty members and serving at over 50 different locations in the Boston area. The final study sample included 272 students for whom a pre-test/post-test match was able to be made for a response rate of 75.4%. All students were enrolled in an interdisciplinary philosophy and theology course entitled, *Person and Social Responsibility* that included three hours in a traditional classroom setting, one hour in a group reflection discussion with one half of the class, and 10-12 hours a week of community service. a weekly, hour-long, group reflection discussion.

A review of the literature led to a conceptualization of spirituality including the following dimensions: 1) being engaged in a dynamic process of inner reflection to better understand oneself and the meaning and purpose of one's life; 2) living out one's

personal philosophy of life with authenticity and integrity; 3) seeking a connection/relationship with a higher power; and 4) belief in the interconnectedness of humanity and a related desire to be of service to others (Astin, Astin, & Lindholm, 2011b; Braskamp et al., 2006; Love & Talbot, 1999; Overstreet, 2006; Roehlkeptatian et al., 2008; Tisdell, 2003; Zabriskie, 2005). Based upon this conceptualization of spirituality and the instrument developed by Astin, Astin, and Lindholm (2011a; 2011b), spirituality indicators in the quantitative portion of the study were categorized into six scales: *Spiritual Identification*, *Spiritual Quest*, *Interconnectedness of Humanity*, *Living One's Philosophy of Life with Integrity*, *Relationship with God*, and *Religious/Spiritual Struggle*. The *Spiritual Identification (SI) Scale* measures whether one identifies as spiritual. The *Spiritual Quest (SQ) Scale* refers to whether one is engaged in a dynamic process of inner reflection to better understand oneself and one's meaning and purpose in life. The *Interconnectedness of Humanity (IH) Scale* measures one's belief in the interconnectedness of humanity and whether one exhibits a related desire to be of service to others. The *Living One's Philosophy of Life with Integrity (PLI) Scale* measures the desire to live out one's philosophy of life with integrity and authenticity. The *Relationship with God (RG) Scale* measures the degree to which one is seeking a relationship with a higher power/God. The *Religious/Spiritual Struggle (RS) Scale* considers the degree to which one is struggling with and questioning one's religious/spiritual background and beliefs. A *Spiritual Orientation* (SO) *Scale* was also created for this study by including all of the spirituality variables except those in the *Religious/Spiritual Struggle Scale*.

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Based upon the literature review and theoretical framework provided by Nevitt

Sanford (1962; 1966; 1967), the components of the service-learning experience that were

examined in this study fit into the categories of challenge and support. These variables

generally were related to the ways in which students felt challenged to think about their

assumptions, values, and beliefs through classroom and placement experiences that

provided exposure to diverse perspectives; exposure to unfair human suffering; and

exposure to complex social problems and the ways in which students felt supported

through relationships and class experiences that helped to make sense of the challenges

being faced. In order to consider the theoretical perspective of challenge and support in

quantitative analyses, summative scales of *Total Support* and *Total Challenge* were

created by adding all variables that related to each of these categories. To more

specifically consider which PULSE components were predictors of spiritual

development, independent variables were also analyzed through the lens of the following

factors: *Class Experience*, *Witnessing Injustice*, *Eye Opening Experience*, *Relationships

at Placements,* and *Support of Peers in Class*.

Discussion of Findings

Did Spiritual Growth Occur among PULSE Participants?

The evidence overwhelmingly points towards spiritual growth having occurred

during the time students were enrolled in PULSE. In the quantitative survey, 79% of

students reported agreement with the statement, "I grew spiritually as a result of my

PULSE experience." Similarly, a comparison of responses to spirituality variables from

the beginning of the academic year and the end of the academic year indicates that 77.6%

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of students grew spiritually during this time frame. The year-end survey also asked students to consider, "Which aspects (if any) of the overall PULSE experience were most significant to your spiritual growth?" Nearly eighty percent (79.7%) of students made a statement suggesting that they did grow spiritually and the comments of only seven (2.5%) students specifically suggested that they did not grow spiritually.

Analyzing the mean responses for each of the individual spirituality variables similarly demonstrates that spiritual growth occurred as all means changed in the positive direction. Results of a paired samples t-test were significant for 43 of the 54 spirituality variables. Similarly, mean responses for all of the spirituality scales changed in the positive direction. These were all statistically significant, but greater growth occurred among the *Interconnectedness of Humanity, Religious/Spiritual Struggle, Spiritual Quest, and Spiritual Identification* scales than the *Living One's Philosophy of Life with Integrity* and *Relationship with God* scales.

Interviews also provided abundant evidence that students grew spiritually as a result of their PULSE experience. Interviewees (even those whose survey scores indicated a lack of spiritual growth) described how PULSE caused them to deepen their commitment to service, deepen the connection they feel towards humanity, and consider what they believe and why they believe it. Additionally, the "high spiritual growth" interviewees were also deeply engaged in a process of inner reflection to understand oneself and one's meaning and purpose in life; were engaged with the question of how to live their philosophy of life with integrity and authenticity; and were facing religious/spiritual struggle as a result of their PULSE experience.

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The one dimension of spirituality that was not particularly evident among interviewees was a desire to build a deeper relationship with God. The lack of discussion about God may also be indicative of student discomfort with sharing such deeply personal information with an interviewer they have not previously known. It may also relate to the wider context of being from a generation that considers themselves to be "spiritual, but not religious" (Overstreet, 2006; Smith & Lundquist, 2005; Zabriskie, 2005). Relatedly, the interviewees consistently used negative adjectives when discussing religion including: hypocritical, judgmental, exclusive, and crazy.

One might argue that it is not surprising that PULSE students would have grown spiritually given that they chose to attend a Catholic higher education institution and are taking an interdisciplinary philosophy and theology class. It might be possible that the occurrence of spiritual growth is more attributable to the type of student who chooses to attend Boston College and do PULSE rather than the PULSE experience itself. Evidence of this possibility exists in the fact that Catholic students exhibited higher pre-test levels of spirituality, post-test levels of spirituality, change in spiritual orientation, and self-report of spirituality. Catholic students also had stronger correlations between some independent variable scales and dependent variable scales than non-Catholic students. However, research by Small and Bowman (2012) discovered that it is not a given that Catholic students at Catholic higher education institutions will exhibit higher levels of spiritual growth than the general undergraduate population. In fact, their analysis of Astin, Astin, and Lindholm's (2011a; 2011b) CSBV data found that students at Catholic

higher education institutions demonstrate similar levels of spiritual growth to undergraduates attending secular institutions.

The research of Astin, Astin, and Lindholm (2011a) also enables an avenue to consider the degree of spiritual growth that occurred among PULSE students in comparison with a large, representative sample of undergraduates. As illustrated in Table J8, the change in mean scores between the PULSE pre-survey and PULSE year-end survey are higher than the change in mean scores obtained through the national sample between 2004 (the beginning of the first year of college) and 2007 (the end of the third year of college) for all of the spirituality scales except *Spiritual Quest*. These differences were statistically significant for all spirituality scales except *Spiritual Quest* and *Interconnectedness of Humanity*. Among the individual variables, there was a larger effect size among PULSE students for 42 of the 54 variables (see Tables J1-J6). It is also interesting to note that the pre-test mean scores of PULSE students and the national sample are nearly identical on the *Living One's Philosophy of Life with Integrity* Scale.

In considering qualitative interviews, quantitative results, and a comparison with the national sample of college students studied by Astin, Astin, and Lindholm (2011a; 2011b), the evidence clearly points towards spiritual growth having occurred as a result of this service-learning experience. These results confirm findings from previous research demonstrating a relationship between service-learning and spiritual growth conducted by Astin, Astin, and Lindholm (2011b), Cherry et al. (2001), Radecke (2007), Eyler & Giles (1999), Kuh & Gonyea (2006), Lovik (2011), and Yeh (2010).

How Might Spiritual Growth Be Occurring?

In an effort to answer the broader question of how spiritual growth might be occurring during the service-learning experience, this study considers what role challenge and support may have played in spiritual growth and which aspects of the service-learning experience were most closely related to the occurrence of spiritual growth.

Consistent with Sanford's (1962; 1966; 1967) theory of student development, the qualitative and quantitative aspects of this study point towards both challenge and support relating to spiritual growth. In the quantitative study, the *Total Challenge* and *Total Support* scales were statistically significant predictors of change in *Spiritual Orientation*, student self-report of spiritual growth, and all of the disaggregated spirituality scales except *Religious/Spiritual Struggle* (which did have a statistically significant relationship to *Total Challenge*).

Similarly, the qualitative results point towards the importance of both challenge and support in facilitating spiritual growth. Students with lower levels of spiritual growth simply were not challenged by the placement experience or the classroom experience to the same degree as students that exhibited higher levels of spiritual growth. While supportive relationships seemed to be readily available to all interviewees and were mentioned as important, the students with higher levels of spiritual growth also discussed the benefit of finding support through the integration of the classroom experience with the placement experience. In other words, the integration of class and service experiences provided a framework that helped students to make sense of the challenges they were facing and, therefore, played a role in enabling spiritual growth to occur.

The responses to the open-ended question about how spiritual growth occurred also fit with Sanford's theory of challenge and support. In considering, "Which aspects (if any) of the overall PULSE experience were most significant to your spiritual growth?" students most frequently named how impacted they were by interactions with people at their community partners and opportunities for reflection in class—both of which have the potential to simultaneously challenge student perspectives and provide support.

Digging further into the results provides additional insights about the specific aspects of the PULSE experience that might relate to spiritual growth. Qualitative results point towards the importance of building relationships at placements that enabled the possibility for students to witness and hear stories about how suffering and injustice impacted individuals they had grown to care about. This led students' eyes to be "opened" to the ways in which their prior assumptions/perspectives were inconsistent with what they were observing in the community. People living in poverty may have been previously known only through stereotypes—stereotypes that blame the poor for their problems and perpetuate the belief that the poor are fundamentally inferior to those who have been successful in traditional terms. Stereotypes that may be rooted in the fact that it's too painful as a society to face the fact that the "American dream" does not really exist in the way we would like to believe and that our society can be tragically inequitable. During their PULSE experience, however, students can no longer hold onto these stereotypes and are humbled to see how much they have to learn from those they may have previously believed to be inferior or deficient. As a result, students and community members have the potential to form reciprocal relationships that are mutually

beneficial. The PULSE student is no longer the one who serves, but is the one being served.

At the same time, class experiences were also exposing students to a new way of viewing the world through: hearing about the placement experiences and diverse perspectives of other students; class readings that presented new perspectives; and professors asking students to consider what they think and why through class discussions and assignments. Being emotionally overwhelmed by the challenge to think about these complex questions and view the world from a new perspective drove students towards inner reflection in an effort to makes sense of the experience.

In an address to the Presidents of Jesuit colleges and universities, the Superior General of the Society of Jesus, Fr. Peter-Hans Kolvenbach, S.J., described this process in stating, "When the heart is touched by direct experience, the mind may be challenged to change. Personal involvement with innocent suffering, with the injustices others suffer, is the catalyst for solidarity, which then gives rise to intellectual inquiry and moral reflection" (Kolvenbach, 2000). This phrase, which is often used within Jesuit higher education as a rationale for service-learning, fits well with the student experiences in this study.

Quantitative results point towards the *Classroom Experience*, an *Eye Opening Experience, Witnessing Injustice, Relationships at Placements, and Support of Peers in Class* as being statistically significant predictors of self-report of spiritual growth in at least one regression model. All of these except *Relationships at Placements* were statistically significant predictors of increased *Spiritual Orientation* in at least one

regression model. A strong *Class Experience* and *Witnessing Injustice* were the strongest

predictors among these as both remained significant when controlling for these other

PULSE components.

Class Experience was also the strongest predictor among the dis-aggregated

spirituality scales as it predicted increases in *Interconnectedness of Humanity*, *Spiritual

Identification*, *Spiritual Quest*, and *Living One's Philosophy of Life with Integrity*.

Witnessing Injustice was a predictor of increases in the *Interconnectedness of Humanity*

and *Religious/Spiritual Struggle* scales. An *Eye Opening* experience was a predictor of

increasing *Religious/Spiritual Struggle*.

Recall that theories of spiritual growth discuss the importance of questioning the

spiritual and religious beliefs handed down from one's family of origin in order to grow

into one's adult faith life (Daloz Parks, 1986, 2000; Fowler, 1981; Helminiak, 1987).

Both theory and empirical studies suggest that this questioning is initiated through crisis

and being exposed to diverse perspectives that do not fit with one's prior view of the

world (Astin, et al, 2011b; Cartwright, 2001; Chickering and Reisser, 1993; Daloz Parks,

2000; Fowler 1981, Holcomb and Nonneman, 2004; Love, 2002; Ma, 2003; Tisdell,

2003; Welch and Koth, 2013). The process can be quite painful as one struggles through

a period of uncertainty that requires much support to navigate successfully (Daloz Parks,

1986, 2000; Fowler, 1981). Without such support students may not grow spiritually and

may get stuck in maladaptive patterns of behavior (Bryant and Astin, 2008; Faigin, 2013;

Holcomb and Nonneman, 2004). Interactions with faculty and supportive peers can play

a significant role in fostering healthy spiritual development (Astin et al., 2011b; Bryant,

2007; Cady, 2007; Daloz Parks, 2000; Lee et al., 2004; Lovik, 2011; Ma, 2003; Radecke, 2007).

Three previous studies have analyzed which service-learning program components have a relationship to spiritual development (Cherry et al., 2001; Eyler and Giles, 1999; Radecke, 2007). All three of these studies are consistent with the broader body of service-learning literature finding that student developmental outcomes can be facilitated in service-learning through cognitive dissonance resulting from a disorienting dilemma or exposure to diversity; application of the service experience to the course content; reflection; and relationships with faculty, other students, and those at the service site.

Sanford's (1962; 1966; 1967) theory of challenge and support aligns with spiritual development theories, empirical studies of spiritual development, and empirical studies of service-learning in proposing that students need to face significant enough challenge for growth to be stimulated and that this challenge needs to be effectively balanced with support for growth to occur in a healthy manner.

Integrating the quantitative and qualitative results of this study with Sanford's theory of challenge and support, theories of spiritual development, the results of empirical studies investigating how spiritual growth occurs, and the results of prior studies investigating how student development occurs through service-learning leads to the development of the following conceptual model (Figure 3) describing how spiritual development might be occurring during the PULSE service-learning experience.

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Figure 3

Conceptualization of How Spiritual Growth May Be Occurring through PULSE
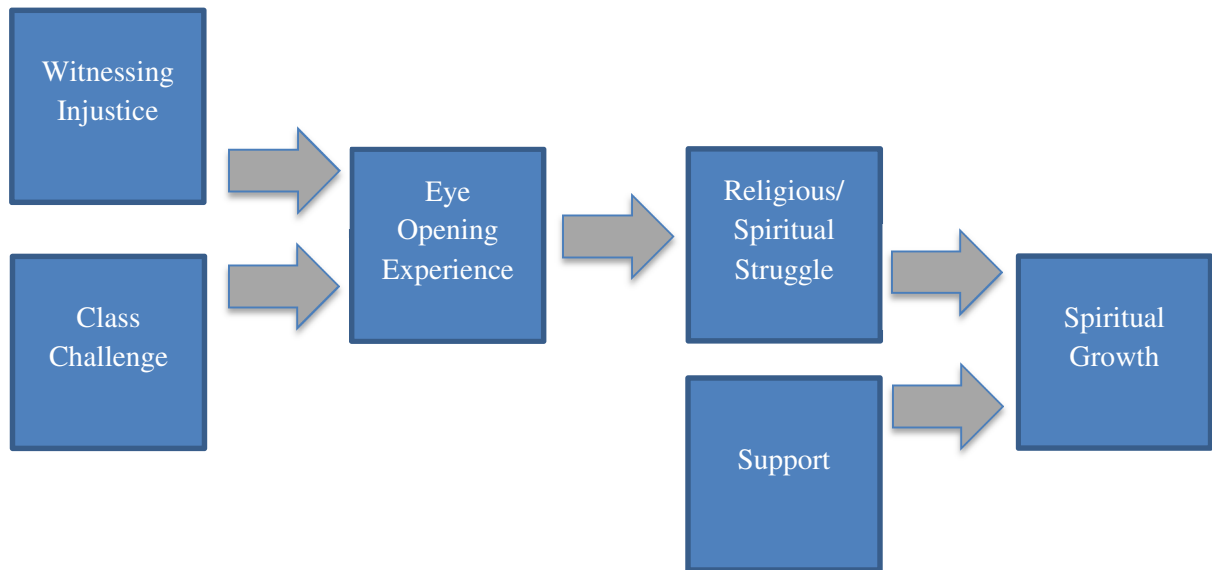
In this proposed model, the process of spiritual growth begins when a student witnesses how injustice impacts the lives of individuals he or she has gotten to know at his or her service site. At the same time a student is being challenged by observing social justice issues at the service site, he or she is simultaneously having his or her assumptions about the world challenged in class. The combination of these challenges leads a student's eyes to be "opened" to the idea that the world is not exactly what he or she believed it to be in a very fundamental way. This eye opening experience is emotionally overwhelming and leads to religious/spiritual struggle as a student questions the certainty of his or her beliefs around suffering, spirituality, religion, and God. Throughout this struggle, the class framework and supportive relationships help a struggling student to make sense of what he or she is experiencing in a manner that enables healthy spiritual growth to occur.

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Overall, this model follows Sanford's theory in proposing that the challenges faced in service-learning can be significant enough to initiate the questioning necessary to stimulate spiritual growth in undergraduates. Simultaneously, a solidly structured service-learning program can offer the supports necessary to successfully guide a student through this challenging experience. The *Total Challenge* independent variables of this study are incorporated into the Class Challenge (which includes those *Class Experience* variables that also fit under *Total Challenge*), *Witnessing Injustice*, and *Eye Opening Experience* aspects of this model. The *Total Support* independent variables are incorporated into the support component of this model (which includes those *Class Experience* variables that fit under *Total Support*).

Because spiritual development theories suggest that religious and spiritual struggle is a necessary precursor to spiritual growth and because empirical studies and spiritual development theories suggest that crisis and disequilibrium are precursors to religious and spiritual struggle, *Class Challenge, Witnessing Injustice*, and an *Eye Opening Experience* precede *Religious/Spiritual Struggle* in this proposed model.

Multiple regression analyses demonstrate that each component of this conceptual model is a statistically significant predictor of the following component in the model (see Tables K1-K3) and that mediation is occurring in the proposed manner (See Tables K4-K6). In other words, *Witnessing Injustice* and *Class Challenge* (a sub-set of the *Class Experience Scale*) are having an indirect effect on *Religious/Spiritual Struggle* that is mediated through an *Eye Opening Experience*. An *Eye Opening Experience* is having an

indirect effect on spiritual growth (as measured by change in *Spiritual Orientation*) through *Religious/Spiritual Struggle*.

Based upon the fact that an *Eye Opening Experience* is a statistically significant predictor of *Religious/Spiritual Struggle* as well as the frequency with which students referred to the eye opening aspect of PULSE and religious/spiritual struggles during interviews, it seems that the link between an eye opening experience and religious/spiritual struggle may be at the core of this process. In other words, it may be the challenge of having one's eyes opened through service-learning that causes one to struggle with fundamental spiritual questions and, therefore, have the potential to grow spiritually.

Implications

Overall, this study provides evidence that service-learning is a pedagogical tool through which spiritual development can be fostered among undergraduates. This is especially important given the disparity between student desire for spiritual growth and the opportunity for spiritual growth to occur in the classroom context (Astin et al., 2004). Furthermore, integrating opportunities for spiritual growth in the classroom has the potential to lead to other personal and societal benefits found to be associated with spirituality in prior studies. These include increased psychological well-being (Astin, et al., 2011b; Park & Millora, 2010), self-esteem (Astin, et al., 2011b; Hayman, Kurpius, Befort, Nicpon, Hull-Blanks, Sollenberger, & Huser, 2007), decreased alcohol/substance abuse and partying *(*Kuh & Gonyea, 2006; VonDras, Schmitt, & Marx, 2007; Stewart, 2001), less risky health behaviors (Nelms, Hutchins, Hutchins, & Pursley, 2007),

increased exercise (Kuh & Gonyea, 2006), deeper learning and improved critical thinking (Seitz, 2009), overall satisfaction with college (Astin, et al., 2011b; Kuh & Gonyea, 2006), increased caring/compassion (Astin, et al., 2011b; Brandenberger & Bowman, 2013; Seitz, 2009), increased appreciation for diversity (Astin, et al., 2011b; Seitz, 2009), and increased academic success among ethnic minority students (Walker & Dixon, 2002; Lee, Puig & Clark, 2007).

From the scholarly perspective, this study provides additional support to prior studies finding a relationship between service-learning participation and spiritual development (Astin et al., 2011a; Cherry, De Berg, & Porterfield, 2001; Eyler & Giles, 1999; Kuh & Gonyea, 2006; Lovik, 2010; Radecke, 2007; Yeh, 2010). Given the way in which this study's literature review uncovered significant overlap between the processes that lead to spiritual growth and the components of a high quality service-learning program, it is not surprising that study findings confirm that service-learning has a relationship to spiritual growth. What is surprising, however, is that this link between service-learning and spirituality has received so little attention in prior empirical studies as Radecke (2007) is the only one to examine the intersection of these two scholarly areas as a primary study focus. Thus, the literature review itself is a significant contribution to the field simply by pointing out and analyzing the parallels between these two scholarly areas of research.

This study expands upon prior studies by being one of the only studies to look at both service-learning and spiritual growth simultaneously and being the first study to utilize a mixed methods approach to do so. As a result, this study goes beyond the work

of prior scholars to suggest an empirically-based conceptual model specifically describing how spiritual development may be occurring for students participating in service-learning. This model proposes that an eye opening experience results from class challenge in conjunction with witnessing injustice among people one has grown to care about. This eye opening experience can open a student up to religious and spiritual struggle in a manner that can lead to spiritual growth if a student is effectively supported through the process. Scholars may find it useful to test this model in future studies through structural equation modeling and to investigate its applicability in different service-learning contexts.

Another contribution of this study to the literature base is the way in which independent variables have been analyzed through the theoretical lens of challenge and support. Study findings overwhelmingly confirm that Sanford's theory of college student development is viable in the service-learning context. Increasing levels of spiritual growth on nearly all spirituality measures were related to the existence of both challenge and support. This suggests that service-learning scholars and practitioners could benefit from thinking conceptually about the significant role of both challenge and support.

This study also enables the ability to consider how spiritual growth may be facilitated similarly or differently from other forms of student development previously analyzed by service-learning researchers. Prior studies have found that the important components facilitating student development outcomes through service-learning include: cognitive dissonance resulting from a disorienting dilemma or exposure to diversity (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles, 1999; Hatcher et al., 2004; Jones &

Abes, 2004; Kiely, 2005; Radecke, 2007; Yeh, 2010); application of the service

experience to the course content (Astin et al., 2000; Eyler et al., 2001; Eyler & Giles,

1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999); high quality reflection (Ash &

Clayton, 2004; Astin et al., 2000; Eyler, 2002; Eyler et al., 2001; Eyler & Giles, 1999;

Fenzel & Peyrot, 2005; Gray et al., 1998, 1999; Hatcher & Bringle, 1997; Hatcher et al.,

2004; Kiely, 2005; Mabry, 1998; Radecke, 2007, Yeh, 2010); a high quality placement

that includes at least ten hours of service (Astin et al., 2000; Astin & Sax, 1998; Eyler et

al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1999; Mabry, 1998);

and relationships built with faculty, other students, and those at the service site (Astin et

al., 2000; Eyler & Giles, 1999; Hatcher, et al., 2004; Jones & Abes, 2004; Kiely, 2005;

Radecke, 2007).

All of these service-learning components were similarly found to be important to

facilitating spiritual growth in both the qualitative and quantitative aspects of this study.

Variables measuring the application of the service experience to course content and high

quality reflection were incorporated into the *Class Experience Scale* which was found to

be statistically significant to self-report of spiritual growth and increased *Spiritual*

Orientation. Four of the six interviewees who grew spiritually also referred to this

integration as occurring. Variables measuring cognitive dissonance resulting from a

disorienting dilemma or exposure to diverse perspectives were incorporated into the *Eye*

Opening and *Witnessing Injustice* scales. *Witnessing Injustice* was found to be

significant to the self-report of spiritual growth as well as increased *Spiritual Orientation*.

An *Eye Opening* experience was found to be a statistically significant predictor of

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Religious/Spiritual Struggle. It was also a predictor of self-report of spiritual growth and increased *Spiritual Orientation* before being knocked out of significance by other PULSE components. All of the interviewees who grew spiritually spoke about being aware of the suffering and injustice faced by community members and about having their eyes opened as a result of the PULSE experience.   Relationships built with faculty, other students, and those at the service site were incorporated into the *Relationships at PULSE Placements Scale* and *Support of Peers in Class Scale* which both had statistical significance in some spirituality measures before being knocked out of significance by other PULSE components.   Five of the six high growth interviewees spoke about significant conversations they had with community members at their PULSE placements and support they received from other students in their class. Four of the six high growth interviewees also spoke enthusiastically about the supportive relationship they had with their PULSE professor. All PULSE students participated in service for significantly more than ten hours and whether students experienced a high quality placement was reflected in the *Eye Opening and Witnessing Injustice Scales.* While all of the neutral/negative growth interviewees spoke about administrative issues at their PULSE placement, only one of the six high growth interviewees did and her concerns were relatively minor. Overall, the results of this study align well with findings from prior empirical work investigating which service-learning components lead to desired student development outcomes and indicate that spiritual growth may occur in a manner similar to other aspects of student development through service-learning.

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In his analysis of how spiritual development theories relate to cognitive development theories, Love (2002) suggests that there is much overlap between the two and that focusing on cognitive development will likely impact the possibility for spiritual development to occur. Based upon Love's analysis and the way in which this study aligns with prior service-learning research examining cognitive outcomes through service-learning (Batchelder & Root, 1994; Eyler & Giles, 1999), it is quite likely that the high quality service-learning experienced by PULSE students also led to significant cognitive development. Thus, PULSE may be considered a model for fostering solid education more generally.

Scholars may find the independent variables that were utilized to measure various aspects of the service-learning experience and the subsequent scales that were created through factor analysis to be useful in future empirical studies. Practitioners may also find these variables to be useful in assessment of service-learning program quality. In particular, the *Witnessing Injustice* and *Eye Opening* scales provide novel new avenues through which one can analyze a service-learning experience. As discussed in the limitations section, a re-working of the *Relationships at PULSE Placements Scale* might also lead to enlightening results.

Through utilizing both a pre-test/post-test approach to measuring spiritual growth and a self-report of spiritual growth, this study also enables the possibility for comparing how results differ with each approach. Further discussion of the benefits and drawbacks of self-report versus pre-test/post-test measures follows in the "Recommendations for Future Research" section.

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Those scholars and practitioners interested in the topic of young adult religiosity may be intrigued by the quantitative and qualitative findings indicating that students did not grow as much in seeking a relationship with God/higher power as other dimensions of spirituality. Furthermore, the consistently neutral to negative perception of religion expressed by interviewees indicates that there is substantial reason for religious leaders and educators to be concerned. Given that students associated religion with being hypocritical, exclusive, and judgmental, it is not surprising that none of the interviewees spoke about religious institutions as being a place they sought support for the spiritual/religious struggle they experienced during the year. The national CSBV sample also demonstrated no change in the *Relationship with God* variables during three years of college (Astin, Astin, & Lindholm, 2011a). These findings are consistent with the literature describing a generation that is "spiritual, but not religious" (Overstreet, 2006; Smith & Lundquist, 2005; Zabriskie, 2005) and demonstrate why it is so important that colleges and universities think about how spaces can exist for students to develop spiritually. If college students perceive religion negatively and, therefore, are not turning to religious institutions as a place for spiritual growth then higher education institutions may be one of the few avenues through which spiritual growth can be fostered during this critical stage of life.

From the practitioner's perspective, study findings point towards important aspects of the service-learning experience that should be incorporated to maximize the potential for spiritual development to occur. First, it is crucial to develop community partnerships that will enable students to interact with and build caring, reciprocal

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relationships with individuals facing injustice so that the possibility to hear stories about or witness suffering and injustice exists. It is through these stories and observations that students' preconceived notions and assumptions about the world are challenged. In this eye opening experience students realize that stereotypes and preconceived notions of people living in poverty are not entirely accurate and, therefore, their prior worldview is no longer sustainable. The resulting disequilibrium opens up the possibility for growth.

At the same time that students' assumptions are being challenged through their service experience, class experiences should also challenge students to think critically about their assumptions and beliefs. This can be facilitated by hearing diverse perspectives in class discussions or class readings and being asked to consider what they believe and why in class discussions and assignments.

As students face the disequilibrium associated with having their eyes opened to the fact that their prior perspectives and assumptions may not have been accurate, it is important that students are given opportunities for support through integration and support through relationships. The effective integration of classroom material and service can help students to make sense of their challenging experiences and process the disequilibrium they are feeling. This integration can occur in class discussions, small group reflection sessions, journaling, and class reading and writing assignments. Prior studies analyzing effective service-learning experiences consistently point towards the importance of such integration and reflection (Ash & Clayton, 2004; Astin et al., 2000; Eyler, 2002; Eyler et al., 2001; Eyler & Giles, 1999; Fenzel & Peyrot, 2005; Gray et al., 1998, 1999; Hatcher & Bringle, 1997; Hatcher et al., 2004; Kiely, 2005; Mabry, 1998;

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Radecke, 2007, Yeh, 2010). Students also need the opportunity to receive support

through relationships. Relationships with peers and faculty members were found to be

especially pertinent in this study as they have been in prior studies (Astin et al., 2000;

Eyler & Giles, 1999; Kiely, 2005; Radecke, 2007).

The PULSE Program provides a high quality educational model for practitioners

to follow in implementing service-learning components that can lead to spiritual

development and overall student development. The fact that the PULSE Program has

existed for more than 40 years and has tried many variations during these years means

that it is intentionally structured to maximize impact on students and the community.

PULSE has long-standing relationships with many of its community partners and,

therefore, has been able to work collaboratively to develop service experiences that meet

community-defined needs while simultaneously enabling students to have meaningful

interactions during the service. The development of new partnerships is initiated by

community-based organizations and includes extensive dialogue and meetings to ensure

the partnership will be mutually beneficial. From the PULSE perspective, new

community partners have been developed with the hope that students will be exposed to

complex social problems and social justice issues during their service. From the

community partner perspective, the partnership is developed based upon the belief that

PULSE students can support the attainment of organizational goals.

The logistical structures of PULSE also aid in the ability of the program to

maximize impact on the students and the community. The fact that PULSE students are

required to serve for 10-12 hours a week for a full year ensures deep integration within

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community-based organizations and greater likelihood of making a meaningful contribution to the work of community partners. This deep integration increases the likelihood that students who may enter PULSE with a deficit-based attitude towards community members will be humbled into recognizing how much can be learned from people who have endured such challenging life circumstances. The weekly, faculty-led discussion group plays a central role in maximizing the possibility for PULSE students to be challenged to think critically; integrate course material and service experiences; and build supportive relationships with faculty and peers.

Boston College also demonstrates that it values the important learning that can occur through the off-campus experience of service by creating incentives and support mechanisms for faculty, students, and community partners. Students are compensated for the extra time devoted to their service site and discussion group by earning six credits each semester for the course (in comparison with the typical three credits for a course). PULSE Professors are compensated for the extra time devoted to facilitating two weekly discussion groups by earning credit for teaching 1.5 courses each semester. Community partners have a voice in ensuring students are meeting learning goals and service expectations through semester-end evaluations that are incorporated into the final course grade. Community partners also have the potential to be financially compensated through participation in a seminar series that promotes dialogue among PULSE faculty, PULSE students, PULSE staff, and community partners.

In all of these aspects, the PULSE Program not only offers a service-learning model worthy of replication for practitioners seeking to foster spiritual development

among undergraduates, but it may also offer a sound educational model for any higher education institution seeking to foster holistic student development in students. Indeed, survey responses indicated that 90% of students felt challenged by the PULSE model and 91% felt supported by the PULSE model. It is such results that demonstrate why service-learning has been promoted as a "high impact educational practice" by George Kuh (2008) based upon extensive analysis of the National Survey of Student Engagement data.

Along with enabling a solid educational experience, the PULSE Program model also offers the potential for developing the type of human beings that are urgently needed in our society. The specific dependent variables in which overall mean responses changed most significantly in this study included the desire to: influence the political structure, develop a meaningful philosophy of life, reduce pain and suffering in the world, become a community leader, influence social values, and be a more loving person. Given these results, the most significant contribution of the PULSE model may be the way in which it develops students who have a greater desire to live a life with meaning and be loving, active citizens in response to the pain and suffering of our world.

<div align="center">**Limitations**</div>

Because of the difficulty associated with conceptualizing spirituality and spiritual growth, it is possible that important aspects of these constructs could have been overlooked in study design. Furthermore, study participants could be interpreting survey and interview questions differently from one another due to variations in individual definitions of spirituality. To minimize the threats associated with this, a mixed methods

design was selected in the hopes that the limitations of quantitative methods will be offset

by the limitations of qualitative methods and vice versa (Creswell and Plano Clark,

2011). The use of a pre-survey/post-survey instrument also enables for variation in

definitions of spirituality among study participants as spiritual growth is being measured

in comparison to oneself rather than one's peers. Despite these efforts to minimize study

limitations, the difficulty in defining spirituality and spiritual growth means that study

participants could have defined these constructs differently from one another or from the

survey instrument in a manner that impacted study results.

Spiritual development theorists also disagree on whether spiritual growth is

experienced in a linear fashion. While Daloz Parks (2000), Fowler (1981), and

Helminiak (1987) discuss spiritual growth as unfolding in a stage-like progression, others

believe that spiritual growth is less linear in fashion (Welch & Koth, 2013; Tisdell,

2003). Tisdell (2003) discusses spiritual growth as a process of moving forward by

spiraling back. Even those who promote a stage-like progression, also acknowledge the

uncertainty and difficulty associated with growth (Daloz Parks, 2000; Fowler, 1981).

Thus, it is possible that some students may be experiencing spiritual growth in a manner

that simply does not fit with a positivistic approach to studying the topic.

As demonstrated in one of our qualitative interviews, it is also possible that

quantitative results are not an accurate portrayal of the degree of spiritual growth that

occurred because of inflated pre-test scores. As explained by Vicky during her interview,

some students may have inflated their pre-test spirituality indicators in a manner that

limited the ability for spiritual growth to be demonstrated in a pre-test/post-test

comparison. Further evidence of this potential for inaccurate measurement exists in the

quantitative data.   Of the 61 students who had neutral to negative growth in pre-test/post-

test scores, 52 (85.3%) responded with agreement to the statement that they grew

spiritually through PULSE.

Although the qualitative study did find that there were significant differences in

spiritual growth related to the existence of relationships built at PULSE placements, the

nature of these relationships could have been further explored in terms of reciprocity and

solidarity. While students did talk about breaking down stereotypes and having their eyes

opened, there were no questions that specifically asked students to reflect upon the

reciprocity of the relationships they built. Students were not asked about whether they

respected community members as equals, came to see themselves as more similar to

community members than they originally expected, found themselves to be served by

those they intended to be serving, or came to see themselves as working in solidarity with

community partners to alleviate injustice. Interview questions that specifically explored

the reciprocal nature of relationships and inquired about the concept of solidarity could

have been particularly insightful in further understanding what is happening in terms of

relationships during the "eye opening" process. Relatedly, a study that simultaneously

explores community perspectives on the reciprocity of relationships could provide a more

comprehensive perspective on the interconnectedness of humanity aspect of spirituality.

If these relationships are reciprocal and mutually beneficial, do the connections formed

between human beings become spiritual for all people involved—not just the service-

learning students?

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Similarly, the quantitative aspects of this study could have done a better job of exploring the relationships built at placements. In the factor analysis, there were three questions that clustered together to form the *Relationships at Placements* Scale and the Cronbach's alpha was a relatively low .509. Only one of these questions explored the relationship between students and "beneficiaries" of service. This question asked whether students, "built caring relationships with those served at my placement." The other two questions focused on the relationships built with PULSE supervisors and other PULSE students serving with the same community partner. These questions do not adequately address the question of whether reciprocity existed in relationships and how student perspectives may have shifted in this regard during their time in PULSE. Furthermore, the three questions included in this factor do not all relate to this question of reciprocity. Therefore, it is not surprising that this measure proved to be the least significant of the PULSE components in statistical analyses. Additional questions related to this topic may have yielded different results.

The unique structures of the PULSE Program and the fact that it is housed within Boston College limits the ability to generalize findings about the occurrence of spiritual growth through service-learning. Specifically, PULSE is unique from other service-learning programs in that it is a full academic year, it includes many more hours of weekly service (10-12) than the typical service-learning program, and academic content is focused on the disciplines of philosophy and theology. Boston College is unique from other higher education institutions in that it is a highly selective, Catholic higher education institution that attracts students from all over the United States and the world.

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Each of these aspects of the PULSE Program and Boston College may have impacted the way in which spiritual growth occurred and may limit the possibilities for results to be replicated in other contexts.

Very few of the interviewees discussed whether and how PULSE impacted their relationship with God, but it is unclear whether this is due to a lack of impact or discomfort with discussing the topic. The deeply personal and intimate nature of this topic led to a reluctance in asking questions that would stimulate conversation about God and similarly may have prevented interviewees from speaking about God without being asked. As a result, the qualitative portion of this study could have been stronger in ascertaining whether this dimension of spirituality was impacted by the PULSE experience.

Nearly 18% of students offered no response to the open-ended question at the end of the survey asking students to consider "Which aspects (if any) of the overall PULSE experience were most significant to your spiritual growth?" The fact that this question was asked at the end of a long survey likely contributed to the non-responses, but it is difficult to know whether non-responses are an indicator of no spiritual growth having occurred or respondent fatigue. This question had the potential to be more valuable to study findings if it had been answered by a higher number of students.

Recommendations for Future Research

Measuring Spirituality

As discussed in the literature review, quantitative studies prior to Astin, Astin, and Lindholm (2011b) used a small number of spirituality variables to investigate the

relationship between service-learning and spiritual development of undergraduates. This study sought to utilize a more thorough measure of spirituality and a pre-test/post-test approach to obtain additional details about the type of spiritual growth that occurred and the conditions under which it occurred. In terms of research methods, it is interesting to focus on whether this more thorough approach yielded results that made the extra efforts worthwhile. In other words, did having students respond to numerous questions regarding spirituality provide more insightful information than what simply could have been discovered through utilizing one question asking students to self-report on spiritual growth?

An analysis of the correlation between self-report of spiritual growth and change in the pre-test/post-test spirituality scales offers valuable insight on what components of spirituality students have in the forefront of their minds when they conceptualize spirituality. Not surprisingly, the strongest correlation was with change in *Spiritual Orientation*. Among the individual spirituality scales, it is interesting to note that the strongest correlation is with the *Relationship with God* scale.

Table 16

Correlations between Self-Report of Spiritual Growth and Change in Spirituality Measures (N=272)

Measure	SI	SQ	IH	PLI	RG	RS	SO
Self-Report of Spiritual Growth	.218**	.141*	.177**	.111	.229**	.190**	.239**

Note. SI=Spiritual Identification; SQ=Spiritual Quest; IH=Interconnectedness of Humanity; PLI=Living One's Philosophy of Life with Integrity; RG=Relationship with God; RS=Religious/Spiritual Struggle; SO=Spiritual Orientation; SR=Self-Report of Spiritual Growth
** $p < .01$, two-tailed
* $p < .05$, two-tailed

The fact that self-report of spiritual growth had a significant relationship to change in *Spiritual Orientation* and all spirituality scales except the *Living One's Philosophy of Life with Integrity* scale offers assurance that students are conceptualizing spirituality in a manner similar to how it is conceptualized in the more thorough spirituality scales. It is similarly reassuring that the percentage of students (approximately 80%) who reported growing spiritually is nearly the same as the percentage that showed evidence of growth in longitudinal measures. However, it is not the same 80% of students that exhibited growth in each measure. Among students who exhibited neutral to negative spiritual growth in the longitudinal measure, 85.3% agreed with the statement they grew spiritually through PULSE. Among the students who demonstrated positive spiritual growth in the longitudinal measure, 17.5% did not agree with the statement that they grew spiritually through PULSE. Furthermore, if the self-report of spiritual growth was a perfectly accurate measure of longitudinal growth then we would expect to see a correlation of 1.0 between self-report and change in *Spiritual Orientation*.

As illustrated in Table 17, student self-report of spiritual growth is more closely correlated with the level of spirituality exhibited in the year-end survey than it is correlated with change in spirituality from the beginning to the end of the year. Thus, students who believe they grew spiritually are also students who exhibited high levels of spirituality at the end of the year—especially in the *Spiritual Identification* and *Living One's Philosophy with Integrity Scales*.

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Table 17

Correlations between Self-Report of Spiritual Growth and Year-End Spirituality Measures (N=272)

Measure	SI	SQ	IH	PLI	RG	RS	SO
Self-Report of Spiritual Growth	.479**	.299**	.342**	.472**	.372**	.242**	.507**

Note. SI=Spiritual Identification; SQ=Spiritual Quest; IH=Interconnectedness of Humanity; PLI=Living One's Philosophy of Life with Integrity; RG=Relationship with God; RS=Religious/Spiritual Struggle; SO=Spiritual Orientation; SR=Self-Report of Spiritual Growth
** $p < .01$, two-tailed
* $p < .05$, two-tailed

In reviewing the multiple regression analyses, there is generally consistency of statistical significance between the self-report of spiritual growth and the change in *Spiritual Orientation*. The statistically significant PULSE components in Model 6 were identical and the statistical significance of *Total Challenge* and *Total Support* were identical. It is only in the earlier models that the statistical significance of PULSE components differs. In particular, *Relationships at Placements* is never significant in change in *Spiritual Orientation*, but it is in the self-report.

There are also differences when analyzing: 1)demographic variables that predict spiritual growth and 2) moderating variables. In both cases, there was greater likelihood of statistical significance in the self-report of spiritual growth than the pre-test/post-test measure of spiritual growth.

The existing literature similarly offers mixed reviews on the validity of self-report data (Bowman & Herzog, 2011; Pike, 2011). Tourangeau, Rips, and Rasinski (2000) argue that this validity hinges upon many, complex steps including a student's ability to correctly interpret a question, accurately recall information, integrate that information

into an accurate judgment, and then offer a survey response consistent with that judgment. In light of contradictory evidence, Bowman and Herzog (2011) argue that "researchers should use longitudinal methods whenever possible for assessing student learning and development and for determining the characteristics and experiences associated with that growth (p. 118)."

However, longitudinal research is not always feasible. The use of a pre-test/post-test approach with numerous spirituality indicators is extraordinarily burdensome in comparison with a single self-assessment. Not only do the additional questions require significant extra time for survey respondents (and, therefore, there is the potential for yield to be impacted), but the more thorough approach is also cumbersome for the researcher when doing statistical analyses.

For a researcher seeking to investigate spiritual development as one outcome among many, the results of this study indicate that a single self-assessment indicator can offer some consistencies with a longitudinal assessment. However, for a researcher primarily focusing on spiritual growth, the use of the more comprehensive and longitudinal spirituality indicators is suggested. Future research analyzing how one might be more parsimonious with Astin, Astin, and Lindholm's (2011) spirituality measures would be a valuable contribution to this discussion.

Additional Avenues for Further Research

Further research related to the specific dimensions of spirituality (and disaggregated spirituality scales) could be conducted to better understand the relationship between the components of a service-learning experience and different aspects of spiritual growth.

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For example, research could investigate why there was a stronger relationship between *Class Experiences* and *Spiritual Quest* than *Class Experiences* and *Spiritual Identification*. Why was *Class Experience* related to *Spiritual Quest*, *Interconnectedness of Humanity*, and *Living One's Philosophy with Integrity*, but not to *Religious/Spiritual Struggle*, *Spiritual Identification*, or *Relationship with God*?

Because of the distinctive nature of the PULSE Program and Boston College, it would be interesting to replicate aspects of this study to see if the proposed conceptual model holds true in other settings. Because implementation of the PULSE Program structures is not feasible on so many campuses, it would be particularly useful to investigate under what conditions an eye opening experience, religious/spiritual struggle, and spiritual growth are able to occur. Is there variation depending upon the number of hours a student serves? Is there variation depending upon the length of time a student serves? Is there variation by course content? Is there variation by the amount of time devoted to reflective discussions? Can the same type of experience be replicated through non-academic community service experiences if a structured reflective component is incorporated? Can this same type of experience be replicated when the course content is not directly related to spirituality? In terms of the distinctiveness of the Boston College environment, is this model applicable in less selective higher education institutions? Does it still apply when students' previous life experiences included suffering due to injustice? It would also be particularly useful to test the viability of this proposed model through structural equation modeling.

A qualitative study investigating the long-term impact of service-learning on spirituality would also be useful. In other words, how does the involvement in service-learning change the future direction of students' spiritual lives in tangible ways? In particular, it would also be valuable to conduct a longitudinal study investigating the long-term effects of PULSE participation on the *Interconnectedness of Humanity* variables. This could help determine whether PULSE impacts student desire to devote a lifetime towards community engagement and working for social change as hoped by so many involved in educating PULSE students.

Conclusion

Study results indicate that spiritual development did occur among students participating in the PULSE service-learning program. The aspects of the service-learning experience related to spiritual growth were analyzed through the lens of both a) Sanford's theory of challenge and support and b) components of the PULSE service-learning experience. Both qualitative and quantitative results provide evidence that Sanford's theory is applicable to spiritual development among PULSE participants. PULSE components that were found to be the greatest predictors of spiritual development in the quantitative analysis were *Class Experience* and *Witnessing Injustice*. An *Eye Opening Experience*, *Support of Peers in Class*, and *Relationships at Placements* were also found to be statistically significant to spiritual growth before all PULSE components were added to regression models. An increase in *Religious/Spiritual Struggle* was predicted by *Witnessing Injustice* and an *Eye Opening Experience*. Components relating to whether spiritual growth occurred among interviewees were: interactions with clients of PULSE

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placements, hearing stories from clients that presented diverse perspectives and injustices faced by clients, having one's eyes opened as a result of hearing these stories, being challenged by new perspectives in class, and integration of class material and the placement experience. Because the support of peers existed for both students who grew spiritually and those who did not, it was not possible to determine the role that peer support played in spiritual growth among interviewees.

By integrating spiritual development theories with Sanford's theory of challenge and support and study findings, this study expands upon prior literature speculating how spiritual development may be occurring through service-learning. Overall, it is proposed that spiritual development may be occurring through being challenged in class while simultaneously witnessing injustice. The combination of these challenges leads one's eyes to be opened in a manner that can lead to Religious/Spiritual Struggle. Supportive relationships and the integration of class material with the service experience facilitate the possibility for this struggle to be translated into healthy spiritual development.

PRE-SURVEY INSTRUMENT

Dear Student:

This survey is being conducted to gain a deeper understanding of your PULSE service-learning experience. We appreciate your assistance in answering the questions below as honestly and candidly as possible. All information will remain confidential.

Directions: Please read each question below and check the statement that most closely reflects your response.

1. Gender:

❑ Male ❑ Female

2. Please specify your undergraduate major:

_____

3. Which of the following options most closely approximates your average community service involvement in high school?

❑Less than 1 hour a week   ❑1-2 hours a week   ❑3-5 hours a week

❑6-10 hours a week   ❑Over 10 hours a week   ❑Never Involved

4a. Have you previously taken any community based learning/service-learning courses (a course that required community service participation)?   ❑Yes ❑No

4b. If so, what was the maximum number of community service hours required for any of these courses?

❑Less than 5 hours a semester ❑6-15 hours a semester   ❑16-30 hours a semester
❑ 31-45 hours a semester   ❑46-60 hours a semester   ❑More than 60 hours a semester

5. What was your religious upbringing *(check as many as apply)*?

❑Baptist ❑Buddhist ❑Eastern Orthodox ❑Episcopalian ❑Hindu ❑Islamic ❑Jewish

❑Lutheran ❑Methodist ❑Mormon ❑Muslim ❑ Nondenominational ❑Presbyterian

❑Quaker ❑Roman Catholic ❑Seventh Day Adventist ❑Unitarian/Universalist ❑United Church of Christ ❑None ❑Other (Please specify)_____

6. How frequently did you participate in religious activities during your youth?

❑Daily ❑Several Times/Week ❑Weekly ❑Monthly ❑Less than Monthly ❑Never

7. What is your current religious preference?

❑Baptist ❑Buddhist ❑Eastern Orthodox ❑Episcopalian ❑Hindu ❑Islamic ❑Jewish
❑Lutheran ❑Methodist ❑Mormon ❑Muslim ❑ Nondenominational ❑Presbyterian
❑Quaker ❑Roman Catholic ❑Seventh Day Adventist ❑Unitarian/Universalist ❑United
Church of Christ ❑None ❑Other (Please
specify)_____

8. How frequently do you participate in religious activities while at college?

❑Daily ❑Several Times/Week ❑Weekly ❑Monthly ❑Less than Monthly ❑Never

9. How many of your close friends are searching for meaning/purpose in life?

❑ None ❑ Some ❑ Most ❑ All

10. Ethnic Background *(check as many as apply)*:

❑ African American/Black ❑ American Indian/Alaska Native ❑ Asian American/Asian
❑ Native Hawaiian/Pacific Islander ❑ Mexican American/Chicano ❑ Puerto Rican ❑ Other
Latino ❑ White/Caucasian ❑ Other (Please specify)
_____

Please indicate the importance to you personally of each of the following:
(Mark <u>one</u> for each item)

1=Not Important
2=Somewhat Important
3=Very Important
4=Essential

11. Developing a meaningful philosophy of life.	1	2	3	4
12. Integrating spirituality into my life.	1	2	3	4
13. Attaining wisdom.	1	2	3	4
14. Seeking out opportunities to help me grow spiritually.	1	2	3	4
15. Influencing the political structure.	1	2	3	4
16. Influencing social values.	1	2	3	4
17. Reducing pain and suffering in the world.	1	2	3	4
18. Improving my understanding of other cultures and countries.	1	2	3	4
19. Helping to promote racial understanding.	1	2	3	4
20. Becoming a community leader.	1	2	3	4

21. Becoming involved in programs to clean up the
 environment.   1   2   3   4
22. Attaining inner harmony.   1   2   3   4
23. Seeking beauty in my life.   1   2   3   4
24. Finding answers to the mysteries of life.   1   2   3   4
25. Becoming a more loving person.   1   2   3   4
26. Improving the human condition.   1   2   3   4
27. Helping others who are in difficulty.   1   2   3   4

Please indicate your agreement with each of the following statements:
(Mark one for each item)

1= Disagree Strongly
2= Disagree Somewhat
3= Agree Somewhat
4= Agree Strongly

28.	We are all spiritual beings.	1	2	3	4
29.	All life is interconnected.	1	2	3	4
30.	Love is at the root of all the great religions.	1	2	3	4
31.	People can reach a higher spiritual plane of consciousness through meditation or prayer.	1	2	3	4
32.	Most people can grow spiritually without being religious.	1	2	3	4
33.	Non-religious people can lead lives that are just as moral as those of religious believers.	1	2	3	4
34.	I gain spiritual strength by trusting in a Higher Power	1	2	3	4
35.	My spiritual/religious beliefs help to define the goals I set for myself.	1	2	3	4
36.	My spiritual/religious beliefs life behind my whole approach to life.	1	2	3	4
37.	My spiritual/religious beliefs provide me with strength, support, and guidance.	1	2	3	4
38.	My spiritual/religious beliefs have helped me to develop my identity.	1	2	3	4
39.	Whether or not there is a Supreme Being is a matter of indifference to me.	1	2	3	4

Please indicate the extent to which you engage in the following activities:
(Mark one for each item)

1= Not At All
2= To Some Extent
3= To A Great Extent

40. Searching for meaning/purpose in life.	1	2	3
41. Trying to change things that are unfair in the world.	1	2	3
42. Accepting others as they are.	1	2	3
43. Having discussions about the meaning of life with my friends.	1	2	3

Please indicate the extent to which each of the following describes you.
(Mark one for each item)

1=Not At All
2=To Some Extent
3=To A Great Extent

44. Having an interest in spirituality.	1	2	3
45. Having an interest in different religious traditions.	1	2	3
46. Believing in the goodness of all people.	1	2	3
47. Being on a spiritual quest.	1	2	3
48. Believing in the sacredness of life.	1	2	3
49. Feeling unsettled about religious and spiritual matters.	1	2	3
50. Desiring a sense of connection with God/a Higher Power that transcends my personal self.	1	2	3
51. Feeling a strong connection to all humanity.	1	2	3
52. Feeling disillusioned with my religious upbringing	1	2	3

Since entering college, please indicate how often you have:
(Mark one for each item)

1=Not At All
2=Occasionally
3=Frequently

53. Struggled to understand evil, suffering, and death.	1	2	3
54. Felt distant from God.	1	2	3
55. Felt angry with God.	1	2	3
56. Questioned your religious/spiritual beliefs.	1	2	3
57. Disagreed with your family about religious matters.	1	2	3
58. Prayer	1	2	3

Have you ever had a "spiritual" experience while:
(Mark <u>one</u> for each item)

1=Not At All
2=Occasionally
3=Frequently
4=Not Applicable

59. Listening to beautiful music.	1	2	3	4
60. Viewing a great work of art.	1	2	3	4
61. Participating in a musical or artistic performance.	1	2	3	4
62. Engaging in athletics.	1	2	3	4
63. Witnessing the beauty and harmony of nature.	1	2	3	4
64. Meditating.	1	2	3	4

65. In what ways do you expect that you will grow from the PULSE experience?

In order to track your responses while maintaining anonymity, please enter the month and day of your mother's birthday followed by your birthday (i.e. 01011124): _ _ _ _ _ _ _ _

POST-SURVEY INSTRUMENT

Dear Student:

This survey is being conducted to gain a deeper understanding of your PULSE service-learning experience. We appreciate your assistance in answering the questions below as honestly and candidly as possible. All information will remain confidential.

Directions: Please read each question below and check the statement that most closely reflects your response.

1. Who was your PULSE Professor this year?
_____

2. What time/days did this course meet each week?
_____

3. What was your PULSE placement?
_____

4. Please specify your undergraduate major:
_____

5. How often were journaling/reflective writing assignments required in this course?
❑Never ❑ Less than Monthly ❑Once per month ❑Once per week ❑2-6 times per week
❑Daily

6. How often did your PULSE supervisor coordinate group reflection discussions among PULSE students? ❑Never ❑ Less than Monthly ❑Once per month ❑Once per week ❑Two or more times per week

7. What is your current religious preference?
❑Baptist ❑Buddhist ❑Eastern Orthodox ❑Episcopalian ❑Hindu ❑Islamic ❑Jewish
❑Lutheran ❑Methodist ❑Mormon ❑Muslim ❑ Nondenominational ❑Presbyterian
❑Quaker ❑Roman Catholic ❑Seventh Day Adventist ❑Unitarian/Universalist ❑United Church of Christ ❑None ❑Other (Please specify)_____

8. How frequently do you participate in religious activities while at college?
❑Daily ❑Several Times/Week ❑Weekly ❑Monthly ❑Less than Monthly ❑Never

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9. How many of your close friends are searching for meaning/purpose in life?

❏ None ❏ Some ❏ Most ❏ All

Please indicate your agreement with each of the following statements:
(Mark <u>one</u> for each item)

1= Disagree Strongly
2= Disagree Somewhat
3= Agree Somewhat
4= Agree Strongly

10. I felt supported by my PULSE professor.	1	2	3	4
11. Class journaling/reflective writing challenged me to think critically about my assumptions, values, and/or beliefs.	1	2	3	4
12. There was a diversity of perspectives expressed in my PULSE class and discussion group.	1	2	3	4
13. The problems that caused people at my placement to need social services were frequently the result of circumstances beyond their control.	1	2	3	4
14. I felt supported by other students at my placement.	1	2	3	4
15. This course exposed me to diverse perspectives that did not fit with my prior opinions and assumptions.	1	2	3	4
16. I built caring relationships with those served at my placement.	1	2	3	4
17. Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.	1	2	3	4
18. Social problems are more complex to solve than I used to think.	1	2	3	4
19. Those served at my PULSE placement faced unfairness in life.	1	2	3	4
20. I felt supported by others students in my class.	1	2	3	4
21. Class discussions/reflection groups enabled me to connect what I was observing in my placement with what I was studying in class.	1	2	3	4
22. I felt supported by my PULSE supervisor(s).	1	2	3	4
23. The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs.	1	2	3	4
24. PULSE exposed me to diverse viewpoints that challenged me to think differently.	1	2	3	4
25. A supportive community formed among those in my PULSE discussion group.	1	2	3	4
26. The class readings helped me to make sense of what I was observing in my placement.	1	2	3	4
27. I observed unfair human suffering at my PULSE placement.	1	2	3	4

28. The service component of this course was well integrated
    with the academic coursework.   1   2   3   4
29. My PULSE placement experience challenged me to think
    critically about my assumptions, values, and/or beliefs.   1   2   3   4
30. I felt supported by my PULSE Council Member.   1   2   3   4
31. I heard perspectives expressed at my PULSE placement that were
    different from those I typically hear.   1   2   3   4
32. Written assignments/journaling enabled me to connect what I was
    observing in my placement with what I was studying in class.   1   2   3   4

Please indicate the importance to you personally of each of the following:
(Mark one for each item)

1=Not Important
2=Somewhat Important
3=Very Important
4=Essential

33. Developing a meaningful philosophy of life.   1   2   3   4
34. Integrating spirituality into my life.   1   2   3   4
35. Attaining wisdom.   1   2   3   4
36. Seeking out opportunities to help me grow spiritually.   1   2   3   4
37. Influencing the political structure.   1   2   3   4
38. Influencing social values.   1   2   3   4
39. Reducing pain and suffering in the world.   1   2   3   4
40. Improving my understanding of other cultures and
      countries.   1   2   3   4
41. Helping to promote racial understanding.   1   2   3   4
42. Becoming a community leader.   1   2   3   4
43. Becoming involved in programs to clean up the
      environment.   1   2   3   4
44. Attaining inner harmony.   1   2   3   4
45. Seeking beauty in my life.   1   2   3   4
46. Finding answers to the mysteries of life.   1   2   3   4
47. Becoming a more loving person.   1   2   3   4
48. Improving the human condition.   1   2   3   4
49. Helping others who are in difficulty.   1   2   3   4

Please indicate your agreement with each of the following statements:
(Mark one for each item)

50.	We are all spiritual beings.	1	2	3	4
51.	All life is interconnected.	1	2	3	4
52.	Love is at the root of all the great religions.	1	2	3	4
53.	People can reach a higher spiritual plane of consciousness through meditation or prayer.	1	2	3	4
54.	Most people can grow spiritually without being religious.	1	2	3	4
55.	Non-religious people can lead lives that are just as moral as those of religious believers.	1	2	3	4
56.	I gain spiritual strength by trusting in a Higher Power	1	2	3	4
57.	My spiritual/religious beliefs help to define the goals I set for myself.	1	2	3	4
58.	My spiritual/religious beliefs lie behind my whole approach to life.	1	2	3	4
59.	My spiritual/religious beliefs provide me with strength, support, and guidance.	1	2	3	4
60.	My spiritual/religious beliefs have helped me to develop my identity.	1	2	3	4
61.	Whether or not there is a Supreme Being is a matter of indifference to me.	1	2	3	4

Please indicate the extent to which you engage in the following activities:
(Mark one for each item)

62.	Searching for meaning/purpose in life.	1	2	3
63.	Trying to change things that are unfair in the world.	1	2	3
64.	Accepting others as they are.	1	2	3
65.	Having discussions about the meaning of life with my friends.	1	2	3

Please indicate the extent to which each of the following describes you.
(Mark <u>one</u> for each item)

1=Not At All
2=To Some Extent
3=To A Great Extent

66. Having an interest in spirituality.	1	2	3
67. Having an interest in different religious traditions.	1	2	3
68. Believing in the goodness of all people.	1	2	3
69. Being on a spiritual quest.	1	2	3
70. Believing in the sacredness of life.	1	2	3
71. Feeling unsettled about religious and spiritual matters.	1	2	3
72. Desiring a sense of connection with God/a Higher Power that transcends my personal self.	1	2	3
73. Feeling a strong connection to all humanity.	1	2	3
74. Feeling disillusioned with my religious upbringing	1	2	3
75. I grew spiritually as a result of my PULSE experience.	1	2	3

Since entering college, please indicate how often you have:
(Mark <u>one</u> for each item)

1=Not At All
2=Occasionally
3=Frequently

76. Struggled to understand evil, suffering, and death.	1	2	3
77. Felt distant from God.	1	2	3
78. Felt angry with God.	1	2	3
79. Questioned your religious/spiritual beliefs.	1	2	3
80. Disagreed with your family about religious matters.	1	2	3
81. Prayer	1	2	3

Have you ever had a "spiritual" experience while:
(Mark <u>one</u> for each item)

1=Not At All
2=Occasionally
3=Frequently
4=Not Applicable

82. Listening to beautiful music.	1	2	3	4
83. Viewing a great work of art.	1	2	3	4
84. Participating in a musical or artistic performance.	1	2	3	4
85. Engaging in athletics.	1	2	3	4
86. Witnessing the beauty and harmony of nature.	1	2	3	4
87. Meditating.	1	2	3	4

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88. Which aspects (if any) of the PULSE experience do you believe were most significant to your spiritual growth?

_____

In order to track your responses while maintaining anonymity, please enter the month and day of your mother's birthday followed by your birthday (i.e. 01011124): _ _ _ _ _ _ _ _

If you would be willing to participate in a follow-up interview (for which you will be compensated with a $50 gift card) please list your cell phone number: _____

INTERVIEW CONSENT FORM

Consent Form and Permission to Tape

Introduction and Contact Information

You are asked to take part in a research project that aims to understand the relationship between service-learning (PULSE) participation and spiritual development.

The researcher is Michelle C. Sterk Barrett, Doctoral Candidate at the University of Massachusetts Boston. Please read this form and feel free to ask questions. If you have further questions later, Ms. Sterk Barrett will discuss them with you.

Description of the Project:

This research study aims to understand how service-learning participation can effectively foster the spiritual development of undergraduates. Participation in this study will consist of one individual interview lasting 45-60 minutes. If you decide to participant in this study, you will be asked to share your insights pertaining to the following:

1. Background information about your prior community service experience and spiritual background.

2. PULSE classroom and placement environment.

3. Challenging aspects of the PULSE experience.

4. The impact of PULSE on your spirituality.

5. The aspects of PULSE that impacted your spiritual development.

Risks or Discomforts:

Minimal risks will be involved as a result of your participation in the study. Discomforts may include time given to the study and uneasiness due to the use of audio-taping equipment. Additional discomfort may result from the sharing of personal information. You may speak with Ms. Sterk Barrett to discuss any distress or other issues related to study participation.

Confidentiality:

Your part in this research is **confidential**. That is, the information gathered for this project will not be published or presented in a way that would allow anyone to identify you. Interviews will be audio-taped upon your consent. The principal investigator will be the sole person with access to information connecting the name of the interviewee with the digital audio files recorded during the interviews.

Digital audio files will be transcribed by a professional transcriber. Transcripts will not include your name rather a pseudonym (i.e., Subject A) will be used as an identifier to ensure confidentiality. The coding sheet containing subject identifying information will be kept separate from the transcripts and only the principal investigator will have access to the identifying codes used for the transcripts. The digital audio files and transcripts will be destroyed after three years. If you do not wish to be audio-taped, notes will be taken in place of audio recording.

When the results of the research are published, used for the purpose of a dissertation, or discussed in conferences, no information will be included that would reveal your identity. No accompanying descriptors will be used when using quotations so as to prevent the identity of the speaker from being known.

Voluntary Participation:

The decision whether or not to take part in this research study is voluntary. If you do decide to take part in this study, you may terminate participation at any time without consequence, penalty or loss of benefits. If you wish to terminate participation, you should contact Ms. Michelle Sterk Barrett by email or telephone, or inform her in person of your decision. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

Rights:

You have the right to ask questions about this research before you sign this form and at any time during the study. You can reach Ms. Sterk Barrett by phone at 781-489-5722 or e-mail at michelle.sterkbar001@umb.edu. If you have any questions or concerns about your rights as a research participant, please contact a representative of the Institutional Review Board (IRB), at the University of Massachusetts, Boston, which oversees research involving human participants. The Institutional Review Board may be reached at the following address: IRB, Quinn Administration Building-2-080, University of

Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125-3393. You can also contact the Board by telephone or e-mail at (617) 287-5374 or at human.subjects@umb.edu. You also may contact the Boston College Office for Research Protections at 617-552-4778 or irb@bc.edu.

This study was reviewed by the UMASS Boston Institutional Review Board and the Boston College Institutional Review Board and its approval was granted on *[insert approval date]*.

Consent to Audio Tape:

This study involves the audio taping of your interview with the researcher(s). Neither your name nor any other identifying information will be associated with the digital audio files or the transcript. Only the principal investigator and a professional transcriber will be able to listen to the digital audio files.

The digital audio files will be transcribed by a professional transcriber and erased once the transcriptions are checked for accuracy. Transcripts of your interview may be reproduced in whole or in part for use in presentations or written products that result from this study. Neither your name nor any other identifying information (such as your voice or picture) will be used in presentations or in written products resulting from the study.

Immediately following the interview, you will be given the opportunity to have the audio file erased if you wish to withdraw your consent to taping or participation in this study.

By signing this form you are consenting to:

❑ having your interview taped;

❑ to having the tape transcribed;

❑ use of the written transcript in presentations and written products.

By checking the box in front of each item, you are consenting to participate in that procedure.

This consent for taping is effective until the following date: June 2016. On or before that

date, the tapes will be destroyed.

Signatures:

*I HAVE READ THE CONSENT FORM. MY QUESTIONS HAVE BEEN ANSWERED.
MY SIGNATURE ON THIS FORM MEANS THAT I CONSENT TO PARTICIPATE IN
THIS STUDY. I ALSO CERTIFY THAT I AM 18 YEARS OF AGE OR OLDER.*

_____   _____
Signature of Participant   Date

_____
Printed Name of Participant

APPENDIX D

INTERVIEW PROTOCOL

1. **Background information:**

   Prior to PULSE, did you participate in community service and/or service-learning? If so, please tell me about these experiences and how they impacted you?

2. **PULSE Classroom and Placement Environments:**

   a. Please tell me about your PULSE classroom environment. What was the dynamic between your PULSE professor and the students? What was the dynamic among the students? Was it a supportive classroom environment? In what ways did you experience this support?

   b. Please tell me about your PULSE placement environment. What was the dynamic between you and your PULSE supervisor? Did you receive an appropriate level of support from your PULSE supervisor/placement? What was the dynamic between you and the other students at the PULSE placement? What type of service did you do? Did this involve working directly with and building relationships with service beneficiaries? Did you feel well integrated and well utilized at your service site?

3. **Challenging aspects of PULSE:**
   In what ways did your PULSE placement and/or classroom experience challenge you to think in new ways? What specific aspects of the PULSE initiated this challenge? Which aspects of the PULSE experience further challenged your perspectives throughout the year?

4. **Impact of PULSE on spiritual development:**
   a. Please tell me about your spiritual/religious background? Were religion/spirituality important in your family? Were religion/spirituality important to you prior to your PULSE participation?

   b. What impact did your PULSE experience have on your spirituality? Did your PULSE experience cause you to reflect upon your identity or philosophy of life? Did your PULSE experience cause you to think about how you might

authentically live out your philosophy of life and purpose with integrity? Did your PULSE experience impact your connection/relationship with a higher power/God? Did your PULSE experience impact the way in which you view the interconnectedness of humanity and your desire to serve humanity?

5. **Aspects of PULSE that impacted spiritual development:**
a. For those who did experience spiritual growth: Were there any particular aspects of PULSE that you believe were most influential to this growth? How did these aspects enable the possibility for spiritual growth? Is there any way in which you wish your PULSE experience had been different in terms of facilitating and supporting your spiritual growth?

b. For those who did not experience spiritual growth: Is there any reason why PULSE had no impact on your spirituality (i.e. already had a strong spiritual life, prior service experiences had already presented challenges, no interest in spirituality, etc.) Is there any way in which you wish your PULSE experience had been different in terms of facilitating and supporting your spiritual growth? Did you feel challenged by your PULSE experience? Did you feel supported through the challenges you faced in your PULSE experience?

6. **Other questions that arise from quantitative results**

APPENDIX E

SURVEY CONSENT FORM

You are requested to participate in research that is being conducted by the PULSE Program and Michelle Sterk Barrett, doctoral student in the higher education administration program at UMASS Boston. This survey is being conducted to better understand how the PULSE Program experience impacts student development and should take about 10 to 15 minutes to complete.

Your participation in this research is voluntary. If you choose not to participate it will not affect your relations with Boston College or the PULSE Program. You are free to withdraw or skip questions for any reason. There are no penalties for withdrawing or skipping questions. There are no direct benefits associated with your participation, but you may feel gratified knowing that you helped further the scholarly work in this research area. You will not be compensated for the time you take to complete this survey. There are no costs to you associated with your participation.

The Principal Investigator will exert all reasonable efforts to keep your responses and your identity confidential. No one other than the principal investigator, the PULSE Program Director, and the PULSE Program Assistant Director will have access to your responses and your name will not be attached to your survey responses. Because your name will not be attached to survey responses, when the results of the research are published, used for the purpose of a dissertation, or discussed in conferences, no information will be included that would reveal your identity.

If you have any questions or concerns about the research, please contact Michelle Sterk Barrett via email at michelle.sterkbar001@umb.edu or the PULSE Program at pulse@bc.edu. If you have any questions or concerns about your rights as a research participant, please contact a representative of the Institutional Review Board (IRB), at the University of Massachusetts, Boston, or Boston College. The UMASS Boston Institutional Review Board may be reached at at (617) 287-5374 or at human.subjects@umb.edu. The Boston College Office for Research Protections may be reached at 617-552-4778 or irb@bc.edu.

This study was reviewed by the UMASS Boston Institutional Review Board and the Boston College Institutional Review Board and its approval was granted on *[insert approval date]*.

Submission of the completed survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

SKEWNESS AND KURTOSIS STATISTICS

Table F1

Skewness and Kurtosis Statistics for Spirituality Variables (N=272)

Variable	Pre-Survey		Post-Survey	
	Skewness	Kurtosis	Skewness	Kurtosis
Developing a meaningful philosophy of life.	-.153	-1.064	-.562	-.874
Integrating spirituality into my life.	-.027	-.996	-.430	-.896
Attaining wisdom.	-.700	.085	-.886	-.205
Seeking out opportunities to help me grow spiritually.	-.248	-.862	-.562	-.551
Influencing the political structure.	.322	-.362	-.051	-.826
Influencing social values.	-.317	-.402	-.687	-.292
Reducing pain and suffering in the world.	-.627	-.207	-.901	-.206
Improving my understanding of other cultures and countries.	-.712	-.295	-.955	.119
Helping to promote racial understanding.	-.442	-.613	-.774	-.406
Becoming a community leader.	-.397	-.451	-.746	-.462
Becoming involved in programs to clean up the environment.	.208	-.545	-.127	-.837
Attaining inner harmony.	-.557	-.736	-.857	-.299
Seeking beauty in my life.	-.603	-.655	-.976	.028
Finding answers to the mysteries of life.	-.241	-.851	-.482	-.694
Becoming a more loving person.	-1.247	1.096	-1.642	1.778
Improving the human condition.	-.800	.282	-1.035	.056
Helping others who are in difficulty.	-1.223	1.267	-1.291	.594
We are all spiritual beings.	-.439	.091	-.585	.064
All life is interconnected.	-.709	.546	-1.246	1.651
Love is at the root of all the great religions.	-.815	.083	-1.219	.839
People can reach a higher spiritual plane of consciousness through meditation or prayer.	-.620	.429	-.407	-.341

Most people can grow spiritually without being religious	-.725	-.120	-.937	.215
Non-religious people can lead lives that are just as moral as those of religious believers.	-1.700	2.523	-1.463	1.213
I gain spiritual strength by trusting in a Higher Power	-.480	-.747	-.643	-.841
My spiritual/religious beliefs help to define the goals I set for myself.	-.268	-.860	-.495	-.793
My spiritual/religious beliefs life behind my whole approach to life.	-.111	-.921	-.296	-.926
My spiritual/religious beliefs provide me with strength, support, and guidance.	-.533	-.613	-.748	-.324
My spiritual/religious beliefs have helped me to develop my identity.	-.385	-.712	-.588	-.665
Whether or not there is a Supreme Being is a matter of indifference to me.	-.337	-1.012	-.014	-1.258
Searching for meaning/purpose in life.	-.121	-1.313	-.454	-.903
Trying to change things that are unfair in the world.	-.017	-.447	-.088	-1.454
Accepting others as they are	-1.196	.275	-1.208	.027
Having discussions about the meaning of life with my friends	-.259	-.266	-.316	-.657
Having an interest in spirituality	-.113	-.435	-.267	-.621
Having an interest in different religious traditions	.015	-.342	-.102	-.446
Believing in the goodness of all people.	-.779	-.375	-1.001	-.165
Being on a spiritual quest	.121	-.802	-.141	-1.016
Beliving in the sacredness of life	-.450	-.725	-.720	-.458
Feeling unsettled about religious and spiritual matters	.136	-.781	-.118	-.854
Desiring a sense of connection with God/a Higher Power that transcends my personal self	-.079	-1.062	-.169	-1.187
Feeling a strong connection to all humanity	-.464	-.612	-.605	-.663
Feeling disillusioned with my	.739	-.493	.497	-.998

religious upbringing				
Struggled to understand evil, suffering, and death	.006	-.515	-.218	-.605
Felt distant from God	.129	-.604	.127	-.777
Felt angry with God	.622	-.428	.544	-.627
Questioned your religious/spiritual beliefs.	.209	-1.038	.046	-1.132
Disagreed with your family about religious matters	.904	-.325	.633	-.894
Prayed	-.028	-1.131	-.119	-1.027
Having a spiritual experience while:				
Listening to beautiful music.	-.258	-1.317	-.348	-1.071
Viewing a great work of art.	.482	-.796	.391	-.900
Participating in a musical or artistic performance.	.750	-.918	.531	-1.245
Engaging in athletics	.579	-1.036	.331	-1.381
Witnessing the beauty and harmony of nature.	-.633	-.821	-.788	-.602
Meditating	.336	-1.323	.186	-1.302

Table F2

Skewness and Kurtosis Statistics for Change in Spirituality Scales (N=272)

Scale	Skewness	Kurtosis
Spiritual Identification	-.087	1.224
Spiritual Quest	.120	1.068
Interconnectedness of Humanity	.271	.951
Living One's Philosophy of Life with Integrtiy	.351	2.056
Relationship with God	.080	1.759
Religious/Spiritual Struggle	-.095	2.305
Spiritual Orientation	.226	1.437

PRE-SURVEY/POST-SURVEY SPIRITUALITY DATA

Table G1

Demographic Differences in Spiritual Orientation upon Entering PULSE (N=272)

Variable	Beta	t	p
African American/Black	-.031	-.387	.699
Asian American/Asian	-.028	-.240	.810
Native Hawaiian/Pacific Islander	.064	1.042	.298
Mexican American/Chicano	.077	1.149	.252
Puerto Rican	.024	.352	.725
Other Latino	-.055	-.732	.465
White/Caucasian	-.162	-1.313	.190
Middle Eastern	.015	.222	.825
Gender	.214	3.549	.000
Prior Service-learning	.035	.588	.557
Baptist	.063	.899	.369
Buddhist	-.042	-.628	.531
Eastern Orthodox	.021	.315	.753
Episcopalian	.084	1.371	.171
Jewish	-.056	-.861	.390
Lutheran	.048	.744	.458
Methodist	-.034	-.571	.569
Muslim	.004	.063	.950
Nondenominational	.036	.573	.567
Presbyterian	.137	1.958	.051
Roman Catholic	.230	1.999	.047
Unitarian/Universalist	.044	.701	.484
United Church of Christ	.024	.360	.719
None	-.071	-.763	.446

Table G2

Demographic Differences in Spiritual Orientation at the End of PULSE (N=272)

Variable	Beta	t	p
African American/Black	.096	1.241	.216

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Asian American/Asian	.048	.419	.676
Native Hawaiian/Pacific Islander	.087	1.443	.150
Mexican American/Chicano	.002	.023	.981
Puerto Rican	.041	.619	.537
Other Latino	-.032	-.443	.658
White/Caucasian	-.182	-1.518	.130
Middle Eastern	.031	.477	.634
Gender	.221	3.750	.000
Prior Service-learning	.045	.775	.439
Baptist	-.032	-.469	.640
Buddhist	.006	.093	.926
Eastern Orthodox	.043	.658	.511
Episcopalian	.057	.946	.345
Jewish	-.043	-.676	.500
Lutheran	.050	.803	.423
Methodist	-.021	-.361	.718
Muslim	.083	1.390	.166
Nondenominational	-.013	-.207	.836
Presbyterian	.187	2.737	.007
Roman Catholic	.334	2.976	.003
Unitarian/Universalist	.078	1.260	.209
United Church of Christ	.056	.850	.396
None	-.049	-.539	.590

Table G3

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Spiritual Identification Variables (N=272)

	Pre-Survey		Post-Survey			
Variable	M	SD	M	SD	*p*	*d*
Being on a spiritual quest[a]	1.87	.688	2.1	.712	<.001	.33
Integrating spirituality into my life[b]	2.60	.971	2.92	.971	<.001	.33
Believing in the sacredness of life[a]	2.33	.649	2.51	.583	<.001	.29
People can reach a higher spiritual plane of consciousness through meditation or prayer[c]	2.97	.758	3.15	.714	<.001	.24
Seeking out opportunities to grow	2.81	.927	3.02	.901	<.001	.23

spiritually[b]

Variable	M	SD	M	SD	p	d
Having an interest in spirituality[a]	2.19	.606	2.30	.610	.001	.18
Having a spiritual experience while:						
Engaging in athletics[d]	1.68	.763	1.82	.805	.003	.18
Participating in a musical or artistic performance[d]	1.62	.775	1.73	.801	.038	.14
meditating[d]	1.81	.802	1.89	.773	.077	.10
Viewing a great work of art[d]	1.68	.690	1.75	.697	.127	.10
Listening to beautiful music[d]	2.14	.782	2.21	.732	.133	.09
Witnessing the beauty and harmony of nature[d]	2.35	.713	2.42	.698	.176	.10

[a]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent
[b]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[c]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[d]Frequency of Occurrence
1=Not at all or Not applicable 2=Occasionally 3=Frequently

Table G4

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Spiritual Quest Variables (N=272)

Variable	Pre-Survey		Post-Survey			
	M	SD	M	SD	p	d
Having discussions about the meaning of life with my friends[a]	2.17	.644	2.35	.600	<.001	.29
Seeking beauty in my life[b]	3.21	.814	3.40	.748	<.001	.24
Attaining wisdom[b]	3.35	.665	3.53	.601	<.001	.28
Developing a meaningful philosophy of life[b]	3.01	.794	3.32	.712	<.001	.41
Becoming a more loving person[b]	3.54	.648	3.75	.476	<.001	.37
Finding answers to the mysteries of life[b]	2.87	.891	3.06	.868	.001	.22
Attaining inner harmony[b]	3.20	.808	3.36	.769	.001	.20
Searching for meaning/purpose in life[a]	2.45	.530	2.50	.550	.168	.09
Close friends are searching for meaning/purpose in life[c]	2.47	.763	2.48	.671	.875	.01

[a]Extent to which the respondent engages in the activity.
1=Not at all 2=To some Extent 3=To a great extent
[b]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[c]1=None 2=Some 3=Most 4=All

Table G5

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to

Interconnectedness of Humanity Variables (N=272)

	Pre-Survey		Post-Survey			
Variable	M	SD	M	SD	*p*	*d*
Influencing the political structure[a]	2.29	.826	2.71	.884	<.001	.49
Becoming a community leader[a]	2.94	.831	3.27	.810	<.001	.40
Love is at the root of all the great religions[b]	3.22	.804	3.43	.761	<.001	.27
Trying to change things that are unfair in the world[c]	2.29	.553	2.46	.521	<.001	.32
Having an interest in different religious traditions[d]	1.97	.616	2.15	.616	<.001	.29
Feeling a strong connection to all humanity[d]	2.33	.648	2.51	.563	<.001	.30
All life is interconnected[b]	3.41	.610	3.57	.591	<.001	.27
Improving the human condition[a]	3.32	.711	3.56	.605	<.001	.36
Believing in the goodness of all people[d]	2.53	.582	2.65	.516	<.001	.22
Influencing social values[a]	2.98	.766	3.29	.739	<.001	.41
Helping to promote racial understanding[a]	3.08	.811	3.35	.744	<.001	.35
Reducing pain and suffering in the world[a]	3.24	.741	3.51	.619	<.001	.40
Helping others who are in difficulty[a]	3.54	.624	3.69	.500	<.001	.27
Improving my understanding of other cultures and countries[a]	3.25	.791	3.47	.659	<.001	.30
Becoming involved in programs to clean up the environment[a]	2.52	.824	2.79	.880	<.001	.32
Most people can grow spiritually without being religious[b]	3.24	.777	3.40	.716	.001	.21
We are all spiritual beings[b]	3.05	.717	3.13	.750	.100	.11
Nonreligious people can lead lives that are just as moral as those of	3.64	.618	3.68	.541	.230	.07

religious believers[b]					
Accepting others as they are[c]	2.70	.479	2.72	.466	.602	.04

[a]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[b]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[c]Extent to which the respondent engages in the activity.
1=Not at all 2=To some Extent 3=To a great extent
[d]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent

Table G6

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Response to

Living One's Philosophy of Life with Integrity Variables (N=272)

	Pre-Survey		Post-Survey			
Variable	M	SD	M	SD	p	d
My spiritual/religious beliefs:						
Provide me with strength, support and guidance[a]	2.84	.960	3.04	.942	<.001	.21
Lie behind my whole approach to life[a]	2.55	.958	2.75	.982	<.001	.21
Help to define the goals I set for myself[a]	2.72	.959	2.92	.975	<.001	.21
Have helped me develop my identity[a]	2.75	.950	2.93	.983	<.001	.19

[a]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly

Table G7

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to

Relationship with God Variables (N=272)

	Pre-Survey		Post-Survey			
Variable	M	SD	M	SD	p	d
I gain spiritual strength by trusting in a Higher Power[a]	2.84	.977	2.97	1.055	.005	.13
Prayed[b]	1.99	.735	2.08	.714	.009	.12
Desiring a sense of connection with God/a Higher Power[c]	2.04	.729	2.10	.747	.100	.08

[a]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[b]Frequency of Occurrence
1=Not at all or Not applicable 2=Occasionally 3=Frequently
[c]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent

Table G8

Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to

Religious/Spiritual Struggle Variables (N=272)

	Pre-Survey		Post-Survey			
Variable	M	SD	M	SD	*p*	*d*
Struggled to understand evil, suffering, and death[a]	1.99	.637	2.31	.594	<.001	.52
Feeling unsettled about spiritual and religious matters[a]	1.89	.671	2.09	.684	<.001	.30
Feeling disillusioned with my religious upbringing[b]	1.55	.670	1.72	.732	.001	.24
Disagreed with [my] family about religious matters[a]	1.52	.665	1.66	.732	.002	.20
Felt angry with God[a]	1.50	.605	1.61	.633	.010	.18
Questioned [my] religious/spiritual beliefs[a]	1.87	.717	1.97	.733	.024	.14
Felt distant from God[a]	1.83	.665	1.89	.671	.166	.09

[a]Frequency of occurrence since entering college

1=Not at all 2=Occasionally 3=Frequently

[b]Extent to which the variable describes the respondent.

1=Not at all 2=To some Extent 3=To a great extent

FACTOR ANALYSIS OUTPUT

Table H1

Summary of Items and Factor Loadings for Varimax Five Factor Solution for PULSE Components (N=272)

Variable	Factor				
	1	2	3	4	5
•Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.	.762				
•Written assignments/journaling enabled me to connect what I was observing in my placement with what I was studying in class.	.755				
•Class discussions/reflection groups enabled me to connect what I was observing in my placement with what I was studying in class.	.738				
•Class journaling/reflective writing challenged me to think critically about my assumptions, values, and/or beliefs.	.724				
•The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs.	.674				
•The class readings helped me to make sense of what I was observing in my placement.	.639				
•I felt supported by my PULSE professor.	.602				
•The service component of this course was well integrated with the academic coursework.	.533				
•There were a variety of perspectives expressed in my PULSE class and discussion group.	.500				
•I heard perspectives expressed at my PULSE placement that were different from those I typically hear.		.732			
•This course exposed me to diverse		.644			

Item				
perspectives that did not fit with my prior opinions and assumptions.				
•PULSE exposed me to diverse viewpoints that challenged me to think differently.	.619			
•Social problems are more complex to solve than I used to think.	.612			
•My PULSE placement experience challenged me to think critically about my assumptions, values, and/or beliefs.	.509			
•Those served at my PULSE placement faced unfairness in life.		.759		
•I observed human suffering at my PULSE placement.		.699		
•The problems that caused people at my placement to need social services were frequently the result of circumstances beyond their control.		.632		
•I felt supported by my PULSE supervisor.			.688	
•I built caring relationships with those served at my placement.			.664	
•I felt supported by other students at my placement.			.504	
•I felt supported by other students in my class.				.789
•A supportive community formed among those in my PULSE discussion group.				.611

Table H2

Initial Eigenvalues Resulting from Factor Analysis

	Initial Eigenvalues		
Factor	Total	% of Variance	Cumulative %
1	7.571	32.919	32.919
2	1.784	7.757	40.676
3	1.404	6.104	46.780
4	1.303	5.667	52.447
5	1.140	4.955	57.402
6	.993	4.316	61.717

7	.904	3.932	65.649
8	.801	3.481	69.131
9	.771	3.354	72.485
10	.703	3.057	75.542
11	.679	2.952	78.494
12	.619	2.693	81.187
13	.587	2.554	83.740
14	.546	2.375	86.115
15	.511	2.223	88.338
16	.480	2.086	90.424
17	.435	1.892	92.316
18	.387	1.683	93.999
19	.336	1.461	95.461
20	.294	1.277	96.738
21	.281	1.220	97.958
22	.253	1.099	99.057
23	.217	.943	100.000

Note. Extraction method: Principal Components Analysis. Rotation method: Varimax with Kaiser Normalization in 7 iterations.

HIEARARCHICAL MULTIPLE REGRESSION RESULTS

Table I1

Hierarchical Multiple Regression Predicting Increase in Spiritual Orientation by Total

Challenge

Variable	Model 1	Model 2
Pre-Test	.644***	.576***
Gender	.085	.029
School	.049	.028
Prior Service-learning	-.004	.013
Baptist	-.081	-.053
Buddhist	.039	.028
Eastern Orthodox	.034	.033
Episcopalian	.001	.026
Jewish	.000	-.004
Lutheran	.018	.037
Methodist	.002	.040
Muslim	.095	.058
Nondenominational	-.046	-.067
Presbyterian	.120*	.136*
Roman Catholic	.203*	.193*
Unitarian/Universalist	.032	.035
United Church of Christ	.040	.039
None	-.024	-.025
African American/Black	.144*	.129*
Asian American/Asian	.109	.098
Native Hawaiian/Pacific Islander	.042	.011
Mexican American/Chicano	-.029	-.042
Puerto Rican	.013	.048
Other Latino	.053	.012
White/Caucasian	-.016	-.037
Middle Eastern	.036	.023
Total Challenge		.272***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I2

Hierarchical Multiple Regression Predicting Increase in Spiritual Orientation by Total

Support

Variable	Model 1	Model 2
Pre-Test	.641***	.592***
Gender	.080	.055
School	.049	.044
Prior Service-learning	.008	.022
Baptist	-.082	-.029
Buddhist	.039	.038
Eastern Orthodox	.033	.033
Episcopalian	-.005	.024

Jewish	-.002	-.043
Lutheran	.018	.027
Methodist	.001	.038
Muslim	.093	.061
Nondenominational	-.046	-.057
Presbyterian	.121*	.127*
Roman Catholic	.204*	.169
Unitarian/Universalist	.031	.014
United Church of Christ	.039	.018
None	-.017	-.033
African American/Black	.144*	.107
Asian American/Asian	.100	.084
Native Hawaiian/Pacific Islander	.042	.020
Mexican American/Chicano	-.031	-.053
Puerto Rican	.014	.064
Other Latino	.050	.006
White/Caucasian	-.014	-.055
Middle Eastern	.034	.020
Total Support		.260***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I3

Hierarchical Multiple Regression Predicting Increase in Self-Report of Spiritual Growth

by Total Challenge

Variable	Model 1	Model 2
Gender	.109	-.026
School	.121	.079
Prior Service-learning	.117	.145*
Baptist	-.069	-.026
Buddhist	-.063	-.080
Eastern Orthodox	.038	.032
Episcopalian	-.101	-.063
Jewish	-.062	-.064
Lutheran	.070	.096
Methodist	-.112	-.037
Muslim	.032	-.038
Nondenominational	-.043	-.084
Presbyterian	.179*	.183**
Roman Catholic	.318*	.265*
Unitarian/Universalist	.025	.018
United Church of Christ	.040	.035
None	.007	.003
African American/Black	.075	.055
Asian American/Asian	.023	.024
Native Hawaiian/Pacific Islander	-.006	-.072
Mexican American/Chicano	-.053	-.087
Puerto Rican	-.063	.000
Other Latino	-.005	-.063
White/Caucasian	-.074	-.086
Middle Eastern	.048	.027
Total Challenge		.506***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I4

Hierarchical Multiple Regression Predicting Increase in Self-Report of Spiritual Growth

by Total Support

Variable	Model 1	Model 2
Gender	.119	.053
School	.115	.102
Prior Service-learning	.120	.140*
Baptist	-.073	.013
Buddhist	-.064	-.066
Eastern Orthodox	.030	.027
Episcopalian	-.097	-.051
Jewish	-.028	-.098
Lutheran	.064	.073
Methodist	-.119	-.051
Muslim	.026	-.030
Nondenominational	-.058	-.079
Presbyterian	.170*	.163*
Roman Catholic	.281*	.193
Unitarian/Universalist	.017	-.023
United Church of Christ	.028	-.011
None	.005	-.024
African American/Black	.071	.012
Asian American/Asian	.002	-.015
Native Hawaiian/Pacific Islander	-.003	-.047
Mexican American/Chicano	-.053	-.100
Puerto Rican	-.063	.024
Other Latino	-.007	-.072
White/Caucasian	-.070	-.123
Middle Eastern	.041	.017
Total Support		.462***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I5

Hierarchical Multiple Regression Predicting Increase in Religious/Spiritual Struggle by

Total Challenge

Variable	Model 1	Model 2
Pre-Test	.593***	.580
Gender	.045	-.007
School	-.002	-.019
Prior Service-learning	-.126*	-.114*
Baptist	-.256***	-.237***
Buddhist	.024	.018
Eastern Orthodox	-.023	-.025
Episcopalian	-.065	-.049
Jewish	-.069	-.069
Lutheran	.033	.044
Methodist	.012	.041
Muslim	-.049	-.077

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Nondenominational	-.014	-.030
Presbyterian	.034	.036
Roman Catholic	.036	.016
Unitarian/Universalist	-.062	-.065
United Church of Christ	-.047	-.048
None	-.045	-.048
African American/Black	.052	.044
Asian American/Asian	-.095	-.096
Native Hawaiian/Pacific Islander	.034	.009
Mexican American/Chicano	-.006	-.019
Puerto Rican	-.045	-.021
Other Latino	.021	.000
White/Caucasian	-.060	-.065
Middle Eastern	.025	.016
Total Challenge		.193**

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I6

Hierarchical Multiple Regression Predicting Increase in Religious/Spiritual Struggle by

Total Support

Variable	Model 1	Model 2
Pre-Test	.592***	.591***
Gender	.048	.040
School	-.007	-.008
Prior Service-learning	-.126*	-.124*
Baptist	-.256***	-.245***
Buddhist	.028	.028
Eastern Orthodox	-.023	-.023
Episcopalian	-.083	-.078
Jewish	-.059	-.068
Lutheran	.033	.034
Methodist	.011	.020
Muslim	-.053	-.060
Nondenominational	-.017	-.019
Presbyterian	.038	.037
Roman Catholic	.031	.020
Unitarian/Universalist	-.063	-.068
United Church of Christ	-.049	-.053
None	-.028	-.032
African American/Black	.050	.042
Asian American/Asian	-.112	-.114
Native Hawaiian/Pacific Islander	.034	.029
Mexican American/Chicano	-.006	-.012
Puerto Rican	-.045	-.035
Other Latino	.020	.012
White/Caucasian	-.059	-.066
Middle Eastern	.019	.016
Total Support		.057

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I7

Hierarchical Multiple Regression Results for Total Challenge
Predicting Increase in Spirituality Scales

Spirituality Scale	Total Challenge	Total Support
Spiritual Identification	.177**	.148**
Spiritual Quest	.148*	.185**
Interconnectedness of Humanity	.323***	.303***
Living One's Philosophy of Life with Integrity	.206***	.117*
Religious/Spiritual Struggle	.193**	.057
Relationship with God	.110**	.119**

Note. Numbers are Betas after controlling for pre-test scores and demographic variables listed in Tables I1-I6.
*** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I8

Hierarchical Multiple Regression Predicting Increase in Spiritual Orientation by PULSE

Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.644***	.610***	.609***	.592***	.578***	.559***
Gender	.085	.060	.057	.040	.025	.027
School	.049	.043	.045	.039	.042	.029
Prior Service-learning	-.004	.000	.007	.014	.015	.011
Baptist	-.082	-.065	-.054	-.037	-.050	-.050
Buddhist	.039	.034	.035	.031	.042	.033
Eastern Orthodox	.034	.045	.041	.042	.035	.034
Episcopalian	.001	.026	.028	.033	.034	.041
Jewish	.000	-.012	-.017	-.013	-.001	-.025
Lutheran	.018	.018	.018	.022	.021	.037
Methodist	.002	.007	.016	.028	.046	.049
Muslim	.095	.079	.072	.064	.054	.049
Nondenominational	-.046	-.054	-.052	-.064	-.053	-.066
Presbyterian	.120*	.113*	.107	.119*	.134*	.139*
Roman Catholic	.203*	.199*	.184*	.193*	.212*	.182*
Unitarian/Universalist	.032	.020	.022	.028	.025	.016
United Church of Christ	.041	.031	.026	.036	.040	.025
None	-.024	-.056	-.058	-.041	-.037	-.047
African American/Black	.145*	.110	.108	.109	.110	.105
Asian American/Asian	.109	.089	.087	.093	.092	.081
Native Hawaiian/Pacific Islander	.043	.032	.029	.022	.014	.006
Mexican American/Chicano	-.029	-.046	-.046	-.042	-.044	-.059
Puerto Rican	.013	.033	.036	.039	.050	.078
Other Latino	.053	.021	.016	.012	.007	-.009

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
White/Caucasian	-.016	-.092	-.084	-.078	-.096	-.087
Middle Eastern	.036	.023	.023	.020	.024	.017
Peer Support		.164***	.142**	.123*	.108*	.067
Relationships at Placements			.089	.056	.031	.010
Eye Opening				.124*	.073	.006
Witnessing Injustice					.154**	.135*
Class Experience						.196***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I9

Hierarchical Multiple Regression Predicting Increase in Self-Report of Spiritual Growth

by PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	.114	.068	.062	.012	-.012	-.015
School	.124	.115	.118	.101	.106	.078
Prior Service-learning	.115	.118	.132*	.149*	.148*	.139*
Baptist	-.070	-.051	-.031	.007	-.013	-.017
Buddhist	-.065	-.072	-.069	-.079	-.063	-.079
Eastern Orthodox	.036	.049	.042	.042	.032	.027
Episcopalian	-.105	-.073	-.071	-.062	-.063	-.052
Jewish	-.019	-.034	-.042	-.030	-.013	-.060
Lutheran	.068	.065	.065	.072	.070	.098
Methodist	-.115	-.108	-.089	-.059	-.034	-.028
Muslim	.032	.009	-.004	-.022	-.036	-.044
Nondenominational	-.055	-.066	-.062	-.092	-.076	-.102
Presbyterian	.179*	.159*	.147	.171*	.188**	.190**
Roman Catholic	.308*	.291*	.262*	.273*	.295*	.223*
Unitarian/Universalist	.023	.001	.005	.017	.011	-.010
United Church of Christ	.036	.022	.013	.037	.042	.012
None	-.001	-.046	-.049	-.006	.001	-.019
African American/Black	.075	.031	.028	.034	.037	.033
Asian American/Asian	.023	.003	.000	.022	.023	.007
Native Hawaiian/Pacific Islander	-.005	-.023	-.028	-.048	-.059	-.076
Mexican American/Chicano	-.053	-.079	-.081	-.071	-.077	-.109
Puerto Rican	-.064	-.038	-.031	-.026	-.012	.043
Other Latino	-.005	-.042	-.051	-.054	-.057	-.082
White/Caucasian	-.074	-.169	-.153	-.125	-.144	-.114
Middle Eastern	.048	.031	.032	.026	.032	.019
Peer Support		.227**	.184*	.129	.104	.014
Relationships at Placements			.167*	.085	.051	.010
Eye Opening				.310***	.236***	.097
Witnessing Injustice					.214**	.172*
Class Experience						.393***

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I10

Hierarchical Multiple Regression Predicting Increase in Religious/Spiritual Struggle by

PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.589***	.590***	.596***	.588***	.582***	.582***
Gender	.046	.036	.039	-.002	-.018	-.018

Variable						
School	-.002	-.004	-.004	-.019	-.016	-.017
Prior Service-learning	-.127*	-.126*	-.132*	-.118*	-.117*	-.118*
Baptist	-.257***	-.253***	-.263***	-.229***	-.241***	-.241***
Buddhist	.024	.023	.021	.014	.024	.024
Eastern Orthodox	-.023	-.021	-.018	-.017	-.024	-.024
Episcopalian	-.065	-.059	-.060	-.052	-.052	-.052
Jewish	-.058	-.061	-.058	-.048	-.036	-.037
Lutheran	.033	.033	.032	.038	.037	.038
Methodist	.012	.014	.005	.030	.047	.047
Muslim	-.050	-.055	-.049	-.064	-.073	-.073
Nondenominational	-.016	-.019	-.020	-.046	-.036	-.036
Presbyterian	.034	.030	.035	.055	.066	.066
Roman Catholic	.034	.031	.043	.053	.067	.065
Unitarian/Universalist	-.063	-.068	-.070	-.060	-.064	-.064
United Church of Christ	-.048	-.051	-.048	-.028	-.024	-.024
None	-.048	-.057	-.055	-.020	-.017	-.017
African American/Black	.052	.043	.045	.050	.052	.052
Asian American/Asian	-.096	-.100	-.099	-.082	-.081	-.081
Native Hawaiian/Pacific Islander	.035	.031	.033	.016	.009	.009
Mexican American/Chicano	-.005	-.011	-.010	-.003	-.006	-.007
Puerto Rican	-.045	-.040	-.043	-.039	-.029	-.028
Other Latino	.022	.014	.017	.014	.013	.012
White/Caucasian	-.060	-.080	-.087	-.064	-.076	-.076
Middle Eastern	.024	.021	.021	.015	.019	.019
Peer Support		.047	.066	.020	.004	.002
Relationships at Placements			-.073	-.141*	-.162**	-.163**
Eye Opening				.256***	.208**	.206**
Witnessing Injustice					.138*	.137*
Class Experience						.008

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I11

Hierarchical Multiple Regression Predicting Increase in Spiritual Identification by

PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.623***	.608***	.609***	.606***	.605***	.593***
Gender	.047	.021	.020	.008	.000	.000
School	.008	.004	.004	.000	.002	-.010
Prior Service-learning	-.013	-.011	-.009	-.004	-.005	-.009
Baptist	.028	.039	.043	.053	.046	.045
Buddhist	.115*	.112*	.112*	.110	.114*	.107
Eastern Orthodox	.085	.094	.092	.093	.090	.089
Episcopalian	.032	.050	.051	.053	.053	.058
Jewish	.025	.015	.014	.017	.022	.001
Lutheran	.026	.024	.024	.026	.026	.038
Methodist	.036	.039	.042	.050	.057	.059
Muslim	.088	.074	.071	.067	.063	.058
Nondenominational	-.019	-.025	-.024	-.032	-.027	-.037
Presbyterian	.123*	.116	.113	.120	.126*	.130*
Roman Catholic	.267**	.261**	.256	.260**	.266**	.239
Unitarian/Universalist	.088	.075	.076	.079	.077	.068
United Church of Christ	.097	.089	.087	.093	.095	.083
None	.037	.012	.011	.022	.024	.016

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Variable						
African American/Black	.042	.016	.015	.017	.018	.015
Asian American/Asian	-.040	-.054	-.054	-.049	-.049	-.058
Native Hawaiian/Pacific Islander	.050	.040	.039	.034	.030	.023
Mexican American/Chicano	-.046	-.061	-.061	-.058	-.060	-.073
Puerto Rican	-.006	.009	.010	.012	.016	.041
Other Latino	-.035	-.059	-.060	-.062	-.063	-.075
White/Caucasian	-.177	-.234*	-.231*	-.225*	-.230*	-.220*
Middle Eastern	-.023	-.033	-.033	-.035	-.033	-.039
Peer Support		.131*	.123*	.109	.102	.065
Relationships at Placements			.029	.007	-.003	-.021
Eye Opening				.081	.059	.000
Witnessing Injustice					.064	.046
Class Experience						.168*

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I12

Hierarchical Multiple Regression Predicting Increase in Spiritual Quest by PULSE

Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.652***	.642***	.642***	.635***	.626***	.615***
Gender	.107*	.085	.081	.076	.065	.065
School	.064	.059	.061	.058	.060	.050
Prior Service-learning	.054	.056	.063	.066	.066	.063
Baptist	-.128*	-.116*	-.105	-.098	-.106	-.105
Buddhist	.064	.060	.061	.060	.067	.060
Eastern Orthodox	-.015	-.009	-.013	-.013	-.018	-.019
Episcopalian	.010	.027	.029	.031	.031	.036
Jewish	-.045	-.051	-.056	-.054	-.044	-.060
Lutheran	.035	.033	.034	.035	.034	.045
Methodist	.042	.046	.057	.061	.073	.077
Muslim	.088	.076	.069	.067	.060	.057
Nondenominational	-.052	-.058	-.056	-.060	-.053	-.063
Presbyterian	.070	.062	.055	.059	.069	.071
Roman Catholic	.082	.076	.060	.063	.076	.053
Unitarian/Universalist	.042	.032	.034	.037	.036	.030
United Church of Christ	-.032	-.038	-.043	-.039	-.035	-.044
None	.041	.021	.020	.027	.033	.028
African American/Black	.192**	.168*	.166*	.165*	.165*	.161*
Asian American/Asian	.103	.091	.090	.091	.091	.084
Native Hawaiian/Pacific Islander	.024	.016	.013	.011	.007	.002
Mexican American/Chicano	-.027	-.040	-.041	-.040	-.042	-.053
Puerto Rican	.040	.053	.057	.057	.064	.084
Other Latino	.075	.055	.050	.049	.047	.036
White/Caucasian	.108	.057	.066	.067	.055	.062
Middle Eastern	.048	.039	.040	.039	.041	.037
Peer Support		.115*	.091	.084	.073	.041
Relationships at Placements			.093	.082	.065	.050
Eye Opening				.043	.009	-.039
Witnessing Injustice					.104	.090
Class Experience						.139*

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I13

Hierarchical Multiple Regression Predicting Increase in Interconnectedness of Humanity by PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.576***	.537***	.530***	.513***	.463***	.460***
Gender	.150**	.120*	.116*	.099	.080	.079
School	.053	.046	.049	.042	.047	.036
Prior Service-learning	.017	.023	.035	.043	.047	.043
Baptist	-.093	-.069	-.051	-.031	-.046	-.046
Buddhist	-.021	-.027	-.024	-.029	-.011	-.017
Eastern Orthodox	-.011	.002	-.004	-.003	-.014	-.016
Episcopalian	-.037	-.004	-.002	.004	.010	.015
Jewish	.020	.006	-.001	.004	.026	.007
Lutheran	-.018	-.020	-.019	-.015	-.016	-.004
Methodist	-.062	-.055	-.038	-.025	.007	.010
Muslim	.117*	.097	.086	.078	.061	.058
Nondenominational	-.080	-.093	-.090	-.104*	-.090	-.101*
Presbyterian	.078	.061	.050	.061	.081	.082
Roman Catholic	.072	.064	.040	.047	.081	.052
Unitarian/Universalist	-.029	-.042	-.037	-.030	-.028	-.037
United Church of Christ	-.021	-.036	-.044	-.034	-.029	-.042
None	-.093	-.132	-.135	-.117	-.108	-.117
African American/Black	.149*	.109	.106	.107	.108	.106
Asian American/Asian	.169	.149	.147	.155	.154	.148
Native Hawaiian/Pacific Islander	.062	.050	.046	.039	.028	.021
Mexican American/Chicano	-.004	-.025	-.025	-.020	-.023	-.036
Puerto Rican	.024	.048	.054	.057	.077	.100*
Other Latino	.101	.067	.059	.056	.049	.039
White/Caucasian	.063	-.025	-.012	-.003	-.033	-.021
Middle Eastern	.097	.083	.084	.081	.089	.084
Peer Support		.204***	.168**	.147*	.126*	.089
Relationships at Placements			.145**	.111*	.069	.052
Eye Opening				.133*	.049	-.008
Witnessing Injustice					.263***	.247***
Class Experience						.162**

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I14

Hierarchical Multiple Regression Predicting Increase in Living One's Philosophy of Life by PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.629***	.619***	.619***	.597***	.601***	.579***
Gender	-.012	-.020	-.020	-.045	-.054	-.054
School	.027	.026	.026	.018	.020	.010
Prior Service-learning	-.049	-.049	-.047	-.038	-.038	-.042
Baptist	-.062	-.060	-.058	-.040	-.048	-.051
Buddhist	-.026	-.028	-.028	-.033	-.027	-.034
Eastern Orthodox	.080	.083	.082	.082	.078	.077
Episcopalian	.010	.015	.016	.021	.021	.025
Jewish	-.028	-.032	-.033	-.030	-.023	-.043
Lutheran	.043	.043	.043	.048	.047	.058

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Methodist	.019	.019	.021	.035	.045	.046
Muslim	-.009	-.014	-.015	-.025	-.030	-.034
Nondenominational	-.007	-.008	-.008	-.023	-.017	-.026
Presbyterian	.119*	.118*	.117	.134*	.140*	.145*
Roman Catholic	.236*	.234*	.231*	.239*	.247*	.221*
Unitarian/Universalist	.062	.057	.058	.061	.060	.050
United Church of Christ	.087	.084	.083	.094	.096	.084
None	-.017	-.027	-.028	-.009	-.006	-.018
African American/Black	.109	.101	.101	.103	.104	.101
Asian American/Asian	.104	.099	.099	.106	.107	.097
Native Hawaiian/Pacific Islander	.021	.018	.017	.005	.001	-.006
Mexican American/Chicano	.005	.000	.000	.005	.003	-.008
Puerto Rican	.014	.018	.019	.022	.027	.048
Other Latino	.050	.041	.041	.034	.034	.020
White/Caucasian	-.003	-.023	-.022	-.014	-.020	-.015
Middle Eastern	-.021	-.024	-.024	-.028	-.026	-.032
Peer Support		.043	.039	.015	.005	-.023
Relationships at Placements			.016	-.028	-.041	-.057
Eye Opening				.165**	.137*	.088
Witnessing Injustice					.080	.063
Class Experience						.147*

Note. Numbers are Betas. *** p < .001, two-tailed ** p < .01, two-tailed * p < .05, two-tailed

Table I15

Hierarchical Multiple Regression Predicting Increase in Relationship with God by PULSE Components

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Pre-Test	.782***	.768***	.768***	.769***	.772***	.761***
Gender	.025	.004	.005	-.005	-.010	-.009
School	.041	.037	.037	.034	.034	.029
Prior Service-learning	-.036	-.034	-.035	-.032	-.032	-.034
Baptist	-.009	.000	.000	.007	.003	.002
Buddhist	.012	.008	.008	.006	.010	.006
Eastern Orthodox	.010	.016	.016	.017	.015	.013
Episcopalian	.056	.072	.072	.073	.073	.076
Jewish	.014	.006	.006	.008	.012	.001
Lutheran	.012	.012	.011	.013	.012	.019
Methodist	.013	.016	.015	.021	.026	.027
Muslim	.028	.017	.017	.014	.011	.010
Nondenominational	-.009	-.012	-.013	-.019	-.016	-.020
Presbyterian	.071	.065	.066	.070	.072	.076
Roman Catholic	.230**	.225**	.226**	.228**	.232**	.219**
Unitarian/Universalist	.021	.010	.010	.012	.011	.006
United Church of Christ	.045	.039	.039	.043	.044	.039
None	.031	.005	.005	.014	.016	.009
African American/Black	.018	-.004	-.004	-.003	-.002	-.004
Asian American/Asian	.042	.030	.030	.035	.035	.031
Native Hawaiian/Pacific Islander	-.007	-.017	-.017	-.020	-.022	-.027
Mexican American/Chicano	-.033	-.045	-.045	-.043	-.045	-.050
Puerto Rican	-.035	-.022	-.022	-.022	-.019	-.007
Other Latino	-.054	-.074	-.073	-.074	-.074	-.081
White/Caucasian	-.114	-.163	-.164	-.159	-.162	-.158
Middle Eastern	-.021	-.029	-.029	-.030	-.029	-.031

Peer Support	.112**	.115**	.104*	.099*	.082
Relationships at Placements		-.009	-.024	-.031	-.039
Eye Opening			.058	.044	.016
Witnessing Injustice				.041	.032
Class Experience					.081

Note. Numbers are Betas. *** $p < .001$, two-tailed ** $p < .01$, two-tailed * $p < .05$, two-tailed

COMPARISON OF CSBV AND PULSE RESPONSES

Table J1

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Spiritual Identification Variables

Variable	Pre-Survey		Post-Survey		*CSBV d*	*PULSE d*
	M	SD	M	SD		
Being on a spiritual quest[a]	1.8	.4	1.5	.5	-.66	.33
Integrating spirituality into my life[b]	2.3	1.1	2.6	1.1	.27	.33
Believing in the sacredness of life[a]	2.2	.7	2.3	.7	.14	.29
People can reach a higher spiritual plane of consciousness through meditation or prayer[c]	2.8	.9	2.9	.8	.12	.24
Seeking out opportunities to grow spiritually[b]	2.4	1.0	2.6	1.0	.20	.23
Having an interest in spirituality[a]	2.1	.7	2.2	.7	.14	.18
Having a spiritual experience while: Engaging in athletics[d]	1.3	.6	1.3	.6	.00	.18
Participating in a musical or artistic performance[d]	1.4	.6	1.4	.6	.00	.14
meditating[d]	1.3	.6	1.4	.6	.17	.10
Viewing a great work of art[d]	1.3	.6	1.4	.6	.17	.10
Listening to beautiful music[d]	1.6	.7	1.8	.7	.29	.09
Witnessing the beauty and harmony of nature[d]	1.7	.8	1.9	.8	.17	.10

Note. Adapted from "Assessing students' spiritual and religious qualities," by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development*, *52* pp. 39-61.
[a]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent
[b]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[c]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[d]Frequency of Occurrence
1=Not at all or Not applicable 2=Occasionally 3=Frequently

Table J2

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Spiritual Quest Variables (N=272)

| | Pre-Survey | | Post-Survey | | | |
Variable	M	SD	M	SD	CSBV d	PULSE d
Having discussions about the meaning of life with my friends[a]	1.9	.7	1.9	.7	.00	.29
Seeking beauty in my life[b]	2.6	.9	2.9	.9	.33	.24
Attaining wisdom[b]	3.0	.8	3.2	.7	.27	.28
Developing a meaningful philosophy of life[b]	2.3	1.0	2.7	1.0	.40	.41
Becoming a more loving person[b]	2.9	.9	3.2	.8	.35	.37
Finding answers to the mysteries of life[b]	2.4	.9	2.4	.9	.00	.22
Attaining inner harmony[b]	2.5	.9	2.8	.9	.33	.20
Searching for meaning/purpose in life[a]	2.0	.7	2.0	.7	.00	.09
Close friends are searching for meaning/purpose in life[c]	2.3	.8	2.3	.8	.00	.01

Note. Adapted from "Assessing students' spiritual and religious qualities," by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development, 52* pp. 39-61.
[a]Extent to which the respondent engages in the activity.
1=Not at all 2=To some Extent 3=To a great extent
[b]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[c]1=None 2=Some 3=Most 4=All

Table J3

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Interconnectedness of Humanity Variables (N=272)

| | Pre-Survey | | Post-Survey | | | |
Variable	M	SD	M	SD	CSBV d	PULSE d
Influencing the political structure[a]	1.7	.8	1.8	.8	.13	.49
Becoming a community leader[a]	2.0	.9	2.1	.9	.11	.40
Love is at the root of all the great religions[b]	2.9	1.0	2.9	1.0	.00	.27
Trying to change things that are unfair in the world[c]	1.8	.6	1.8	.6	.00	.32

Having an interest in different religious traditions[d]	1.7	.7	1.8	.7	.14	.29
Feeling a strong connection to all humanity[d]	1.9	.6	2.0	.6	.17	.30
All life is interconnected[b]	3.1	.8	3.2	.7	.13	.27
Improving the human condition[a]	2.6	.9	2.8	.9	.22	.36
Believing in the goodness of all people[d]	2.1	.7	2.2	.6	.15	.22
Influencing social values[a]	2.2	.9	2.5	.9	.33	.41
Helping to promote racial understanding[a]	2.0	.9	2.3	1.0	.32	.35
Reducing pain and suffering in the world[a]	2.6	.8	2.9	.8	.38	.40
Helping others who are in difficulty[a]	2.8	.8	3.0	.8	.25	.27
Improving my understanding of other cultures and countries[a]	2.3	.9	2.7	.9	.44	.30
Becoming involved in programs to clean up the environment[a]	1.8	.8	2.2	.8	.50	.32
Most people can grow spiritually without being religious[b]	2.7	.9	3.0	.9	.33	.21
We are all spiritual beings[b]	2.9	.9	2.9	.9	.00	.11
Nonreligious people can lead lives that are just as moral as those of religious believers[b]	3.3	.8	3.5	.8	.25	.07
Accepting others as they are[c]	2.5	.6	2.6	.5	.18	.04

Note. Adapted from "Assessing students' spiritual and religious qualities, by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development, 52* pp. 39-61.
[a]Importance to the respondent.
1=Not important 2=Somewhat important 3=Very important 4=Essential
[b]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[c]Extent to which the respondent engages in the activity.
1=Not at all 2=To some Extent 3=To a great extent
[d]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent

Table J4

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Living One's Philosophy of Life with Integrity Variables (N=272)

Variable	Pre-Survey		Post-Survey		CSBV d	PULSE d
	M	SD	M	SD		
My spiritual/religious beliefs:						
Provide me with strength, support and guidance[a]	2.9	1.0	2.8	1.0	-.10	.21
Lie behind my whole approach to life[a]	2.6	1.0	2.6	1.0	.00	.21
Help to define the goals I set for myself[a]	2.7	1.0	2.7	1.0	.00	.21
Have helped me develop my identity[a]	2.8	1.0	2.8	1.0	.00	.19

Note. Adapted from "Assessing students' spiritual and religious qualities," by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development, 52* pp. 39-61.
[a]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly

Table J5

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Relationship with God Variables (N=272)

Variable	Pre-Survey		Post-Survey		CSBV d	PULSE d
	M	SD	M	SD		
I gain spiritual strength by trusting in a Higher Power[a]	2.8	1.0	2.8	1.1	.00	.13
Prayed[b]	1.7	.5	1.7	.5	.00	.12
Desiring a sense of connection with God/a Higher Power	2.0	.8	2.0	.8	.00	.08

Note. Adapted from "Assessing students' spiritual and religious qualities," by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development, 52* pp. 39-61.
[a]Level of agreement with the statement.
1=Strongly disagree 2=Disagree somewhat 3=Agree somewhat 4=Agree strongly
[b]Frequency of Occurrence
1=Not at all or Not applicable 2=Occasionally 3=Frequently
[c]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent

Table J6

CSBV Means, Standard Deviations, and Effect Size of Pre-Survey/Post-Survey Responses to Religious/Spiritual Struggle Variables (N=272)

Variable	Pre-Survey		Post-Survey			
	M	SD	M	SD	*CSBV d*	*PULSE d*
Struggled to understand evil, suffering, and death[a]	1.8	.7	1.8	.7	.00	.52
Feeling unsettled about spiritual and religious matters[a]	1.8	.7	1.8	.7	.00	.30
Feeling disillusioned with my religious upbringing[b]	1.5	.6	1.5	.7	.00	.24
Disagreed with [my] family about religious matters[a]	1.6	.7	1.6	.7	.00	.20
Felt angry with God[a]	1.5	.6	1.5	.6	.00	.18
Questioned [my] religious/spiritual beliefs[a]	1.7	.7	1.8	.7	.14	.14
Felt distant from God[a]	1.8	.7	1.8	.7	.00	.09

Note. Adapted from "Assessing students' spiritual and religious qualities," by A. Astin, H. Astin, and J. Lindholm, 2011, *Journal of College Student Development*, *52* pp. 39-61.
[a]Frequency of occurrence since entering college
1=Not at all 2=Occasionally 3=Frequently
[b]Extent to which the variable describes the respondent.
1=Not at all 2=To some Extent 3=To a great extent

Table J7

CSBV and PULSE Survey Means on Spirituality Scales

Scale	Pre-Survey			Post-Survey		
	PULSE	CSBV	*p*	PULSE	CSBV	*p*
Spiritual Identification	26.05	22.2	<.001	27.82	23.3	<.001
Spiritual Quest	26.27	21.9	<.001	27.75	23.4	<.001
Interconnectedness of Humanity	55.54	44.9	<.001	59.34	48.2	<.001
PLI	10.86	11	.492	11.64	10.9	.001
Religious/Spiritual Struggle	12.15	11.7	.009	13.25	11.8	<.001
Relationship with God	6.87	6.5	.005	7.15	6.5	<.001

Note. PULSE change measured in the fall of 2012 and spring of 2013. CSBV change measured in the fall of 2004 and spring of 2007.

Table J8

Change in Mean Responses on Spirituality Scales in the CSBV Surveys and PULSE

Surveys

Scale	Change		
	PULSE	CSBV	*p*
Spiritual Identification	1.77	1.1	.012
Spiritual Quest	1.48	1.5	.889
Interconnectedness of Humanity	3.8	3.3	.182
PLI	0.78	-0.1	<.001
Religious/Spiritual Struggle	1.1	0.1	<.001
Relationship with God	0.28	0	<.001
Total	9.21	5.9	<.001

Note. PULSE change measured in the fall of 2012 and spring of 2013. CSBV change measured in the fall of 2004 and spring of 2007.

APPENDIX K

STATISTICAL ANALYSES OF CONCEPTUAL MODEL

The viability of the conceptual model proposed below was tested through multiple regression analyses. These analyses confirm that each aspect of the model is a statistically significant predictor of the next step in the model as demonstrated in Tables K1-K3). Tests for mediation were done by entering these components into the model in varying patterns and considering how the predictive ability of each component changed. As demonstrated in Table K4, class challenge and witnessing injustice do not predict change in *Religious/Spiritual Struggle* as well as an *Eye Opening Experience* does. Table K5 demonstrated that when *Witnessing Injustice*, Class Challenge, and an *Eye Opening Experience* are simultaneously added into the model, only an eye opening experience remains statistically significant. Table K6 demonstrated that when all components are simultaneously added into the model, only change in *Religious/Spiritual Struggle* and *Total Support* remain significant. Thus, statistical analyses support the idea that *Witnessing Injustice* and *Class Challenge* are having an indirect effect on *Religious/Spiritual Struggle* that is mediated through an *Eye Opening Experience*. An *Eye Opening Experience* is having an indirect effect on change in Spiritual Orientation that is mediated through *Religious/Spiritual Struggle*.

Figure K1

Conceptualization of How Spiritual Growth May Be Occurring through PULSE
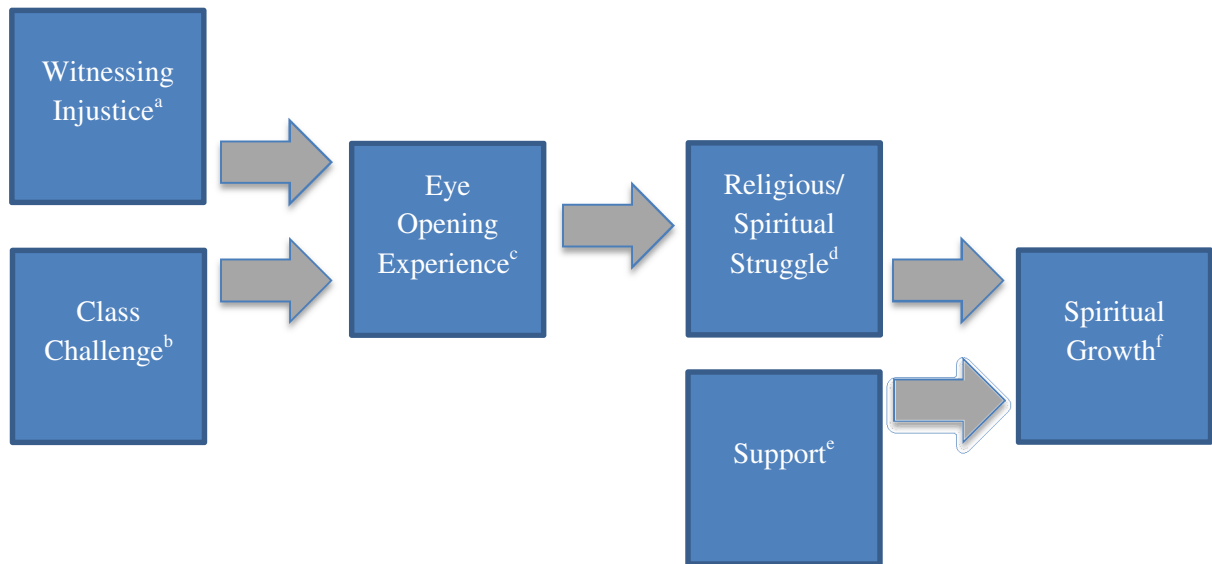
[a]*Witnessing Injustice Scale*
[b]Class Challenge includes a subset of the variables in the *Class Experience Scale* created through factor analysis. The following variables related to being challenged in class are included: The class discussions/reflection groups challenged me to think critically about my assumptions, values, and/or beliefs; Class journaling/reflective writing challenged me to think critically about my assumptions, values, and/or beliefs; Class assignments challenged me to think critically about my assumptions, values, and/or beliefs.
[c]*Eye Opening Experience Scale*
[d]*Change in Religious/Spiritual Struggle Scale*
[e]*Total Support Scale* (The Total Support scale also includes a subset of items from the Class Experience Scale)
[f]*Change in Spiritual Orientation Scale*

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Table K1

Regression Analysis Summary for Class Challenge and Witnessing Injustice Predicting an Eye Opening Experience

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	6.491	.863		7.523	.000
Class Challenge	.668	.069	.487	9.742	.000
Witnessing Injustice Scale	.416	.072	.291	5.811	.000

Table K2

Regression Analysis Summary for an Eye Opening Experience Predicting Change in the Religious/Spiritual Struggle Scale

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-5.934	1.389		-4.272	.000
Eye Opening Experience Scale	.394	.077	.298	5.094	.000

Table K3

Regression Analysis Summary for Change in Religious/Spiritual Struggle and Total Support Predicting Change in Spiritual Orientation

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-14.885	6.427		-2.316	.021
Change in Religious/Spiritual Struggle Scale	1.267	.261	.282	4.863	.000
Total Support Scale	.685	.202	.196	3.381	.001

Table K4

Regression Analysis Summary for Class Challenge and Witnessing Injustice Predicting Change in Religious/Spiritual Struggle

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-3.892	1.467		-2.653	.008
Class Challenge	.195	.116	.107	1.688	.093
Witnessing Injustice Scale	.283	.121	.148	2.342	.020

Table K5

Regression Analysis Summary for Witnessing Injustice, Class Challenge, and an Eye Opening Experience Predicting Change in Religious/Spiritual Struggle

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-6.354	1.573		-4.041	.000
Witnessing Injustice Scale	.101	.126	.053	.800	.424
Class Challenge	-.066	.132	-.036	-.502	.616
Eye Opening Scale	.399	.102	.300	3.900	.000

Table K6

Regression Analysis Summary for Total Support, Change in Religious/Spiritual Struggle, an Eye Opening Experience, Witnessing Injustice, and Class Challenge Predicting Change in Spiritual Orientation

Predictors	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-14.284	7.591		-1.882	.061
Total Support Scale	.589	.299	.170	1.972	.050
Change in Religious/Spiritual Struggle Scale	1.261	.275	.279	4.583	.000
Eye Opening Experience Scale	-.416	.475	-.069	-.877	.382
Witnessing Injustice Scale	.432	.581	.050	.743	.458
Class Challenge	.510	.698	.062	.730	.466

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