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A 17-YEAR LONGITUDINAL STUDY OF SPIRITUAL DEVELOPMENT  
AND PSYCHOLOGICAL CORRELATES IN A SAMPLE  
OF COLLEGE STUDENTS

by

Jeremy D. Bartz

Brigham Young University

A dissertation submitted to the faculty of

Brigham Young University

In partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Counseling Psychology and Special Education

Brigham Young University

August 2009

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BRIGHAM YOUNG UNIVERSITY  
GRADUATE COMMITTEE APPROVAL

of a dissertation submitted by  
Jeremy D. Bartz

This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the dissertation of Jeremy D. Bartz in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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## ABSTRACT

### A 17-YEAR LONGITUDINAL STUDY OF SPIRITUAL DEVELOPMENT AND PSYCHOLOGICAL CORRELATES IN A SAMPLE OF COLLEGE STUDENTS

Jeremy D. Bartz

Department of Counseling Psychology

Doctor of Philosophy

In 1984, 1987 and 2001 data were collected on a religiously devout group of college students in an effort to better understand the process of religious development and the relationship between religiosity and mental health. This study analyzes that data by examining the stability of two different religious development styles that were identified in 1984, the stability of religious motivations over the course of adulthood, and the relationship between devoutness and psychopathology. This study found that (a) the religious developmental styles did not remain consistent from 1984 to 2001, (b) the participants' religious motivations remained stable over the course of adulthood, and (c) these religiously devout individuals have consistently fallen within the normal range on measures of psychopathology and have demonstrated continual reduction in their scores on those measures.

## ACKNOWLEDGEMENTS

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## Table of Contents

Chapter 1: Introduction.....	1
Statement of Problem.....	3
Research Questions.....	4
Literature Review.....	4
Religious development.....	5
Religious motivations over adulthood.....	12
MMPI scores for devout individuals.....	13
Religious development and well-being.....	14
Intrinsic motivations and well-being over time.....	14
Religiousness and psychological factors over time.....	15
Chapter 2: Methods.....	17
Participants.....	17
Measures.....	18
Initial Interviews.....	20
Data Analysis.....	21
Research question 1.....	21
Research question 2.....	22
Research question 3.....	22
Research question 4.....	23
Research question 5.....	23
Research question 6.....	23
Research question 7.....	24



Chapter 3: Results.....	25
Results for Question #1.....	25
Results for Question #2.....	26
Results for Question #3.....	27
Results for Question #4.....	28
Results for Question #5.....	31
Results for Question #6.....	33
Results for Question #7.....	34
Chapter 4: Discussion.....	36
Limitations.....	40
Implications for Clinical Practice.....	41
Recommendations for Future Research.....	41
Summary and Conclusions.....	42
References.....	44
Appendixes.....	50
Appendix A: Personal Data.....	50
Appendix B: Religious Orientation Scale.....	52
Appendix C: Life Charts.....	54
Appendix D: Coding Criteria for Religious Styles.....	57

## Introduction

Many empirical studies during the past two decades have demonstrated a positive relationship between spirituality and psychological functioning (Batson, Schoenrade, & Ventis, 1993; Bergin, Masters, & Richards, 1987; Gartner, Larson, & Allen, 1991; Koenig, 1997; Payne, Bergin, Bielema, & Jenkins, 1991). These studies provide evidence that spiritual factors may be important to consider when seeking understanding of the human psyche. Having a knowledge of how spiritual development takes place is important in order to amplify our understanding of development in general and because it has implications for psychotherapy (Kass & Lennox, 2005; Frame, 2003; Genia, 1990). However, relatively little is known about how people develop spiritually across the lifespan or how that development relates to psychological factors (Benson, Roehlkepartain & Rude, 2003; Clinebell, 1995; Fischer & Richards, 1998; Kass & Lennox, 2005).

Most research studies on spiritual development and its relationship to psychological variables have been limited to correlational and cross-sectional designs (Duke & Johnson, 1998; Fowler, 1981). Although the findings from these studies are valuable and have provided much insight into the relationship between religion, spirituality, and mental health, scholarly understanding about the relationship between these variables over the lifespan is limited. In order to gain further insight into how spiritual development takes place over the lifespan and how it relates to psychological factors, longitudinal research designs are needed (Bergin, Stinchfield, Gaskin, Masters, & Sullivan, 1988; Worthington, 1989).

In 1984 Allen Bergin initiated a longitudinal study to explore spiritual development and how religious lifestyles and spirituality influence personality development and mental health (Bergin, Stinchfield, Gaskin, Masters, & Sullivan, 1988). Sixty undergraduate students at Brigham Young University (BYU) participated in the study. They completed a battery of psychological tests, provided their life histories, and participated in a semi-structured interview conducted by members of the research team. In 1987 a follow-up study was conducted on the same participants (Bergin et al., 1994). The results of these studies provided a number of insights into the relationship between religious lifestyles and mental health. For example, they found that young adults who were religiously devout (i.e. devoted to religion or to the fulfillment of religious obligations) were no more likely than the general population to be at risk for psychopathology as measured by the Minnesota Multiphasic Personality Inventory (MMPI).

Some insight was also gained into the processes of spiritual and moral development in young adults. For example, 44 of the research participants manifested a *continuous* development style where their identification with family and church values progressed smoothly into young adulthood and contributed to healthy personality functioning. For most of these individuals, religion reinforced developmental trends established within the family and they experienced mild religious experiences during their lives. Sixteen others experienced a “discontinuous” developmental style that was characterized by significant fluctuations in religious involvement over their lives. Seven of these discontinuous participants reported that religious experiences tended to compensate for life problems and five of these reported having intense religious

experiences that had a strong impact on their lives. The researchers also found that sometimes spiritual development is influenced by dramatic spiritual experiences (e.g., conversion experiences, missionary service, etc). These experiences appear to have promoted emotional healing and personality integration (Bergin et al., 1994). In the first study, which was conducted in 1984, it appeared that individuals with continuous religious developmental styles fared better in their psychological stability as measured by the MMPI. This finding was not replicated in 1987, but rather the two groups regressed towards the mean and became more similar to each other.

### *Statement of Problem*

Although Bergin's studies have been enlightening, further follow-up is needed to investigate whether these relationships will be observed at later stages of life. In addition, other researchers have made interesting findings regarding spiritual development and the relationship between spirituality and mental health (e.g. Coles, 1990; Emmons, 1999; Fowler, 1981). However, our knowledge regarding these areas is still lacking.

More specifically, few studies have been conducted to examine how religious and spiritual development occurs during the course of adulthood or how spiritual development correlates with psychological variables. To date no studies have been performed to examine the stability of the continuous and discontinuous religious developmental styles and their relationships to mental health over the course of adulthood. In addition, very little is known about the stability of religious motivations over the course of adulthood. Nor have any studies been done to examine the relationship between religious devoutness and psychopathology as measured by the MMPI over the course of adulthood. And finally, no studies have been done to examine

the relationship between the religious developmental styles and psychological variables at later stages of life. The general purpose of this study is to investigate the relationship between religious commitment, development over adulthood and mental health.

### *Research Questions*

The following research questions will be addressed: (a) Are the continuous and discontinuous styles of religious development stable over the course of adulthood? (b) Do religious motivations (i.e., intrinsic and extrinsic) remain stable over the course of adulthood? (c) Are the MMPI scores for these devout individuals still within the normal range for adults? (d) Are there significant differences between the continuous and discontinuous groups in terms of MMPI scores over time? (e) Are there significant differences in the continuous and discontinuous groups in terms of intrinsic religious motivations over time? (f) Are the correlations between intrinsic religious motivations and the clinical scales of the MMPI consistent over the 17-year course of the study? (g) Is there a correlation between clients' life chart reports of their emotional well-being and their reports of closeness to church and God over the course of their lives?

### *Literature Review*

The purpose of this literature review is to discuss the research that has been done over the past twenty years on the variables that were studied at all three data collection points of this longitudinal study, namely religious development, mental health as measured by the MMPI and religious motivations as measured by the Religious Orientation Scale (ROS). This literature review is meant to broaden the reader's understanding of these variables and to demonstrate that there is a paucity of longitudinal research on these variables, thus justifying a need for the proposed study. This literature

review is organized such that each section corresponds to each proposed research question in sequential order.

*Religious development.* Religious/spiritual development has not been fully explored and is a marginal topic in developmental literature (Kass & Lennox, 2005; Benson, Roehlkepartain, & Rude, 2003; Fischer & Richards, 1998; Clinebell, 1995). This is unfortunate because sound knowledge of spiritual development could provide counselors with a framework for understanding “their client’s progress relative to religion and spirituality. . . [and] suggest ways that counselors can assist client’s in moving toward spiritual wholeness” (Frame, 2003, p. 55). Below, nine theories of spiritual/moral development are discussed: Allport’s theory of religious sentiments, Fowler’s stages of faith development, Genia’s stages of faith, Koenig’s theory, Gibson’s levels of Christian maturity, Washburn’s stages of psychospiritual development, Buker’s theory of spiritual development, Kohlberg’s theory of moral development and Oser’s stages of religious judgment. The results of a study of Mormon spiritual development and a longitudinal study of spiritual development performed by Wink and Dillon (2002) will also be discussed.

Allport’s theory posited three stages of religious development (cited by Frame, 2003). According to his theory, stage one starts prior to puberty and is characterized by believing everything one is taught about religion and spirituality from parents and other authority figures. At this stage children cling to their religious beliefs and do not question them due to their desire to feel a sense of belonging with the in-group. This stage may persist beyond childhood or in adolescence the child may shift to stage two. In stage two the adolescent begins questioning the beliefs they held as a child. As part of the

individuation process, adolescents may rebel against the values of their parents and replace faith with “satisfying rationalism.” In stage three adults move between uncertainty and faith. Individuals become able to remain committed to a religious tradition while thinking critically about it. At this stage religion becomes more liberating than oppressive. While Allport puts forth his theory as a general theory of spiritual development, he also cautions that, “There are as many varieties of religious experience as there are religiously inclined mortals upon the earth” (Allport, 1952, p. 27).

Fowler’s theory was based on cross-sectional data collected from 359 individuals (cited by Frame, 2003). Participants’ ages ranged from 3.5 to 84 years old. He identified seven stages. The first stage occurs during infancy and involves learning to trust caregivers. The second stage takes place between three and seven years of age. At this stage children’s conceptions of God are mainly reflections of their relationships with their parents. When children become capable of logical thinking they enter stage three. At stage three their beliefs are one dimensional and literal. They might be perfectionistic, trying to be rewarded for their goodness, or self-abasing, assuming they are bad and will be punished. As individuals hit puberty and gain abstract thinking skills, stage four begins. This stage is characterized by conformity to values and deference to authority. Their beliefs and values are unexamined. When individuals begin to question authority and their beliefs and values, they are entering stage five, which is characterized by critical reflection. The individual begins to analyze and examine their faith and heritage. They also come to commit themselves to faith through conscious choice. Most adults do not reach stage six. It is characterized by embracing the integration of opposites or polarities in one’s life. Individuals in this stage are tolerant of differences while staying firmly

grounded in their own faith systems. Fowler believed that approximately two or three individuals per thousand reach stage seven. This stage is characterized by oneness with the power of God and commitment to universal values.

Genia's five-stage theory (1990) is based on case studies and psychoanalytic theory. This theory is anomalous in that she does not see development as always progressing in a linear fashion. According to Genia, crises, emotional difficulties and traumatic experiences can cause adults to regress to less mature levels of spiritual development. According to her theory, stage one is characterized by egocentricity. God is viewed as an extension of the self and obedience is based on fear of punishment. Individuals at this stage need help forming ego boundaries. At stage two "moral judgment is based on fixed rules of fairness and clearly defined duties and obligations in conformity to one's reference group" (p. 88). At this stage individuals have problems stemming from an oppressive superego and introjected standards. These individuals are dogmatic and intolerant of diversity and ambiguity. "Therapy should focus on helping the individual gain greater acceptance of self and others, and move from an external to an internal locus of authority" (p. 90). At stage three individuals feel disconnected and confused. They begin to explore and trust their own consciences more than religious dogma and question prior religious authorities. Clients at stage three "need a great deal of emotional support as they critically examine their religious beliefs, re-clarify values, and commit themselves to a self-chosen faith" (p. 91). At stage four individuals reconstruct their belief system and internalize standards in which they intrinsically believe. Their new faith serves as a foundation for making life choices. However, stage four individuals still tend to think in terms of dichotomies and absolutes, therefore in therapy they may



benefit from “strategies designed to enrich the individual’s spiritual outlook” such as psychospiritual growth groups (p. 92). Reaching stage five is a rare occurrence. People at this stage have a transcendent relationship to something greater than self, live consistent with religious values, commit without absolute certainty, are open to religious diversity, overcome egocentricity and exhibit magical thinking, etc.

In 1994 Koenig proposed a model of faith development. According to Koenig, mature faith can exist at any age, however, its form varies at different ages due to the differing cognitive abilities and psychological dynamics of each age group. Children possess a faith that is based on the instruction of others whom they have found to be trustworthy e.g. parents. In childhood individuals project their parents’ attributes onto God. As children reach adolescence they oftentimes reject the teachings of their parents and seek a personal experience with God on which they can establish internalized faith. This type of individuation is viewed as normal and a lack thereof should be viewed with concern. At this point individuals either passively follow the faith of their parents, abandon faith altogether or proceed to establish a personal, internalized faith.

In 2004 Gibson proposed a developmental model to explain levels of Christian maturity. In his model the individual moves through four distinct levels. At level one young children “respond to God as an authority due to fear of hell” (p. 299). Thus, accommodation to God’s laws stem from a fear of punishment or hope of reward. At level two children shift from self-centered obedience to obedience that is motivated by a desire to please their parents or other role models. At level three individuals question and challenge their religious beliefs in an effort to come to their own personal beliefs. At

level four individuals have internalized their own beliefs and move beyond a focus on their individual spirituality and actively promote the spirituality of others.

Washburn's theory consists of three stages (cited by Frame, 2003). Progression through the stages is not necessarily linear. The first stage is characterized by a focus on the body and sensuality. At this stage there is a sense of the numinous. The next stage begins during the period of latency and remains pretty stable throughout the rest of one's life. During this stage the individual seeks ego independence, self-control, and autonomous command of will. Social norms and values shape personalities. This stage is marked by emptiness and alienation which serves as a stimulus toward transcendence. The third stage starts no earlier than midlife. It is characterized by a transcendence of dualisms such as body and mind, feeling and thought, etc. These opposites are synthesized and the individual experiences openness, kinship and community.

In 2003 Buker proposed a Christian model of spiritual development that consists of three orders of change. In first order change individuals focus on avoiding that which the law identifies as sinful by their own will-power. In second order change individuals hit a type of despair in which they realize that they are powerless to earn righteousness. In third order change individuals surrender to God, accepting His will and trusting in his power to redeem.

Kohlberg's theory is comprised of six stages of moral judgments (cited by Meadow & Kahoe, 1984). The stages are determined by the process by which one arrives at moral judgments. These stages are strictly cognitive; he did not claim that judgments translate into moral behavior. In the first stage, known as *punishment-and-obedience*, moral judgments are motivated by avoiding bad outcomes, i.e. punishment. During the

second stage, known as *instrumental-relativist*, moral judgments are based on pragmatics or need satisfaction. In the third stage, known as *good boy/nice girl*, people seek to please or be approved by others. In the fourth stage, known as *law-and-order*, moral judgments are made to maintain social order. The fifth stage, known as *social contract*, emphasizes mutually agreed upon obligations and privileges. During the sixth stage, known as *universal ethical principles*, individuals make moral judgments based on abstract principles not rules. None of Kohlberg's longitudinal subjects reached this stage.

Oser's theory (1991) consists of five stages of religious judgment development, which explain how individuals develop in their conceptualizations of their relationship to God and the cosmos. At stage one God is conceived of as creating all things and causing all events. God's will must always be fulfilled or God will inflict sanctions on the disobedient person. People have little influence over God's ultimate decisions. At stage two individuals believe that if they give they shall receive. They believe they can influence God by sacrifice, e.g. prayers, vows, rituals, etc. Stage three reasoning is deistic. God is conceived of as staying out of secular concerns leaving human will to operate in those areas of life. God has a particular realm of action. At stage four individuals see themselves as "free and responsible, but freedom now is tied to the Ultimate Being who gives and sustains freedom" (p.12). It is rare for individuals to reach stage five. At this stage individuals become aware of the all-pervasiveness of God and are committed to living in harmony with God's will.

In 1998 Duke and Johnson published a cross-sectional study on the course of religiosity in Mormons over the course of adulthood. They found that, in general, Mormon individuals rise in spirituality upon marrying, drop a bit during childrearing

years and then rise even higher at retirement and widowhood. Their study did not look for styles of religious development but rather levels of religiosity among various different demographic groups.

In 2002 Wink and Dillon published the results of a longitudinal study of spiritual development across the course of adult life. Generally they found that spirituality increases with age irrespective of gender and cohort. They also found that spirituality seems to increase as a function of cognitive commitment in early adulthood and negative life events between early and middle adulthood. Higher levels of cognitive commitment and negative life events correlate with higher levels of spirituality. These results may conflict with the part of Genia's theory that proposes that negative life events negatively affect spirituality.

Five of the eight aforementioned theories of spiritual development focus on the development of faith over time and how individuals incorporate faith into their lives (e.g., Gibson, Genia, Fowler, and Allport's theories). They share a theme of spiritual development proceeding from a stage of unquestioned, blind acceptance of other's faith, to a stage of questioning and critical examination of one's faith, which leads to an eventual stage of chosen, intrinsic faith.

Two of the aforementioned theories focus on the development of cognitions about religion. Kohlberg's theory focuses on how individuals develop with regards to moral reasoning (cited by Meadow & Kahoe, 1984). Oser's theory (1991) focuses on how individuals develop in regard to how they conceptualize their relationship to God. Neither of these types of spiritual development is pertinent to the scope of this study.

It is of interest that none of the aforementioned theories discuss styles of spiritual development. This concept appears to be a unique contribution to the field that emerged in Bergin's data set. Database searches reveal that since Bergin identified the continuous and discontinuous patterns of religious development, no studies have been done to examine the stability of such developmental styles over adulthood or their relationship to psychological variables. Not even Bergin's follow-up study performed in 1987 examined the continuation of such patterns into adulthood, but rather used the 1984 classifications to analyze the data.

*Religious motivations over the course of adulthood.* In 1967, Allport and Ross described two types of religious motivations—*intrinsic* and *extrinsic* motivations. Intrinsic religious motivations are characterized by internalized beliefs that are adhered to regardless of the external consequences. Extrinsic religious motivations are characterized by a desire to gain status, security, self justification or sociability. These two types of religious motivations are not mutually exclusive.

In 1987, Bergin and Masters recollected data on 56 religious individuals as part of a longitudinal study that commenced in 1984. They found that participants became increasingly intrinsic over the course of the three years that had elapsed (Masters, Bergin, Reynolds, & Sullivan, 1991). They noted, "this finding has not been previously presented and is worthy of replication" (p. 217).

Recently a database search was conducted looking for longitudinal studies of religious motivations. The search revealed 15 results and only one of them had relevance to this study (Foster, 1999). Foster performed a longitudinal study on the moral, religious and identity development of students enrolled at a Christian liberal arts college. They

were given several measures, including the ROS, during their first semester and again three and a half years later. Ninety-four of the subjects continued enrollment to their senior year (persisters) and 35 did not (nonpersisters). They performed differential analyses for these two subgroups. They found that persisters declined in extrinsic religiosity while not changing in intrinsic religiosity. Nonpersisters increased significantly in intrinsic religiosity.

*Longitudinal MMPI scores for devout individuals.* In 1999 Judd did a review of the extant literature examining mental health scores, as measured by the MMPI, of members of several religious denominations and non-religious individuals. He found that there were virtually no significant differences between the scores of the different denominations or between non-religious groups and the religious groups. Virtually all groups, religious and non-religious were within normal limits on all scales of the MMPI (Judd, 1999). These results seem to contradict the suggestion that religiosity is facilitative of mental illness. However, significant as this finding is, the studies reviewed by Judd were cross-sectional in nature, giving us only a snap shot view of the relationship between MMPI scores and religious affiliation. We have yet to learn how being devoutly affiliated with a religion relates to MMPI scores over the course of adulthood.

In 1984 Bergin collected data on 60 religiously devout individuals as part of a longitudinal study of religious life-styles and mental health (Bergin, Stinchfield, Gaskin, Masters, & Sullivan, 1988). Their data revealed that these devout participants were no different than the normal population with regards to psychopathology. In 1987, Bergin and Masters recollected data on 56 of the original 60 participants. The data they collected demonstrated that there was still no evidence of a link between religious devoutness and

pathology. More recently, a database search looking for similar studies revealed no results (Bergin et al., 1994).

*Religious development and psychological well-being.* Recently a search of PsycINFO looking for studies examining the relationship between the "Minnesota Multiphasic Personality Inventory" and "religious development" or "spiritual development" was performed. This search revealed zero results. Subsequently, a more general search of PsycINFO looking for studies that examine the relationship of religious development and wellness was performed. The search revealed 37 results, 34 of which were totally irrelevant. Two of the three remaining studies were obliquely related to this study; however, neither of them examined how religious development itself was related to well-being (Hughes & Peake, 2002; Hunsberger, 1985). One of them investigated the relationships between older adults' spiritual well-being, personality development according to Erikson's model, and level of depression; the other examined the relationship between religiousness and life satisfaction in older adults. One of the 37 results did examine the relationship between religious development and well-being (Cameron, 1998). Cameron examined the relationship between mental health and the maturity of one's faith in a sample of Seventh-day Adventist men and women. Analysis revealed a slightly positive, statistically significant relationship ( $r = .43$ ) between the faith maturity and mental health of respondents. No studies were found that investigated the relationship between religious developmental styles and well-being.

*Intrinsic religious motivations and emotional well-being.* Several studies have identified a positive relationship between intrinsic religious motivations and emotional well-being. For example, a review of the literature by Koenig, McCullough and Larson

(2001) found that people that highly esteem their religious faith for intrinsic reasons may run less risk of becoming depressed and when depressed recover more quickly. On the other hand, religiousness motivated by extrinsic motives is a risk factor for depression. They also report that the majority of evidence indicates that intrinsic religiousness tends to protect against anxiety. Unfortunately, few if any of these studies have examined this relationship over time.

*Religiousness and Psychological Factors.* There has been a plethora of research demonstrating a positive relationship between religiousness and emotional well-being. In a review of the literature, Koenig, McCullough and Larson (2001) reported the following finding: Research indicates that religious involvement may buffer disabled people and their caregivers against negative mental health consequences associated with physical disabilities. There is evidence to suggest an inverse relationship between religiousness and pain intensity. Approximately 80% of the 100 studies that have looked at the relationship between religious involvement and well-being report a positive correlation between religiousness and greater happiness, life satisfaction, moral values, or other measures of well-being. Of the 20% that did not report a positive relationship, 13% reported no association and 7% reported mixed findings. Most of these studies were cross-sectional, thus more prospective cohort studies are needed to examine changes in well-being related to religiousness over time. People not affiliated with any religion run a higher risk for depression. People who are frequently involved in a religious community and who highly esteem their religious faith for intrinsic reasons may run less risk of becoming depressed, and when depressed, recover more quickly. Religiousness motivated by extrinsic motives, on the other hand, is a risk factor for depression.



Religious involvement is negatively correlated with suicide, suicidal behavior and suicidal ideation across many samples from many nations. The majority of evidence indicates that religion, especially intrinsic religiousness, tends to protect against anxiety; however, one study found that religiousness is positively correlated with severity of obsessive-compulsive disorder. There was no prospective research on religiousness as a predictor of schizophrenia, and therefore few conclusions can be drawn. There is growing evidence that religious involvement may help buffer against delinquent attitudes and behaviors. Numerous studies have found a positive relationship between religious involvement and marital stability. There is a robust, positive association between high levels of religious or spiritual involvement and low levels of hostility and high levels of hope.

Rarely do these studies examine these relationships over the course of life. Williams, Larson, and Buckler's study (1991) is an exception to this trend. They reanalyzed interview data collected in 1969 on the effect of religious attendance and affiliation on psychological distress. While they found religious affiliation to be unrelated to mental health status, religious attendance was found to buffer the deleterious effects of stress on mental health. Still more longitudinal data is needed to better understand the relationship between religiousness and emotional well-being.

## Methods

In 2001 a research team spearheaded by Professor P. Scott Richards recollected data on the original participants of Professor Bergin's study (this archival data was analyzed in the present study). The first purpose of the recollection was to gain further insight into the processes of religious and spiritual development experienced by the participants. The second purpose was to gain further insight into how the religious lifestyles and spiritual experiences of the participants have influenced their mental health, psychosocial functioning, and moral values and behavior.

### *Participants*

The original sample was composed of 60 undergraduate dormitory residents (27 men and 33 women) who regularly attended a student ward of The Church of Jesus Christ of Latter-day Saints on the BYU campus (Ulrich, Richards, & Bergin, 2000). The median age of the participants at the onset of the study was between 18 and 19 years. For the most part the participants came from white, middle-class families living in urban areas; all of them were single. Half came from western states and the other half came from 15 other states, Canada, and West Germany. They had an average high school grade point average of 3.51.

At the time of the original study in 1984, most of the participants were markedly intrinsic in their religious orientation and very involved in their church community. Most of them gave much time to voluntary church service and donated sizable amounts of income to religious and humanitarian purposes. Between the first and the second study in 1987, more than half of the participants served two-year full-time church missions.

At the time of the third follow-up the sample was characterized by the following educational, socio-economic, career and religious demographics. The median age of the participants was between 35 and 36 years. Twenty-five of the participants were male and twenty-eight were female. Eighty-one percent of them were married, 5 of the participants never married and 5 were divorced. Of those participants with children the range varied from one to eight with the modal number being two. The modal income of the sample was between \$35,000-\$50,000 and the median income was between \$60,000-\$70,000. The grand majority of the participants remained religiously devout according to their life chart reports. In 2001 most of the participants were still markedly intrinsic in their religious orientation—the mean of the ROS scores being 38.42. Ninety-six percent were still Latter-Day Saints, one had no religious affiliation and one was Lutheran. Ninety percent of the sample attended church weekly; three participants attended most of the time and one participant attended twice a year. On average the sample participants provided 5.7 hours a week to church service. In 2001 data were collected on 53 of the original 60 participants due to the fact that several declined, one had serious health problems, one had passed away and several others were unable to be located. Among the 53 participants that did provide follow-up data some of them failed to complete specific instruments, therefore, the samples varied slightly from one analysis to another.

### *Measures*

Consistent with the previous studies, participants were administered a test battery consisting of a biographical inventory, the MMPI-2 and the Religious Orientation Scale (Allport & Ross, 1967). The MMPI-2 is the most widely used and widely researched test of adult psychopathology. It is used by clinicians to assist with the diagnosis of mental

disorders and the selection of appropriate treatment methods. It has demonstrated good reliability and validity in assessing major symptoms of social and personal maladjustment (Butcher & Williams, 2000). The three validity scales measure the degree of openness and consistency in one's pattern of responses. The ten clinical scales measure various psychological characteristics:

1. Scale 1 measures neurotic concern over bodily functioning.
2. Scale 2 measures poor morale, lack of hope in the future, and a general dissatisfaction with one's own life situation.
3. Scale 3 measures hysterical reaction to stressful situations. High scorers tend to repress and somatize psychological concerns.
4. Scale 4 measures social deviation, lack of acceptance of authority, and amorality.
5. Scale 5 measures deviance from stereotypical gender norms.
6. Scale 6 measures paranoid symptoms such as ideas of reference, feelings of persecution, grandiose self-concepts, suspiciousness, excessive sensitivity, and rigid opinions and attitudes.
7. Scale 7 measures excessive doubts, compulsions, obsessions, and unreasonable fears.
8. Scale 8 assesses a wide variety of content areas, including bizarre thought processes and peculiar perceptions, social alienation, poor familial relationships, difficulties in concentration and impulse control, lack of deep interests, etc.
9. Scale 9 measures elevated mood, accelerated speech and motor activity, irritability, flight of ideas, and brief periods of depression.

10. Scale 0 measures one's tendency to withdraw from social contacts and responsibilities.

The Religious Orientation Scale (ROS), developed by Allport and Ross (1967), measures the degree to which a person's religious life is motivated by intrinsic and extrinsic motivations. The scale was originally conceptualized and developed to represent a continuum. In 1967 Allport and Ross suggested the reformulation of the scale into two distinct intrinsic and extrinsic religious orientation subscales. The measure has shown itself to be useful (Kirkpatrick & Hood, 1990). However, researchers have raised concerns regarding the psychometric properties of this instrument. Brewczynski and MacDonald have demonstrated through factor analysis that the extrinsic scale is not unitary but rather breaks down into multiple factors (2006). They also claim that the constructs purportedly assessed by the ROS may not be invariant across cultures. At the same time, their factor analysis provides general support for the unitary nature of the intrinsic construct.

#### *Initial Interviews*

Using a semi-structured interview guide, members of the research team interviewed each participant for two hours. The interviews revealed a range of information, including some details about each person's life history, values, lifestyle, personal conflicts, life challenges and religious and spiritual experiences. The main goal of these initial interviews was to gain insight into the participants' level of religious commitment during their lives so far and in what ways they perceive that their religious involvement and spiritual experiences have contributed to or detracted from their mental

health and psychospiritual functioning. All of these interviews were transcribed for analysis.

### *Data Analysis*

*Research question 1.* The first research question stated, *Are the continuous and discontinuous styles of religious development stable over the course of adulthood?* To answer this question, the first author contacted one of the original coders to get more information about how the original coders distinguished between continuous and discontinuous individuals in 1984. In addition, in 2005 the available 1984 data were reviewed in order to clarify what was meant by “religious involvement [that] varied significantly between high and low” and “religiousness [that] developed consistently and smoothly over the life span”—the distinguishing criteria used in the original classification (Bergin, Stinchfield, Gaskin, Masters, & Sullivan’s original findings, 1988, p. 92). From this review, several criteria for coding were derived. For example, if participants demonstrated two or more periods of rebellion (where they significantly deviated from church standards), or two or more powerful experiences that became turning points, or two or more dips of half an inch or more on their life charts, or any combination of these they were to be coded as discontinuous. For more information on the coding procedure see appendix D. The first author trained two undergraduate students on how to distinguish between continuous and discontinuous individuals. A reliability check was preformed on their training by having the coders re-code several 1984 interview notes and life charts of either non-repeated participants or blinded data. When the coders derived the same codes as the original coders then they were considered ready to code the 2001 data.

After the coders became familiar with the difference between the two styles of religious development, a focused qualitative analysis was performed on the 2001 life charts to identify which individuals had demonstrated continuous vs. discontinuous styles since 1984. Coders examined the interview transcripts and the section of the life charts that cover the participants' movement during adulthood. The few discrepancies that emerged between coders were settled by a third coder who was trained for this purpose. After the participants' religious styles for the last 17 years had been coded, a Phi coefficient was run to check for stability. Two dichotomous categorical variables can be correlated with a Phi coefficient. A high positive coefficient would indicate concordance from time one to time two.

*Research question 2.* The second research question stated, *Do religious motivations remain stable over the course of adulthood?* To answer this question a two-tailed, repeated measures ANOVA was run on the ROS scores. The ANOVA provided some useful information about group behavior over time, which will be discussed in the results section.

*Research question 3.* The third research question stated, *Are the MMPI scores for these devout individuals still within the normal range for adults?* To answer this question a chi-square goodness of fit test was calculated to determine whether the observed proportion of subjects in the clinical range ( $T \geq 65$ ) would match the expected proportion in that range from the normative sample. The chi-square analysis allows for a comparison of the proportion of the sample that fell within the clinical range with the proportion of individuals that typically fall within the clinical range in normal populations.

*Research question 4.* The fourth research question stated, *Are there significant differences between the continuous and discontinuous groups in terms of MMPI scores over time?* To examine whether or not there were differences, the sample was first divided according to continuous and discontinuous group membership. Then separate split plot ANOVA's were run on each subscale, with Bonferroni's inequality to protect against type I error. This analysis tested for main effects of time, group membership and the interaction between group membership and time of testing.

The way that the sample was divided into continuous and discontinuous groups was contingent on the results of the Phi coefficient from the first analysis. Since there was significant discrepancy from time one to time two, both the original classifications and the new classifications were used to divide the groups and two separate sets of analyses were preformed.

*Research question 5.* The fifth research question stated, *Are there significant differences in the continuous and discontinuous groups in terms of intrinsic religious motivations over time?* In order to check for significant differences, first the sample was divided according to the procedure outlined in the previous paragraph. Then a split plot ANOVA was run. This analysis tested for main effects of time, group membership and the interaction between group membership and time of testing.

*Research question 6.* The sixth research question stated, *Are the correlations between intrinsic religious motivations and the clinical scales of the MMPI consistent over the course of the study?* In order to examine the relationship between intrinsic religious motivations and MMPI scores over the course of the study, Pearson correlation analyses between the ROS and MMPI scales 1-4 and 6-9 were run at each data collection



point. A Bonferroni correction was done in order to protect against Type I error rate due to conducting numerous Pearson correlations. The original plan was then to transform these Pearson correlations between the ROS and MMPI subscales into Fischer Z scores. Subsequently, z-tests were to be calculated to see if the changes in correlations between the ROS and MMPI subscales were significant from time one to time two, from time two to time three and from time one to time three. However, since all of the correlations were non-significant, z-tests to examine the statistical consistency of those correlations were not run. MMPI scales 5 and 0 were not included in the analyses because these scales are not by themselves measures of mental disturbance.

*Research question 7.* The seventh research question stated, *Is there a correlation between client's retrospective life chart reports of their emotional well-being and their reports of closeness to church and God over the course of their lives?* To examine the relationship between retrospective reports of emotional well-being and closeness to God and church over the course of life, the life chart lines were converted into numerical data and then they were correlated using hierarchical linear modeling. Because the life charts were already anchored, the existing anchors of the X-axis—5, 10, 15, 20, etc, were used to indicate years. The existing Y-axis anchors were numbered as follows, 1, 2, 3, 4, 5, 6. Once each five-year point of the lines had been assigned a number for closeness to God, closeness to church and, emotional well-being, those numbers were correlated using hierarchical linear modeling in SAS.

## Results

### *Question 1: Are the Continuous and Discontinuous Styles of Religious Development Stable over the Course of Adulthood?*

As can be seen in Table one, a Phi coefficient was calculated examining the relationship between participants' 1984 religious code types and their 2001 religious code types. The correlation between 1984 and 2001 code types was not statistically significant ( $\Phi = .139, p > .05$ ). This indicates that participants' 1984 code types are not significantly related to their 2001 code types. Thus, overall the code types did not remain consistent from 1984 to 2001.

Table 1

*Relationship between 1984 Code Types and 2001 Code Types*

		2001		Total
		Discontinuous	Continuous	
1984	Discontinuous	4	10	14
	Continuous	6	31	37
Total		10	41	51

Ten of the 14 participants who were coded as discontinuous in 1984 were coded as continuous in 2001. Thus, most individuals that were coded as discontinuous in early adulthood became continuous later in life. Six of the 37 participants who were coded as continuous in 1984 were coded as discontinuous in 2001. Thirty-one of the participants who were coded as continuous in 1984 were also coded as continuous in 2001. Thus, the code types were not consistent enough from 1984 to 2001 to enable us to confidently predict group membership.

*Question 2: Do Religious Motivations Remain Stable over the Course of Adulthood?*

A one-way repeated measures ANOVA was calculated comparing the extrinsic scores of participants at three different times: 1984, 1987, and 2001. As seen in table two, no significant effect was found ( $F(2,104) = .974, p > .05$ ), which indicates that there were no significant differences on the participants' extrinsic scores at 1984, 1987 and 2001. A one-way repeated measures ANOVA was calculated comparing the intrinsic scores of participants at three different times: 1984, 1987, and 2001. As seen in table two, no significant effect was found ( $F(2,104) = 1.71, p > .05$ ), which indicates that there were no significant differences on the participants' intrinsic scores at 1984, 1987, and 2001. Thus, the repeated measures ANOVAs indicate that the religious motivations for these Latter-day Saint adults remained stable from 1984 to 1987 to 2001.

Table 2

*Repeated Measures ANOVA for Extrinsic and Intrinsic Scores*

	M	SD	F	P
1984 Extrinsic	23.13	5.14	.974	.381
1987 Extrinsic	22.19	5.19		
2001 Extrinsic	22.77	3.95		
1984 Intrinsic	38.00	4.50	1.71	.187
1987 Intrinsic	39.32	3.64		
2001 Intrinsic	38.42	4.40		

*Note.* N = 53 df = 2

*Question 3: Are the MMPI Scores for these Devout Individuals Still Within the Normal Range for Adults?*

A chi-square goodness of fit test was calculated to determine whether the observed proportion of subjects in the clinical range ( $T \geq 65$ ) would match the expected proportion in that range from the normative sample. The chi-square analysis allows for a comparison of the proportion of this sample that fell within the clinical range with the proportion of individuals that typically fall within the clinical range in normal populations. This procedure seemed to be more sensitive to the question than comparing mean values which are typically distorted in skewed distributions such as distributions of psychopathology. Butcher and Williams (2000) report that 8% of individuals from normal populations typically fall within the clinical range (p. 7).

Table 3

*MMPI Descriptives and Chi Square Data for Study Sample*

	Scale 1	Scale 2	Scale 3	Scale 4	Scale 6	Scale 7	Scale 8	Scale 9
Means	52.21	50.96	54.85	51.19	49.42	49.73	49.52	44.60
S D	7.89	9.25	7.24	7.06	7.71	7.21	6.26	6.02
Proportion in Clinical Range	.072	.038	.115	.038	.019	.038	.000	.000
Chi Square	.007	1.219	.885	1.219	2.609	1.219		
Chi Square Significance	.935	.270	.347	.270	.106	.270		

As can be seen in Table three, no significant deviation from what would be expected in the normal population was found for scales 1, 2, 3, 4, 6, or 7 ( $p < .05$ ). Scales 8 (schizophrenia) and 9 (hypomania) had zero subjects in the clinical range, making them

impossible to analyze with chi-square, so the analogous z test was run on those scales. Those z tests detected significantly less subjects in the clinical range than what would be expected in the normal population ( $Z = -2.13$ ,  $p < .05$ ). This finding suggests that this sample of religiously devout individuals has no more psychopathology (as measured by scales 1, 2, 3, 4, 6, & 7) than normal samples, and has significantly less psychopathology (as measured by scales 8 & 9) than normal samples.

*Question 4: Are there Significant Differences between the Continuous and Discontinuous Groups in Terms of MMPI Scores over Time?*

As can be seen in Table four, split plot ANOVAs were calculated comparing the MMPI scores for individuals who were coded as continuous against those who were coded as discontinuous in 1984. Due to the fact that the religious code types were not consistent from 1984 to 2001, additional split plot ANOVAs were calculated comparing the MMPI scores for individuals who were coded as continuous against those who were coded as discontinuous in 2001. The results of those ANOVAs are displayed in Table five. When the ANOVAs were grouped according to the 1984 code types and Bonferroni correction was applied, the only significant interaction occurred between code type and scale 4 (psychopathic deviate). This interaction is illustrated below in Figure one. When the data were grouped according to the 2001 code types there were no significant interactions after Bonferroni correction was applied. Thus, by and large, the groups did not differ in terms of their clinical scale scores over the course of the study.

Table 4

*Results of the Split Plot ANOVAs Grouped by 1984 Code Type*

MMPI		Continuous		Discontinuous		Interaction	<i>P</i>
clinical scales	Years	Mean	SD	Mean	SD	<i>F</i> values	value
F Scale Infrequency	1984	55.37	5.39	57.15	4.65	1.35	.264
	1987	54.00	3.25	52.69	4.55		
	2001	44.86	5.81	45.46	4.16		
Scale 1 Hypochondriasis	1984	52.74	8.80	53.31	11.18	.083	.920
	1987	51.49	10.29	50.77	7.38		
	2001	52.34	8.19	52.38	7.33		
Scale 2 Depression	1984	47.09	6.31	48.69	8.14	4.27	.017
	1987	51.66	7.69	47.92	7.00		
	2001	49.94	10.18	55.00	6.46		
Scale 3 Hysteria	1984	55.94	8.47	56.46	6.60	.822	.443
	1987	58.60	7.49	57.92	6.90		
	2001	54.29	7.12	56.92	8.45		
Scale 4 Psychopathic Deviate	1984	55.11	6.98	67.62	10.83	5.91	.004*
	1987	57.46	8.38	59.38	11.14		
	2001	50.69	6.82	52.92	8.35		
Scale 6 Paranoia	1984	54.29	9.21	57.85	5.51	.875	.420
	1987	53.46	7.25	58.23	6.26		
	2001	49.26	8.15	50.00	7.13		
Scale 7 Psychasthenia	1984	57.26	6.53	61.46	10.81	1.47	.236
	1987	55.89	10.26	54.38	10.02		
	2001	48.94	7.18	52.85	7.38		
Scale 8 Schizophrenia	1984	57.71	7.41	65.31	11.74	2.07	.132
	1987	54.14	10.13	54.77	9.90		
	2001	49.43	6.66	50.31	5.41		
Scale 9 Hypomania	1984	62.20	8.80	64.69	8.48	.52	.599
	1987	58.26	8.59	57.54	7.82		
	2001	44.29	6.16	45.46	6.42		

*Note.* \*  $p < .05$ ;  $N = 48$ ;  $df = 2$

Table 5

*Results of the Split Plot ANOVA Grouped by 2001 Code Type*

MMPI		Continuous		Discontinuous		Interaction	<i>P</i>
clinical scales	Years	Mean	SD	Mean	SD	<i>F</i> values	value
F Scale Infrequency	1984	55.95	5.68	55.50	3.03	.37	.692
	1987	53.45	3.58	54.40	3.89		
	2001	44.76	5.44	46.00	5.29		
Scale 1 Hypochondriasis	1984	52.11	8.06	55.90	13.40	.511	.602
	1987	49.87	8.05	56.70	12.89		
	2001	51.55	7.91	55.40	7.41		
Scale 2 Depression	1984	47.03	6.80	49.40	6.84	.408	.666
	1987	49.82	7.65	53.80	6.99		
	2001	51.13	10.03	52.00	7.70		
Scale 3 Hysteria	1984	55.03	7.46	60.10	8.83	.184	.832
	1987	57.63	7.19	61.40	7.12		
	2001	54.29	7.53	57.70	7.09		
Scale 4 Psychopathic Deviate	1984	57.97	10.41	60.50	7.36	1.75	.180
	1987	56.45	8.97	63.80	7.53		
	2001	51.29	6.87	51.30	8.95		
Scale 6 Paranoia	1984	56.21	8.47	51.60	7.79	3.12	.049
	1987	54.74	7.62	54.80	6.03		
	2001	48.68	7.58	52.40	8.41		
Scale 7 Psychasthenia	1984	58.03	8.10	59.80	7.96	2.70	.073
	1987	53.74	9.55	62.10	9.86		
	2001	50.16	7.86	49.40	5.40		
Scale 8 Schizophrenia	1984	59.71	9.45	60.00	9.19	3.49	.035
	1987	53.00	10.17	59.30	7.65		
	2001	50.66	6.10	45.90	5.87		
Scale 9 Hypomania	1984	63.21	9.21	61.60	6.60	.55	.581
	1987	57.79	8.37	59.10	8.45		
	2001	45.03	6.67	43.00	3.65		

*Note.* \* $p < .05$ ;  $N = 48$ ;  $df = 2$

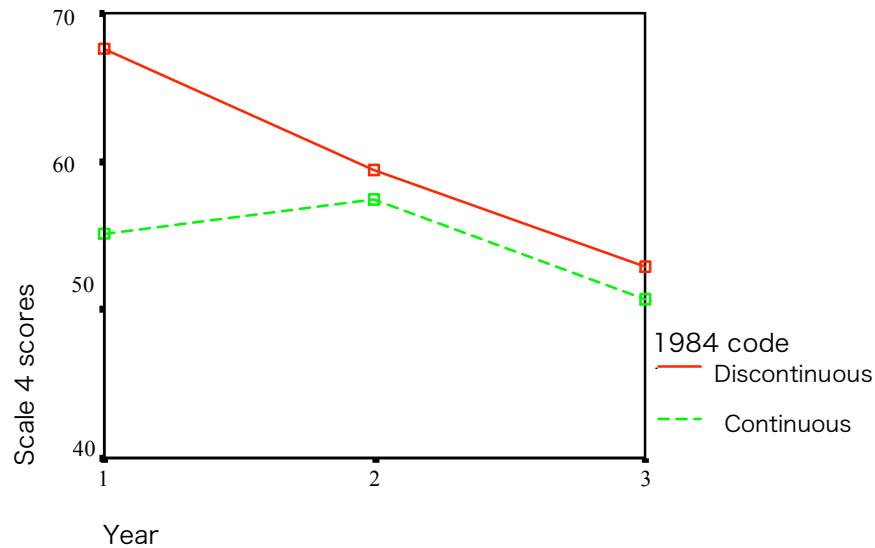


Figure 1. Interaction between scale 4 and 1984 code types

*Question 5: Are there Significant Differences in the Continuous and Discontinuous Groups in Terms of Intrinsic Religious Motivations over Time?*

A split plot ANOVA was calculated comparing the intrinsic scores of participants who in 1984 were coded as discontinuous with those who were coded as continuous over the three different times: 1984, 1987, and 2001. As seen in Table six, no significant interaction was found ( $F(2,94) = .42, p > .05$ ). Thus, there was no differential change in intrinsic religiosity according to group membership as coded in 1984.

A split plot ANOVA was calculated comparing the intrinsic scores of participants who in 2001 were coded as discontinuous with those who were coded as continuous across the three different times: 1984, 1987, and 2001. As seen in Table seven, no significant interaction was found ( $F(2,94) = 1.99, p > .05$ ). Therefore, there was no differential change in intrinsic religiosity according to continuous/discontinuous group membership as coded in 2001.



Table 6

*Comparison of 1984 Code Types in Terms of Intrinsicness over Time*

Years by 1984 Code	Means	Standard Deviation	F value	p. value
1984 Intrinsic Discontinuous	37.46	5.93	.45	.66
1984 Intrinsic Continuous	37.97	4.10		
1987 Intrinsic Discontinuous	40.23	3.00		
1987 Intrinsic Continuous	39.33	3.16		
2001 Intrinsic Discontinuous	37.92	4.99		
2001 Intrinsic Continuous	38.36	4.28		

*Note.* N = 13 discontinuous and 36 continuous; df = 2

Table 7

*Comparison of 2001 Code Types in Terms of Intrinsicness over Time*

Years by 2001 Code	Means	Standard Deviation	F value	p. value
1984 Intrinsic Discontinuous	37.00	6.94	1.99	.14
1984 Intrinsic Continuous	38.05	3.87		
1987 Intrinsic Discontinuous	39.50	2.27		
1987 Intrinsic Continuous	39.59	3.32		
2001 Intrinsic Discontinuous	35.30	6.46		
2001 Intrinsic Continuous	39.00	3.47		

*Note.* N = 10 Discontinuous and 39 Continuous; df = 2

*Question 6: Are the Correlations between Intrinsic Religious Motivations and the Clinical Scales of the MMPI Consistent over the Course of the Study?*

Pearson correlations were calculated examining the relationship between participants' intrinsic scores and their clinical scale scores for each data collection period. As seen in Table eight, weak correlations that were not statistically significant were found for all of the clinical scales. The negative correlations ranged from -.009 to -.323 and the positive correlations ranged from .007 to .166. Prior to correcting for multiple correlations, the relationship between intrinsic scores and Scale 4 scores in 1987 was significant ( $r = -.323$ ,  $p < .05$ ), however this dropped out of significance once the Bonferroni correction was applied. Since all of the correlations were non-significant, Z-

tests to examine change in those correlations were not run. This finding indicates that intrinsic religiousness is not consistently or significantly associated with psychopathology as measured by the clinical scales of the MMPI in this sample of devout Latter-day Saint adults.

Table 8

*Correlations between Intrinsic Motivations and Clinical Scales of the MMPI*

		HS	D	HY	PD	PA	PT	SC	MA	F
1984	Intrinsic Scores	.082	.082	.126	-.098	.094	.094	-.170	.032	-.148
1987	Intrinsic Scores	.074	-.009	.015	-.323	.007	-.167	-.223	-.122	-.132
2001	Intrinsic Scores	-.118	-.140	.166	.078	-.048	-.032	.037	.081	-.184

*Note.* N = 49 \* p < .05

*Question 7: Is there a Correlation between Client's Retrospective Life Chart Reports of their Emotional Well-Being and their Reports of Closeness to Church and God over the Course of their Lives?*

Hierarchical linear modeling was used to examine the relationship between self-rated emotional well-being and closeness to church and God on the participants' life charts. A statistically significant correlation between emotional well-being and closeness to God was found (slope = 0.3,  $F = 47.88$ ,  $p < .0001$ ). This means that for every one point increase in closeness to God we would expect to see a 0.3 point increase in emotional well-being scores. A statistically significant correlation between emotional well-being and closeness to church was found (slope = 0.312,  $F = 55.99$ ,  $p < .0001$ ). This means that

for every one point increase in closeness to church we would expect to see a 0.312 point increase in well-being scores. A statistically significant correlation between closeness to church and closeness to God was also found (slope = .771,  $F = 660.79$ ,  $p < .001$ ). This means that for every one point increase in closeness to God we would expect to see a 0.771 point increase in closeness to church. These findings indicate that this sample of Latter-day Saint adults perceived fluctuations in their emotional well-being in a way that was significantly related to their perceptions of fluctuations in their personal religiousness and spirituality.

## Discussion

The finding that the continuous/discontinuous religious developmental code types did not remain consistent from 1984 to 2001 is an interesting extension of Bergin, Stinchfield, Gaskin, Masters, & Sullivan's original findings (1988). The discontinuous code type appears to be especially unstable over the course of adulthood. Most individuals coded as discontinuous in adolescence were coded as continuous in middle adulthood. This is consistent with surveys studies that suggest that disengagement from religion is more common among younger people, "especially those in their late teens and early 20's" (Hood, Spilka, Hunsberger, & Gorsuch, 1996, p. 100). The discontinuous style of religious development was primarily characterized by periods of disengagement from religion in the form of deviance from religious mores or lapses in religious activity.

Given that the 1984 codings were based on the participants' development from childhood through adolescence, one might speculate that individuals are more likely to experience fluctuations in their religiousness during adolescence due to lack of identity development and the process of individuation. As individuals complete the moratorium stage of identity development (Marcia, 1966) and establish a more stable sense of who they are and what they value, it may stabilize their religious development. Hood, Spilka, Hunsberger and Gorsuch (1996) suggest that the disengagement from religion that is common during adolescence "may simply represent youthful exploration of alternative ideas and religions" (p. 101). In addition, most of the individuals in this study had started families since the first data collection in 1984. It is possible that the influence of these participants' spouses may be partially responsible for the shift from discontinuous to continuous religious development. Stott (1988) found a strong positive reciprocal

relationship between the subjects' adult religious involvement and their spouse's religiosity. In contrast, parents' religious involvement was only weakly correlated with participants' adult religious involvement.

This study found that the ROS scores remained very stable across the three data collection points. This indicates that religious motivations in this sample have remained stable over the course of adulthood. The extrinsic scale was included in this analysis in spite of its poor internal consistency in order to keep this study consistent with the 1987 follow-up. The finding that this sample is still highly intrinsic is consistent with past studies of young Latter-day Saint samples drawn from Brigham Young University (Bergin, Masters, & Richards, 1987). The current finding indicates that religious motivations may remain fairly stable over the course of adulthood.

It also indicates that this sample's high intrinsic scores were not just a function of their experience attending a highly religious university, such as BYU, where religion permeates many aspects of students' academic and social lives. This longitudinal finding also helps to rule out the hypothesis that the participants' initial intrinsic scores were high due to the high levels of social desirability that would likely be present in an environment that rewards religious devoutness. In addition, it is unlikely that these results have been confounded by a ceiling effect because the mean intrinsic scores for 1984, 1987 and 2001 were 38.00, 39.32, and 38.42 respectively, which is well below the highest possible intrinsic score of 45. It would be helpful to replicate this analysis on other religious groups so that we could more confidently generalize across religious populations.

The finding that this devout sample has consistently been in the normal range on the MMPI clinical scales is a longitudinal refutation of the claims that religion is

deleterious to mental health (Ellis, 1980). If it were true that religious devoutness leads to psychopathology we would have expected a higher proportion of this devout sample to fall into the clinical range on the MMPI scales. We would have also expected to see that proportion increase over time as the sample remained devout. However, this was not observed; rather, this sample has consistently been similar to normal samples while remaining consistently devout. This finding concurs with previous research suggesting that religion is not psychologically harmful and in some cases may promote psychological health. For example, Gartner, Larson, and Allen's review of the literature found that, the large majority of research suggests that religiosity is associated with lower levels of depression (1991). In Koenig, McCullough, and Larson's review of the literature in 2001 it was found that most evidence indicates that religion, especially intrinsic religiousness, tends to protect against anxiety. They also found that many studies demonstrate that religiousness is not correlated with schizotypal or psychotic thinking and that some studies show a negative correlation between the two.

Correspondingly this study demonstrated that the correlations between participants' intrinsic religious motivations and their MMPI clinical scores were consistently non-significant. This finding is consistent with other studies that have found non-significant correlations between religiosity and the MMPI (Bohrnstedt, Borgatta, & Evans, 1968; Broen, 1955). The extrinsic scale was not included in this analysis owing to the facts that the extrinsic scale has demonstrated poor psychometrics and this question was unique to this study. The fact that this sample's intrinsic scores were not positively or negatively correlated with their MMPI scores indicates that psychopathology, as measured by the MMPI clinical scales, may not be associated with religious intrinsicness.

The consistency of these findings over the course of 17 years suggests that the previous findings were not just a function of cross-sectional confounds. The finding that these devout individuals are even less pathological than we would expect on scales 8 (schizophrenia) and 9 (hypomania) is consistent with the literature suggesting that religion and spirituality may facilitate mental health (Gartner, Larson, & Allen, 1991; Koenig, McCullough, & Larson, 2001).

When the data were grouped by the 1984 code types the only interactions between code type and MMPI scores occurred on scale 2 (depression) and scale 4 (psychopathic deviate). And when the data were grouped by the 2001 code types the only interactions occurred on scales 6 (paranoia) and 8 (schizophrenia). Thus, for the majority of clinical scales, the continuous and discontinuous group did not change differentially over time. The scales that did manifest significant differential change did so in a random and inconsistent way. There is no pattern among the interactions indicating that they may not be meaningful. In addition, all of the interactions took place in the non-clinical range. Fluctuations in the non-clinical range are not as noteworthy as those that exceed the clinical cut off. This finding indicates that the religious code types do not tell us much about how individuals will respond in terms of the MMPI clinical scales.

No interactions were found between intrinsic scores and religious development code types for 1984 or 2001 across time. It appears that how individuals were judged in terms of religious development makes no difference in terms of how their intrinsic religious motivations change over time. In addition, there was no main effect for code type when the data were grouped by 1984 codes or when they were grouped by 2001 codes. Thus, code type has little bearing on intrinsic scores over time.



As was anticipated, there was a correlation between the participants' life charts of emotional well-being, closeness to God, and closeness to church. This analysis supports the findings of many other studies that indicate a positive relationship between spirituality and their emotional well-being. However it is unique in that it examines the relationship over the course of the participants' lives rather than at one moment in time.

### *Limitations*

One limitation of this study involves the methodology by which the individuals were coded in 2001. The original researchers did not leave detailed instructions explaining how they coded the participants. The coding criteria were extrapolated from recollections of one of the original researchers and an analysis of the 1984 interviews and life charts. If there was any error in this extrapolation process it may have confounded the 2001 coding. However, we have reason to believe the participants were coded in 2001 using a similar method to that of 1984.

In addition, this limitation only influences the findings of research questions one, four and five. It is also important to note that this study is based on a small non-random sample. Therefore, the generalizability of these results is limited. However, in spite of this limitation the nature of this sample was appropriate for answering the central question—is religious devoutness associated with mental health or illness over the course of adulthood? Finally, the interpretation of the significant correlations between the trajectories of the participants' life charts should be tempered by the understanding that these life charts were filled out at one point in time, and may be subject to retrospective error.

### *Implications for Clinical Practice*

The results of this study underscore the importance of not assuming that religious devoutness is necessarily a source of psychopathology. Conversely, religion may actually be a resource that can be utilized to facilitate healing. Several scholars have discussed how clients' religious beliefs and spirituality may be used in therapy to help promote therapeutic change (Miller, 1999; Richards & Bergin, 2005; Richards, Hardman, & Berrett, 2007; Sperry & Shafranske, 2005). Richards and Bergin (2005) have suggested assessing several religious/spiritual dimensions of clients' lives including: worldview, affiliation, orthodoxy, religious problem solving style, spiritual identity, God image, value-lifestyle congruence, doctrinal knowledge, spiritual maturity, and openness to spiritual interventions. Such assessments can help clinicians determine what role religion and spirituality plays in their clients' lives; namely, is it a positive influence and potential resource during treatment, is it an unhealthy influence and contributing to clients presenting problems, or both? Once a careful religious and spiritual assessment has been conducted then clinicians are in a better position to determine whether religious and spiritual interventions might be helpful during the treatment process. We refer readers to other sources for more information about the use of religious and spiritual interventions in clinical practice (Miller, 1999; Richards & Bergin, 2005; Richards, Hardman, & Berrett, 2007; Shafranske, 1996; Sperry & Shafranske, 2005).

### *Recommendations for Future Research*

Due to the fact that this sample was limited to a very unique subgroup of the population, it would be helpful if similar studies were performed with more diverse samples. Performing similar longitudinal studies with non-college educated, lower socio-

economic status, multiethnic, non-intrinsic, non-Mormon samples would shed additional light on the relationship between religion and mental health. Additionally, it would be helpful to examine the relationship between psychopathology and other kinds of devoutness such as religious orthodoxy, fundamentalism, etc. Some versions of devoutness may be healthier than others. Finally, longitudinal studies with larger sample sizes would help to further address the questions examined in this study.

### *Summary and Conclusions*

The findings of the current study indicate that the religious development code types do not appear to be a stable pattern of development. These code types failed to predict psychological variables as measured by the religious orientation scale and the MMPI. This study demonstrates the stability of religious motivations during adulthood. The most significant result of this study is that it provides longitudinal support for the notion that religious devoutness is not deleterious to mental health and may even facilitate it. This is one of the few studies that have examined this issue in a longitudinal manner over a very long period of time. This study joins with many other studies that have refuted the hypothesis that religious devoutness is associated with poorer mental health. In this study religious devoutness was defined in terms of intrinsicness of religious motivations. In the future it may be interesting to investigate the effect of other types of devoutness such as religious commitment, orthodoxy, fundamentalism, etc. Some versions of devoutness may be healthier than others. From this study we conclude that intrinsic religiosity is a healthy form of devoutness. Finally, it should be noted that even though the findings of this study refute the hypothesis that religiousness devoutness leads to psychopathology, it does not refute the notion that rigidity is associated with

psychopathology. Rigid applications of religion may have negative effects on psychological well-being; however, that may have less to do with religiousness and more to do with the way one uses religion due to unhealthy personality attributes.

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Appendix A

*Personal Data*

**Education**

\_\_\_\_\_ # years *past* freshman year at BYU  
\_\_\_\_\_ Highest degree held

**Occupation**

Current \_\_\_\_\_

\_\_\_\_\_  
(Please be as descriptive as possible)

\_\_\_\_\_ Previous 1  
\_\_\_\_\_ Previous 2

Residence

Years at current residence \_\_\_\_\_

Approximate number of residences  
since 1986 \_\_\_\_\_

Do you plan to relocate during the next 3 years? \_\_\_\_\_

Annual Household Income

- \_\_\_\_\_ \$20,000 or under
- \_\_\_\_\_ \$20,001 to \$35,000
- \_\_\_\_\_ \$35,001 to \$50,000
- \_\_\_\_\_ \$50,001 to \$60,000
- \_\_\_\_\_ \$60,001 to \$70,000
- \_\_\_\_\_ \$70,001 to \$80,000
- \_\_\_\_\_ \$80,000 to \$90,000
- \_\_\_\_\_ \$90,001 to \$100,000
- \_\_\_\_\_ \$100,001 to \$125,000
- \_\_\_\_\_ \$125,001 to \$150,000
- \_\_\_\_\_ \$150,001 plus

**Family Composition**

Marital status \_\_\_\_\_

Name and age of spouse (if any)

\_\_\_\_\_

Names and ages of children (if any)

\_\_\_\_\_

\_\_\_\_\_

**Special Circumstances**

Please let us know of any special circumstances or family situations.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(Use the back of this form if needed)

Religious Affiliation

Denomination \_\_\_\_\_

Frequency of church attendance \_\_\_\_\_

Number of family members attending your church weekly \_\_\_\_\_

Current church position, if any \_\_\_\_\_

\_\_\_\_\_

If any, spouse's current church position \_\_\_\_\_

Approximate number of hours spent in church related service per week \_\_\_\_\_

Approximate number of close friends in church congregation \_\_\_\_\_

If LDS, approximate current annual temple attendance \_\_\_\_\_

## Appendix B

### *Religious Orientation Scale (ROS)*

Please indicate to which you agree or disagree with each item below by using the following rating scale:\*

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

#### *Extrinsic (sub)scale\*\**

1. Although I believe in my religion, I feel there are many more important things in my life.
  - It doesn't matter so much what I believe so long as I lead a moral life.
  - The primary purpose of prayer is to gain relief and protection.
  - The church is most important as a place to formulate good social relationships.
  - What religion offers me most is comfort when sorrows and misfortune strike.
  - I pray chiefly because I have been taught to pray.
  - Although I am a religious persona I refuse to let religious considerations influence my everyday affairs.
  - A primary reason for my interest in religion is that my church is a congenial social activity.
  - Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
  - One reason for my being a church member is that such membership helps to establish a person in the community.
  - The purpose of prayer is to secure a happy and peaceful life.

#### *Intrinsic (sub)scale\*\**

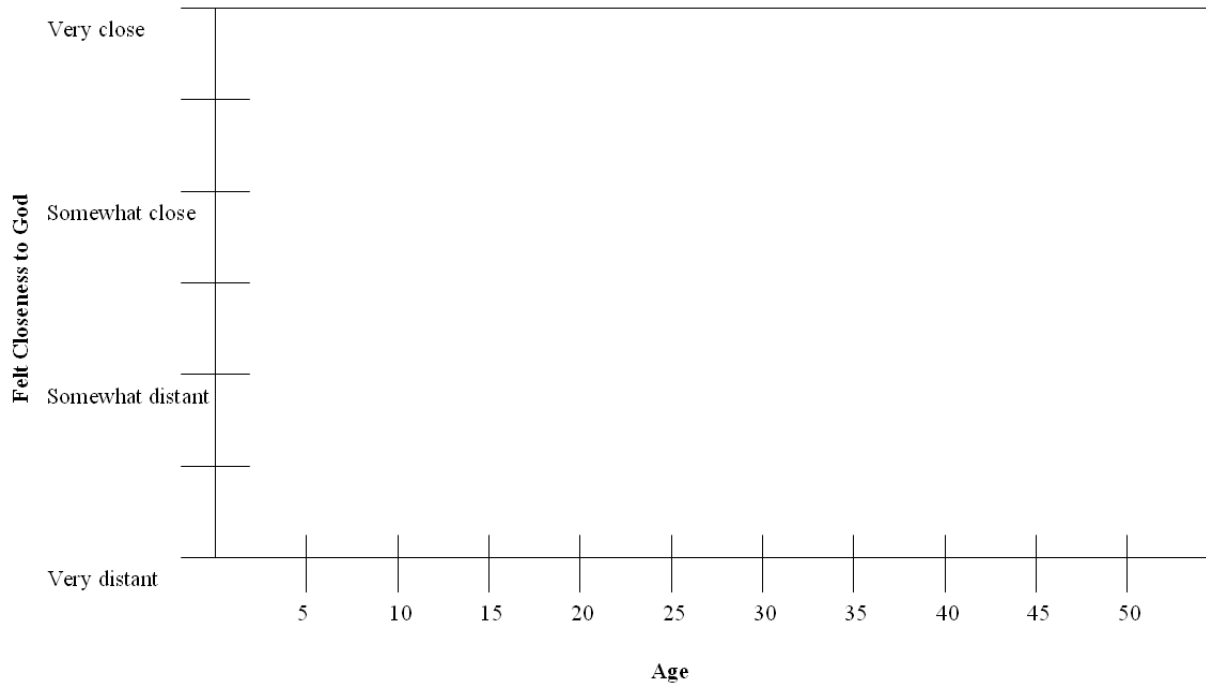
1. It is important for me to spend periods of time in private religious thought and meditation.

2. If not prevented by unavoidable circumstances, I attend church.
3. I try hard to carry my religion over into all my other dealings in life.
4. The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services.
5. Quite often I have been keenly aware of the presence of God or the Divine Being.
6. I read literature about my faith (or church).
7. If I were to join a church group I would prefer to join a Bible study group rather than a social fellowship.
8. My religious beliefs are really what lie behind my whole approach to life.
9. Religion is especially important because it answers many questions about the meaning of life.

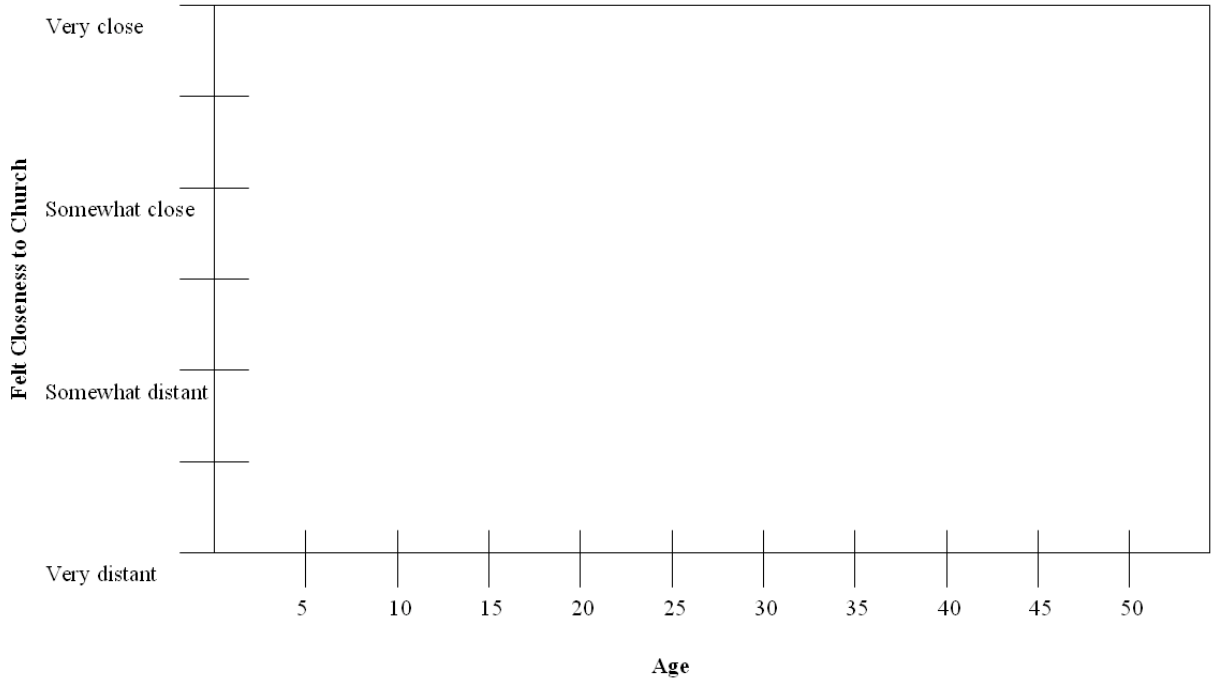
\*\*The ordering of all 20 items was scrambled

## Appendix C

### Life Chart #1: Closeness to God Over Time

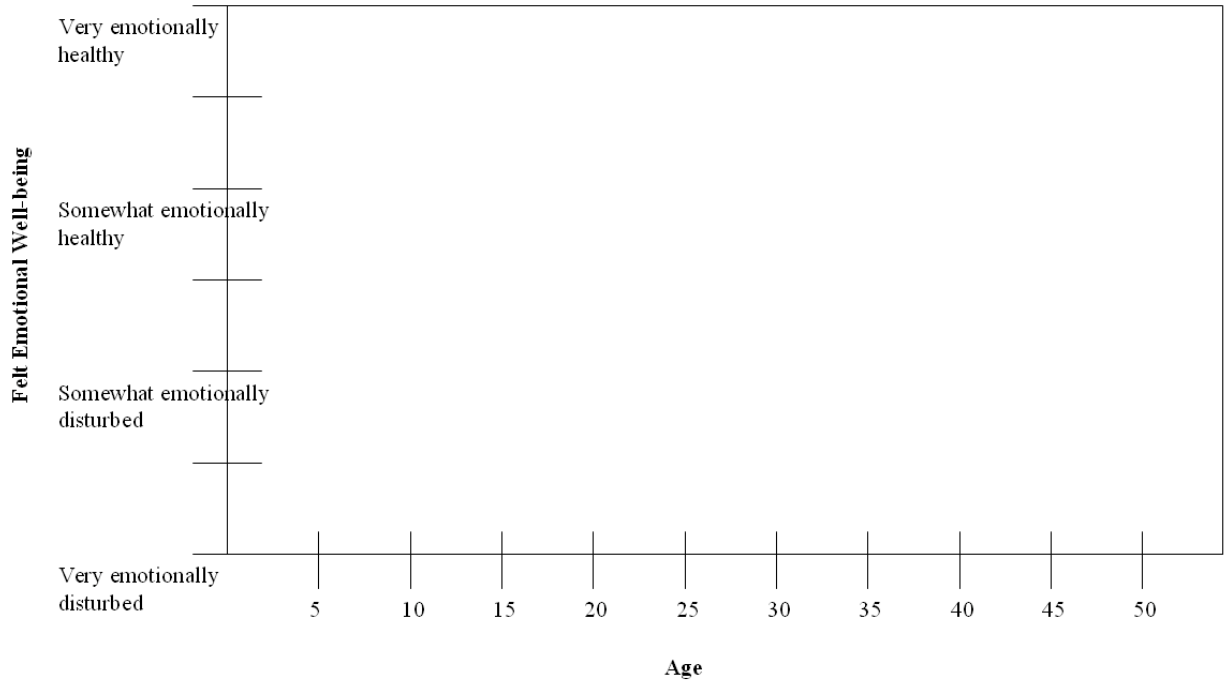


### Life Chart #2: Closeness to Church Over Time





### Life Chart #3: Emotional Well-Being Over Time



## Appendix D

### *Coding Criteria for Religious styles of development*

#### **Discontinuous Individuals**

##### *Interviews*

They experienced either:

- 2 or more periods of deviation (times when they significantly deviated from church standards. This refers to serious things like law of chastity or word of wisdom to the point where their church status is jeopardized) **or**
- 2 or more turning points **or**
- One period of deviation and one turning point

##### *Charts*

2 or more dips of half an inch or more (from a peak to the nearest trough)

#### **Continuous Individuals**

##### *Interviews*

They do not report:

- 2 or more periods of deviation (times when they significantly deviated from church standards) **or**
- 2 or more turning points **or**
- One period of deviation and one turning point

But rather report a fairly consistent adherence to church standards throughout their lives.

##### *Charts*

No more than one dip of ½ inch or more

#### **Final Code**

If both the charts and the transcripts coincide then the code is clear, e.g. if there are two or more dips of ½ inch AND one of the interview criteria then it is clearly discontinuous, or if there is a lack of both dips and interview criteria then it is clearly continuous.

However, if there is a discrepancy then go with the one that is the clearest, most defined, most salient.