9-2006

Religious Belief, Coping, and Mental Health in Seventh-day Adventists

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Religious Belief, Coping, and Mental Health in Seventh-day Adventists

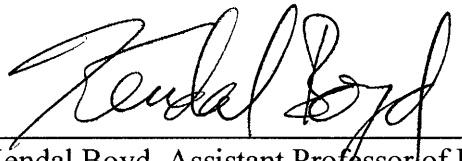
by

Luther E. Davis

A Dissertation submitted in partial satisfaction of
the requirements for the degree of
Doctor of Philosophy in Psychology

September 2006

Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy in Psychology.



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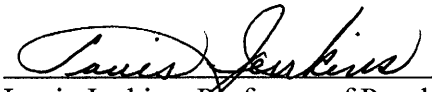

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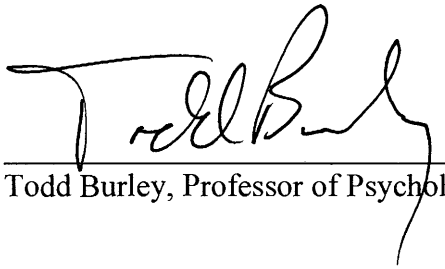

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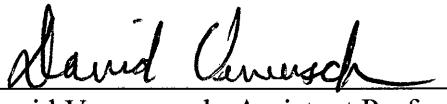

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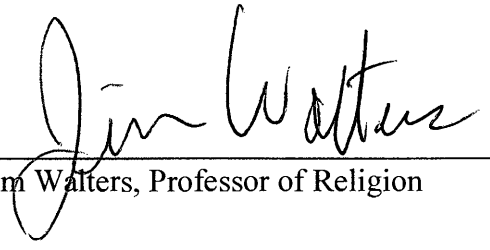

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ACKNOWLEGEMENTS

I would like to express my appreciation to the individuals who assisted me in the completion of this study. I am grateful for the hard work put forth by the members of the Adventist Health and Religion Study who made the present article possible. I also wish to thank the members of my committee, Kendal Boyd, Louis Jenkins, Todd Burley, David Vermeersch, and Jim Walters for their advice and assistance throughout the study. My sincerest thanks go to Loma Linda University and the support staff at the Department of Psychology for providing me with the necessary tools and support to be successful. I truly appreciate the encouragement and support of my family and friends who've each contributed to my work in their own particular way. Kieran, your loving efforts to keep me motivated and prepared have been a real blessing in the midst of the challenging process of creating this work. Finally, I'd like to thank my Lord Jesus Christ for blessing me with the necessary strength and ability to complete the present task.

CONTENTS

TABLES

ABBREVIATIONS

SDA	Seventh-day Adventist
AHS-2	Adventist Health Study – 2
MOS	Medical Outcomes Study
POSS	Positive Sabbath Scale
RELG	Relational-God Sabbath Scale
OBLS	Obligation Sabbath Scale
RSTS	Restful Sabbath Scale
RELO	Relational-Others Sabbath Scale

ABSTRACT OF THE DISSERTATION

Religious Belief, Coping, and Mental Health in Seventh-day Adventists

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Doctor of Philosophy in Psychology, Graduate Program in Psychology
Loma Linda University, September 2006
Dr. Kendal Boyd, Chairperson

The present study examines religious belief, coping style, and social support influences on psychological adjustment in 401 Seventh-day Adventists. Based on cross-cultural psychology guidelines, Adventist Sabbath and eschatology belief measures were created and integrated into a religious coping framework. Sabbath and eschatology belief measures, the brief RCOPE, two social support scales, and the Medical Outcomes Study Mental Health Index II were administered. After controlling for demographics, religious coping, social support, and Adventist beliefs were significantly associated with psychological adjustment. Negative religious coping was the most powerful predictor of adjustment. Eschatology beliefs predicted adjustment after accounting for religious coping and social support effects. The findings highlight the importance of Adventist belief and religious coping in facilitating psychological adjustment among Seventh-day Adventists.

Introduction

The relationship between religiousness and psychological adjustment has long been a topic of discussion mulled over by numerous religionists, philosophers, and psychologists. A host of early, influential psychologists such as William James, Sigmund Freud, C. G. Jung, and B. F. Skinner addressed the role of religion as a psychological construct in promoting mental health (Wulff, 1996). Historically, psychological literature has often displayed animosity towards religion as a measurable, empirical construct (for review see Koenig, 1998). Skinner (1953), for example, described religion in terms of reinforcement contingencies where religious practices are reduced to a complex series of superstitious, "bar pecking" behaviors. An equally antagonistic opponent of religious experience, Freud (1927/1961) viewed religion as an abandonment of logic and reason, which had its roots in childhood fantasies of having omnipotent parents. He saw religion as an obsessive neurosis utilized as a defense against unacceptable impulses (Wulff, 1996). However, not every founding father of psychology supported the negativistic views of religion held by Freud or Skinner. William James (1902/1985) devoted an entire volume, *The Varieties of Religious Experience*, to describing and explaining religious experience from a psychological and philosophical perspective. James viewed religion as an essential component of human existence, arguing openness to religious inspiration combined with logic and reason would result in a level of human growth unparalleled by nonreligious experience. Similarly, Jung (1954/1968) stated religion performed a critical function by helping an individual attain self-realization, which gradually facilitated the process of making an individual whole.

Despite having a rich history as a topic of psychological inquiry, research linking religion and psychological adjustment remained almost nonexistent prior to a recent resurgence of interest in the topic (Koenig, 1998). Historically, many researchers incorrectly assumed religion could not and should not be studied scientifically, which resulted in the dearth of religion research (Miller & Thoressen, 2003). Though religious experience was widely ignored by the scientific community, religious variables began to be included in a variety of large-sample epidemiological studies. As religious constructs began to be included as add-on variables within the context of other research agendas, researchers often found religious expressions were significantly related to psychological adjustment (Hill & Pargament, 2003). For example, religious involvement (measured by church attendance rates) has frequently demonstrated a positive effect on psychological adjustment (Ellison & Levin, 1998; Larson & Larson, 2003). As a generalization, it would appear individuals who are more committed to and involved in religious practice reap the benefits of better mental health than individuals who are non-religious (Levin, 1994; Levin, 1996; Ellison & Levin, 1998). Numerous studies have found religion serves as a key component in promoting increased happiness, well-being, and life satisfaction while buffering against the deleterious effects of anxiety and depression (Ellison & Levin, 1998; Koenig, 1998; Pargament, 1997).

Though an increasing body of literature links religious practice to psychological adjustment, the mechanisms responsible for the observed relationships are rarely ascertained given the simplicity of the measures used in many studies. The question remains, "What is it about religious and spiritual experience that is associated with mental health benefits?" It is naïve to assume broad measures of religious attendance are

representative of the depth and complexity of religious experience. Nevertheless, self-rated religiousness, frequency of church attendance, and frequency of prayer remain the most common predictors of religiousness used in psychological research (Koenig, Parkerson, & Meador, 1997). In response to such obtuse conceptualizations of religion, Pargament (1997) suggests religious life is more than simply spending time in a church or praying; religion is a dynamic search for meaning in the face of life's most challenging issues. It is, "a process, a search for significance in ways related to the sacred," addressing ultimate issues of existence and the nature of reality while allowing for daily, trivial concerns (Pargament, 1997). Religion is more than a static ideal; it is a dynamic interaction between human and Divine. In response to recent conceptualizations of religion, studies have gradually moved away from traditional measurement (i.e. prayer frequency, church attendance, etc.) by creating measures and studies more representative of religious experience. Specifically, it has been suggested religious measurement should be theoretically and functionally related to mental health (Hill & Pargament, 2003), while accounting for the underlying mechanisms hypothesized to influence psychological adjustment (Krause, 1998; Levin, 1996; Strawbridge, Cohen, Shema, & Kaplan, 1997).

Tradition Sensitive Belief Measures in Religious Research

Despite the tremendous advances in recent years, a variety of theoretical and measurement issues continue to challenge the psychology of religion. In particular, experts in the psychology of religion have called for the development of religious measures which are 1) theoretically and functionally linked to mental and physical health, and 2) take into account differences in practice and belief unique to specific populations (Hill & Pargament, 2003; Koenig, McCullough, & Larson, 2001). Hill and Pargament

(2003) have suggested the development of tradition-sensitive measures of religion and spirituality represent an important area of growth for the advancement of religious research. The need for population-specific research is driven by the assumption that not all religious beliefs and practices exert a similar impact on mental health outcomes (Koenig, McCullough, & Larson, 2001). Though similarities may exist among religious groups, religious belief and practice across denominational lines are likely to vary significantly. Such variations in belief may hold particular relevance for psychological adjustment. Simply put, given the content of religious belief and practice differs among religious groups, perhaps the effects of religion on mental health may differ as a result (Koenig, 1997). Fortunately, cross-cultural psychology has provided helpful guidelines for assessing group-specific elements hypothesized to influence coping and mental health. Organized religion is, to some extent, a culture unto itself. According to Triandis et al. (1980), subjective culture addresses such elements as social norms, roles, beliefs, and values, which often occur within the context of spirituality and religiosity. In many ways, the tight-knit system of belief and practice provided by a particular community of faith serves as an integral component of subjective culture (Carone & Barone, 2001).

Studies of religion have long relied on general measures across populations without taking into account the role of the subjective culture of beliefs and practices within specific denominations and their relative influence on mental health (Koenig, McCullough, & Larson, 2001). In response to the need for tradition-sensitive religion research, Betancourt and Lopez (1993) have suggested two guidelines for culturally sensitive research: 1) studies should attempt to identify and measure directly unique elements within a group that are hypothesized to influence behavior, and 2) the

hypothesized relationships between group-specific variables and the psychological phenomenon of interest should be examined and researched within the context of a theoretical framework. In accordance with Betancourt and Lopez's (1993) first guideline, the present study will seek to create reliable measures of religious belief in Seventh-day Adventists while taking into account the role of Adventist culture in influencing such beliefs. Before creating measures of Adventist belief, it is important to acquire a basic understanding the history, beliefs, and practices common in SDA culture. Once a basic understanding is acquired, unique beliefs and attitudes hypothesized to influence psychological adjustment may be addressed.

Seventh-day Adventist Belief & Practice

Within the United States, it is estimated that a third of the population identifies with a relatively conservative Protestant denomination, such as the Seventh-day Adventist (SDA) church (Davis & Smith, 1998). Adventism is a 19th century denomination with roots in both Methodist and Baptist denominations. Perhaps the most notable emphasis in Adventism is its focus on healthy lifestyles and behaviors. Disease prevention is also emphasized through advocating temperate lifestyles, which includes the avoidance of tobacco, alcohol, and meat. Further, Adventism suggests vegetarianism, regular exercise, and an adherence to Saturday as a Sabbath rest day (Murphy, Gwebu, Braithwaite, & Green-Goodman, 1997). The healthy lifestyle emphasis held to in Adventism permeates the writings of Ellen White, a historical leader of the Seventh-day Adventist Church. She states, "True religion brings man into harmony with the laws of God, physical, mental, and moral…Faith in God's love and overruling providence lightens the burdens of anxiety and care…Religion tends directly to promote health, to

lengthen life, and to heighten our enjoyment of all its blessings" (White, 1890, p. 600). Studies examining health among Adventists have often concluded that healthy lifestyle practices are responsible for lowered disease incidence and longevity among Adventists (Fraser, 1999; Key et al., 1998; Missmer et al., 2002); however, studies have found church attendance predicts mortality among Adventists even after lifestyle practices are taken into account (Lee, Stacey, & Fraser, 2003). In his review, Levin (1994) noted when religious behaviors, attitudes, or experiences are examined, individuals higher in religiosity experience better health and less morbidity and mortality, particularly among behaviorally strict religions or denominations such as Mormons, Seventh-day Adventists, or Orthodox Jews. Though the Adventist church is fairly representative of conservative Protestantism, it holds unique emphases and doctrines that make it quite distinct from many Judeo-Christian groups. Among the most prominent Adventist doctrines with particular relevance for mental health include beliefs about the practice of Sabbath and doctrine regarding end time events, or eschatology.

An Adventist Perspective on Sabbath

The notion of Sabbath as a consecrated day set aside for spiritual rest is not a concept unique to Adventism (Buchanan, 2001; Doyle, 2001; Leo, 1999). Seventh-day Adventists (SDA's), however, are well known for the religious significance they attach to keeping the seventh day consecrated. The notion of Sabbath is closely intertwined with Adventist eschatology, as observing the Sabbath serves as the "identifying mark of God's people at the end of time" (Rice, 1985, p. 355). SDA's believe Sabbath observance represents the "seal of God" and a sign of existing relationship between God and His people (White, 1911/1950). Sabbath emphasizes God's closeness and companionship

with mankind; it demonstrates His desire to hold personal relationships (Rice, 1985). For the Adventist, Sabbath is viewed as a gift that provides the opportunity to experience true rest and freedom all other obligations (Rice, 1985). It provides an opportunity to separate oneself from the tedious stressors of life and draw closer to the Sacred. In terms of mental health, Sabbath observance is likely to be most effective when integrated into an intrinsically motivated belief system striving for rest and well-being (Diddams, Surdyk, & Daniels, 2004). Research has demonstrated the regular observance of Sabbath may promote positive mental health (Boyd, 1999; Goldberg, 1986, 1987). Though the salutary effects of Sabbath-keeping on mental health remain unknown, increased social support (Krause et al., 2001) and the promotion of positive coping strategies (Pargament, 1997) may mediate the relationship between Sabbath belief and mental health.

Despite evidence supporting mental health benefits associated with Sabbath observance, one should not underestimate the potential for negative attitudes and beliefs related to the practice of Sabbath. Adventists are encouraged to see Sabbath as a day to enjoy God's companionship and goodness, but some may perceive Sabbath observance as a tedious obligation or exercise in legalism. Merzbach (1951) suggests Sabbath activities may actually prevent "contemplation and the attainment of inner quiet" and may actually arouse negative feelings, dissatisfaction, and hate (p. 93). Rice (1985) suggests developing a meaningful Sabbath experience naturally requires restrictions on inappropriate activities such as hard labor or commercial enterprises. As a result of such restrictions, some may exercise the practice of Sabbath-keeping out of guilt or obligation, which may lead to the formation of unhealthy, negative emotions. By observing the Sabbath as a regulated activity performed to avoid guilt or anxiety, the inherent joy and

self-competency in Sabbath-keeping may be undermined (Diddams, Surdyk, & Daniels, 2004). Rather than reducing stress associated with daily hassles of life, Sabbath may represent yet another set of rules and obligations resulting in an exacerbation of life stress. The effects of viewing Sabbath as an obligation likely exert an indirect effect on mental health by promoting negative forms of coping in response to life stress.

An Adventist Perspective on Eschatology

In many Protestant theologies of end-time events, world history is concluded with the return of Jesus Christ to earth in order to establish His kingdom and reign over mankind. Traditionally, several ideas have distinguished Seventh-day Adventist eschatology from that of other Protestant movements. The Adventist emphasis on the second coming of Christ is rooted in the teachings of the second-advent movement of the early nineteenth century led by a Baptist layman, William Miller (Knight, 1993). From the very beginning, Seventh-day Adventists have understood their movement as fulfillment of prophecy by proclaiming the message of God's imminent return to "harvest" the earth (Knight, 1993). "As their denominational name indicates, Seventh-day Adventists wish to be known as those who await the advent, or coming, of Christ" (Rice, 1985, p. 318). Adventist doctrine of end time events holds that Christ is presently engaged in "investigative judgment" whereby He examines the life records of professed followers to determine whether or not their lives are consistent with their faith profession; at the conclusion of this period, Christ will return to earth (Rice, 1985). Christ's return will reveal the true nature of human beings, whether good or evil. At the time of His return, Adventists hold Christ will cease performing his high-priestly ministry, meaning individuals will have no further opportunity to repent or accept God's salvation at that

point (Rice, 1985). The implication is that individuals are establishing their eternal destiny every day of their lives through their actions. Adventists, along with members of many other conservative denominations, have proclaimed the imminent return of Christ for many generations. The precise time of His return remains unknown; thus, Adventists are encouraged to adopt a sense of urgent readiness and preparation for the soon coming of Christ (Nichol, 1938).

In psychological terms, individuals may experience a variety of emotions in response to thoughts about the advent, or coming, of Christ. For the righteous and justified, the second coming represents a glorious time where God will reign over a restored earth free from sin (Nichol, 1938). The wicked, however, face the consequences of sin in the form of total annihilation or extinction (Rice, 1985). Individuals confident and ready for the return of Christ may experience eager excitement and anticipation at the prospect of being restored to eternal life. In contrast, individuals expressing doubt and uncertainty about their position in Adventist eschatology may see the second coming as a dreaded, fearful event that threatens their very existence. The potential impact of holding a negative, fearful view of eschatology should not be underestimated. Utilizing the framework provided by Pargament (1997), one might assume holding a negative perspective of the advent may be associated with negative forms of religious coping characterized by feelings of isolation, helplessness, and a punitive God concept. Adventists who experience a sense of doubt or uncertainty about the advent are confronted with a very real threat to existential well-being, which is likely to exert a marked influence on overall mental health either directly, or via the use of negative religious coping.

The General Orienting System: The Source of Belief & Practice

Having accomplished the first suggestion of Betancourt and Lopez (1993) by identifying two key elements of SDA belief theoretically related to psychological adjustment, attention will be given to the task of integrating Adventist Sabbath and eschatology beliefs into a broader theoretical framework. Based on the second guideline provided by Betancourt and Lopez (1993), the relationships between Adventist beliefs and psychological adjustment will be examined within the context of a religious coping framework. In particular, the work of Pargament (1997) provides a theoretical context for exploring the influence of tradition-sensitive measures of religious belief and practice. His work provides a conceptual model of the relationship between Adventist beliefs and how they functionally relate to coping styles and mental health outcomes (Appendix A). According to Pargament's (1997) theory, individuals interpret potentially stressful situations via a general orienting system of beliefs, practices, attitudes, and worldviews (Harrison, 2001; Pargament et al., 1992). In response to stressful circumstances, individuals are inclined to utilize the most available and accessible means of coping, which are often religious in nature (Pargament, 1997). Religious belief and practice is, to a greater or lesser degree, one of many components within an individual's general orienting system. Systems of personal belief are obtained from a variety of sources, such as religious education or personal experience, and serve as an a priori orienting system influencing the selection of religious coping methods (Maynard, Gorsuch, & Bjorck, 2001). The general orienting system may contain both helpful resources and troublesome burdens that prove either beneficial or detrimental to the coping process (Pargament et al., 2000; Pargament et al., 1998b). When adversity arises, people frequently utilize both

religious and nonreligious elements of the general orienting system to create appraisals of the stressor, desired outcome, and coping methods to be utilized (Pargament et al., 1992).

Despite the importance of the general orienting system, Pargament (1997) suggests simply measuring religious belief and practice within the general orienting system in itself is insufficient for adequate prediction of mental health outcomes. Pargament and Brant (1998) address the limitations of measuring the general orienting system as opposed to specific coping responses:

> Although it is important as a general guide, a religious orienting system is one step removed from the specific coping methods an individual might use in a given situation. Knowing that religious faith is a central part of an individual's orienting system tells us something about that person, but it does not tell us how that person's faith expresses itself in specific situations...adjustment is likely to have more to do with the specific use of coping in that situation than with the general orienting system.

In particular, situation-specific coping responses are thought to mediate the relationship between the general orienting system and mental health outcomes of negative situations (see Appendix A; Pargament, 1997). Religious beliefs influence the selection of religious coping behavior in response to a situation, which in turn influences mental health. Few studies have quantitatively examined Pargament's (1997) model of coping while accounting for the role of tradition-sensitive beliefs and practices as part of a general orienting system. If his model is correct, one would expect the relationship between Adventist belief and psychological adjustment to be at least partially mediated by religious coping and social support. It is possible, however, that particularly strong or salient belief systems may exert a unique effect on mental health above and beyond the effects of religious coping. Given importance attributed to Sabbath and eschatology by Seventh-day Adventists, one might expect religious coping and social support to serve as

partial mediators of the belief-adjustment relationship. The present study will seek to integrate the suggestions of Betancourt and Lopez (1993) by examining the role of tradition-sensitive beliefs on religious coping responses and mental health among a cohort of Seventh-day Adventists. Having established the potential importance of examining religious beliefs in a contextually sensitive manner, religious coping and social support constructs will be explored in light of their respective contributions to mental health.

Religious Coping

The ability to psychologically adapt to and cope with a variety of environmental demands comprises the primary mechanism by which religion is thought to influence mental health. Individual coping strategies are among the most important means of explaining variations in the relationship between unhealthy environments and negative mental health outcomes. In the words of Taylor, Repetti, and Seeman (1997), "Individuals who find constructive ways of coping with stress, such as taking direct action or finding meaning in their experience, may be able to better withstand the potential adverse effects of stressful circumstances." When presented with troubling circumstances that tax personal resources, individuals utilize the most available and accessible means of coping, which are often religious in nature (Pargament, 1997). The methods of coping most available and accessible to an individual are largely a product of one's a priori orienting system of beliefs, experiences, and attitudes (Pargament & Brandt, 1998; Appendix A). Both religious and nonreligious coping are often employed together in response to stress; however, research demonstrates religious coping is its own subtype of coping, predicting variance in outcomes to life stressors above and beyond the

effects of nonreligious coping (Pargament et al., 1990; Pargament et al., 1994; Schaefer & Gorsuch, 1991). If religious coping predicts outcomes beyond the effects of secular coping, what does religion add to the coping process? Pargament (1997) concludes religion adds a distinctive component to the coping process by addressing the problem of human insufficiency, finiteness, and limitation. When faced with existential threats that cannot be answered by conventional means of coping, religion often takes a primary position in the preservation of ultimate meaning and control.

In response to life stressors, a variety of coping orientations and methods may be employed to preserve a sense of significance and personal meaning (Pargament et al., 1988; Pargament et al., 1990). Religious coping theory broadly categorizes coping methods into either helpful or harmful religious expressions. Beneficial coping strategies offer comfort and self-efficacy by emphasizing a loving conceptualization of God and a perspective of the world as orderly and fair (Pargament et al., 1990; Pargament, Koenig, & Perez, 2000; Pargament, Smith, Koenig, & Perez, 1998). In contrast, detrimental coping strategies often result in isolation and feelings of helplessness, particularly when a punishing appraisal of God is endorsed (Pargament, Smith, Koenig, & Perez, 1998; Pargament, Koenig, & Perez, 2000; Pargament et al., 1998a). An individual's appraisal of a stressful event may either buffer against deleterious effects by adding support or a sense of control, or an appraisal may exacerbate stress by increasing negative emotion toward God and others. A substantial body of literature lends support the applicability of the positive-negative model of religious coping by demonstrating consistent relationships with mental health (Pargament, Tarakeshwar, Ellison, & Wulff, 2001; Tarakeshwar & Pargament, 2001). Beneficial coping strategies encourage a benevolent concept of God,

seek out forgiveness, and encourage religious social support (Pargament et al., 2000). Positive coping strategies have been associated with a variety of beneficial outcomes including a reduction in depressive and anxiety symptoms, better quality of life, positive religious outcomes, and better stress-related growth (Harrison, 2001; Koenig, Pargament, & Nielsen, 1998; Tarakeshwar & Pargament, 2001). However, some recent studies have not found significant relationships between positive religious coping and measures of adjustment (Kelley, 2003; Valdez, 2004; Vandecreek et al., 2004; Wenger, 2004). Further research is needed to clarify the specific predictors of psychological adjustment associated with positive religious coping. In contrast, detrimental coping strategies include expressions of doubt and anger towards God and a conflict with religious beliefs and values in response to a crisis (Pargament et al., 2000). Negative religious coping frequently leads to apathy, self-absorption, and feelings of being punished or abandoned by God and the church. As a result, individuals endorsing negative coping strategies reportedly experience poor health, reduced quality of life, depression, and increased distress (Krause, 1998; Pargament et al., 1998a; Thompson & Vardaman, 1997). In summary, positive religious coping appears to be predictive of better stress-related growth and religious outcome (e.g., changes in closeness to God/church and spiritual outcome), while negative coping is predictive of anxiety, depression, and general distress (Pargament, Koenig, & Perez, 2000; Tarakeshwar & Pargament, 2001).

Religious Social Support

While religious coping primarily focuses on internal cognitions and individual behaviors, religious social support examines coping responses in relation to broader social networks (Krause, Ellison, Shaw, Marcum, & Boardman, 2001). Within the

context of the religion-mental health relationship, subjective perceptions of religious social support may exert a significant relationship on mental and physical health (Ellison & Levin, 1998; Oxman, Freeman, & Manheimer, 1995; Strawbridge et al., 1997). Religious social support is hypothesized to enhance a sense of belonging in a social network of mutual giving and receiving of support (Ellison & Levin, 1998). Krause, Ellison, and Wulff (1998) summarize the possible mechanisms responsible for the beneficial effects of religious support including: 1) helping individuals cope with the negative effects of stressful life events; 2) increasing feelings of control and self-worth; and 3) fostering a sense of hope and optimism, resulting in enhanced well-being. Social support in a religious context may not only increase the total number of social networks available to an individual, but may also result in qualitatively deeper social relationships given the relative homogeneity of attitudes, values, and beliefs available within a specific congregation (Ellison & George, 1994). Additionally, social support in a church setting may be qualitatively more efficacious than nonreligious support for a variety of reasons (Ellison & Levin, 1998; Krause, Ellison, & Marcum, 2002). Support may take many forms including financial, emotional, or religious support; however, emotional support has been found to correlate highly with other forms of social support and may be considered an important component of the religion-mental health relationship (Kahn, 1994; Krause et al., 2001).

In general, it appears individuals who are part of a meaningful social group are more likely to experience better physical and mental health than individuals who do not belong to a social network (Kahn, 1994; Krause, 1998; Nooney & Woodrum, 2002); however, it would be naïve to assume that social interactions are always positive in

nature. Krause, Ellison, and Wulff (1998) point out early studies on the role of religious social support suffered from an overemphasis on the positive side of social support while ignoring its potentially negative influences. Rook (1984; 1990) was among the first to identify both positive religious interaction as well as negative church interactions. She argues positive interactions generally become normative experience given the relative infrequency of negative social interactions. When a negative interaction does occur, it is likely to arouse a significantly negative emotional response because the negative interaction markedly stands out against the normative expectation of a positive interaction (Rook, 1990). Within the context of a church setting, a negative social interaction is likely to evoke a particularly unsettling response given it "overtly violates shared notions of faith and interpersonal trust engendered by official church teachings" (Krause, Ellison, & Wulff, 1998). Though both positive and negative social support has implications for mental health, negative interaction may serve as a stronger predictor of psychological adjustment than the beneficial aspects of religious support (Rook, 1984; Krause, Ellison, & Wulff, 1998).

Summary

A significant body of well-established research links religiousness and spirituality to psychological adjustment across a wide range of diverse samples despite variations in both methodology and measurement (Ellison & Levin, 1998; Koenig, 1998; Koenig, McCullough, & Larson, 2001; Pargament, 1997). In contrast to the oft utilized measures of church attendance and prayer frequency, measures such as religious coping and religious emotional support have demonstrated consistent relationships mental health. Despite advances in the conceptualization and measurement of religiousness, the role of

tradition-sensitive beliefs in promoting mental health is less understood. In particular, the present study seeks to create reliable measures of religious belief and practice in a cohort of Seventh-day Adventist congregants. Based on guidelines proposed by Betancourt and Lopez (1993), the present study will attempt to: 1) identify and measure unique elements of Adventist culture (Sabbath and eschatology belief) which influence coping and mental health, and 2) examine the belief-adjustment relationship within the context of the religious coping framework provided by Pargament (1997). Given the salience of Sabbath and eschatology beliefs within Adventism, it is hypothesized these tradition-sensitive beliefs will exert a direct effect on mental health above and beyond the effects of coping style and social support. Based on Pargament (1997), Adventist beliefs will be partially mediated by coping and social support. Similarly, religious coping and social support will demonstrate the typical positive-negative pattern of association with mental health demonstrated across a number of previous studies (Krause, 1998; Pargament et al., 1990; Pargament, Koenig, & Perez, 2000; Pargament et al., 1998a). Finally, the study will explore the relationships between the Adventist belief measures and the well-established constructs of religious coping and social support.

Hypotheses

Hypothesis 1. Adventist religious variables will demonstrate statistically significant relationships with mental health after controlling for demographic variables. In particular, negative beliefs such as negative Adventist eschatology and practicing Sabbath out of obligation will be negatively correlated with mental health. Perceiving Sabbath as a sacred time of rest and fellowship will demonstrate a positive relationship

with mental health. Hypothesis 1 is contingent on the successful development of reliable Sabbath scales.

Hypothesis 2. After controlling for demographic variables, positive religious coping and emotional support received will be positively related to mental health, while negative religious coping and negative interactions in church will be negatively associated with mental health.

Hypothesis 3. After controlling for demographic variables, tradition-sensitive religious variables will not be fully mediated by religious coping or social support; rather, Adventist beliefs will predict variance in mental health above and beyond the effects of religious coping and social support. Hypothesis 3 will be confirmed if religious beliefs are only partially mediated by coping and social support. The analyses for hypothesis 3 are contingent on hypotheses 1 and 2 being statistically supported.

Hypothesis 4. After controlling for demographic variables, Adventist-specific beliefs will be associated with religious coping and social support. Sabbath beliefs and practices that promote a sense of restfulness, personal meaning, and interpersonal fellowship will be positively related to positive religious coping and emotional support received. In contrast, feeling Sabbath is a burdensome obligation, or experiencing doubts and fear about Adventist eschatology will be positively associated with negative religious coping and negative church interaction.

Methods

Subjects & Procedures

Method 1 – Pastoral delivery of questionnaires. The present study began subject selection by examining and categorizing over 5,000 Seventh-day Adventist churches. In order to avoid oversampling of small churches, congregations were categorized by size and then randomly sampled. Due to ethnicity variations among the congregations, the present sampling procedure attempted to obtain subjects from predominantly African American congregations as well as predominantly Caucasian churches. Churches were randomly sampled by size category until an equal number of Caucasian churches and African American churches were obtained. Contact attempts were made to the pastor of each of the 90 randomly selected churches via telephone call or letter. Seventy pastors were contacted by these means; of the 70 pastors contacted, only five refused to participate (4 Caucasian and 1 African American). Due to difficulties contacting many pastors because of obsolete telephone numbers and addresses, the final number of participating pastors consisted of 49 Caucasian and 16 African American. Participating pastors were sent a set of ten questionnaires and given detailed instructions about selecting ten church members representative of the level of diversity in their respective congregations. No individual follow-up reminders were possible as the survey was anonymous. Ultimately, 273 out of 900 potential questionnaires (30%) were returned with this data collection method.

Method 2 – Direct mailing to a small group of participants in AHS-2. In an attempt to achieve a more representative sample, subjects who had successfully completed the Adventist Health Study – 2 (AHS-2) at least one year prior to the present

study were recruited. Participation in AHS-2 consisted of filling out and returning a 50-page AHS-2 questionnaire. From this list of individuals who had completed AHS-2, 190 were randomly selected and sent a letter introducing them to the project and asking them to expect a phone call. All were then phoned; however, because of bad phone numbers or no answers, only 150 could be contacted. Those who agreed were sent a questionnaire. Individuals who did not immediately return a questionnaire received a reminder call. The response rate for this group was 128 out of 150 (85%). In total, both data collection methods resulted in a sample of 401 respondents.

Measures

Demographic variables. Subjects were asked to provide demographic variables consisting of age, ethnicity, and gender.

Religious coping. Subjects completed an abbreviated version of Pargament's (1998a, 2000) RCOPE. The brief RCOPE describes religious coping in terms of positive and negative forms of religious coping. The brief RCOPE is a 14-item scale is scored on a 4-point likert continuum with responses ranging from "not at all" to "a great deal". Internal consistency for the RCOPE was sufficient in the present study. Cronbach's alpha coefficients were good for positive coping factors at .81 and adequate for negative religious coping at .66 given the size of the present sample. Validity for the RCOPE was assessed via principle axis factoring with varimax rotation. With the exception of one item (Decided the devil made this happen) that had low weights on both scales (.26 and .15 respectively), the analysis confirmed the hypothesized two-factor dimensions of positive and negative religious coping. Each of the two factors have been found to differentially associate with a number of religious measures as well as measures of

psychosocial competence and well-being (Pargament et al. 1998a, 2000). Negative religious coping has been associated with poorer physical health and increased distress, while positive coping frequently predicts better stress-related growth and beneficial religious outcome in response to life stressors.

Religious social support. Subjects completed two measures of religious social support from Krause's (1999) scales – one positive support and one negative. Emotional support received from others is a 3-item measure of the degree to which an individual perceives members of his/her congregation as providing loving care, openness, and concern. Negative interaction is a 3-item scale assessing the degree to which an individual feels his/her church members are demanding, critical, and exploitive. Both scales are scored on a 4-point likert continuum ranging from "never" to "very often". Internal consistencies for both scales were adequate in the present study. Principle axis factoring with varimax rotation confirmed both the emotional support received and negative interaction scales with Cronbach's alphas of .73 and .65 respectively. Religious social support has been found to associate with increased use of religious coping, greater positive affect, and decreased incidence of depression (Krause, Ellison, & Wulff, 1998; Krause et al., 2001).

Sabbath beliefs. In response to a growing call for observing a Sabbath rest among Christians of various denominational backgrounds, Sabbath scales were created in order to assess attitudes and beliefs about the practice of Sabbath observance. The 17-item Sabbath Belief Scale consisted of 5 subscales: positive Sabbath, relational-God Sabbath, relational-others Sabbath, restful Sabbath, and obligation Sabbath. The first scale, Positive Sabbath (4 items), measures the degree to which individuals approach Sabbath

with a sense of anticipation and view Sabbath as a source of personal meaning. Relational-God Sabbath (3 items) assesses the degree to which one sees Sabbath as a means of growing closer to God. Relational-Others Sabbath (3 items) explores the degree to which one emphasizes interpersonal fellowship as an important component of Sabbath. Restful Sabbath (4 items) examines the degree to which subjects view the Sabbath as more relaxing than other days of the week. Finally, Obligation Sabbath (4 items) assesses the avoidance of guilt or anxiety as a motivation to keep the Sabbath. Items were scored on a 6-point likert continuum ranging from "strongly disagree" to "strongly agree". Responses were summed and averaged across items to produce item scale scores. A more thorough discussion of scale development can be found in the results section.

Eschatology beliefs. Like many Protestant theologies, Adventism is not without its own set of beliefs regarding the Advent, or second coming of Christ, which represents the end of the present world. In order to assess the effects of eschatological belief on mental health, subjects were required to respond to seven eschatology items created to measure the degree to which an individual experiences joy, confidence, uncertainty, or fear in response to the second advent of Christ. The items are scored on a 6-point likert continuum ranging from "strongly disagree" to "strongly agree".

Mental health. Subjects completed the Medical Outcomes Study (MOS) Mental Health Index II (Stewart, Sherbourne, Hays, et al., 1992). The Mental Health Index II is a subscale of a larger measure of physical health, mental health, and general health designed as a comprehensive measure of functioning and well-being. The MOS Mental Health Index II is a 17-item measure that broadly assesses mental health in terms of depression, behavioral-emotional control, anxiety, feeling of belonging, and positive

affect. The scale assesses the frequency with which symptoms have occurred within the past month on a 6-point likert continuum ranging from "none of the time" to "all of the time". Scoring of the Mental Health Index II is conducted in a five-step process of data cleaning, item recalibration, reverse scoring, linear transformation, and averaging across items in the scale as described in Hays, Sherbourne, and Mazel (1995). Internal consistency reliability was established at .97 in a sample of 2,471 respondents. The MOS scales have been utilized in a variety of medical epidemiological samples and have well-established validity and reliability.

Results

Descriptive Statistics

A total of 1050 questionnaires were administered to Seventh-day Adventist participants resulting in a 38% response rate with 401 completed questionnaires returned. Initial screening for missing data revealed 2 subjects did not include their age, while 9 individuals did not indicate their race on the survey. Subjects with missing age data had the mean age of our sample substituted for the missing data. Of the 401 questionnaires utilized in the present analyses, 37.7% (N = 151) surveys were completed by males and 62.3% (N = 250) were females, which appears to be representative of male-female church involvement reported in previous studies (Gallup & Lindsey, 1999). Participants in the present study ranged from 18 to 88 years of age, but primarily consisted of older adults (M = 56.88, $S.D.$ = 14.67) with 30.1% above the age of 65 years. Respondents were primarily Caucasian (65.1%, N = 261) and African American (22.2%, N = 89). In order to allow for more parsimonious comparisons of ethnicity, race was divided into three categories, Caucasian, African American, and Other. The "Other" category consisted of Hispanic (n = 19), Asian (n = 16), Native American (n = 1), and other (n = 6) respondents. In addition, the 9 subjects with missing ethnicity data were included in the "Other" category. Data screening revealed the two sampling methodology groups differed with regard to age (r = .173) and race (r = .132) such that individuals contacted by mail/phone were more likely to be older and African American, while church-based respondents were more likely to be younger and Caucasian. Across each of the four hypotheses, the effects of demographic variables were controlled for prior to conducting analyses. For hypotheses 1-3, Pearson correlations revealed age was the only significant

demographic predictor of the mental health outcome variable (r = .145) such that older adults reported better mental health. For hypothesis 4, age, gender, race, and recruitment group each accounted for variance among the predictor variables. Descriptive statistics for the present sample are presented in Tables 4-6. SPSS statistical package version 11 was utilized for all analyses.

Factor Analysis of the Sabbath Scales

In response to the growing need for creating scales measuring Sabbath beliefs, a multidisciplinary team of religion professors and psychologists was assembled to create a list of statements reflecting Adventist attitudes and beliefs about Sabbath. The group narrowed down an original list of 99 items via content analyses resulting in 51 statements falling into 14 theoretical categories. Closer examination of the 51 Sabbath items revealed some were unique and only tangentially related to the remainder of the Sabbath items. Consequently, many of the items did not have a sufficient number of similar items to form a stable, reliable subscale. As a result, a number of unique or cross-loading items were removed from the initial subset leaving 17 items for factor analysis. Factor analysis was conducted on the 17 Sabbath items to determine what, if any, underlying structure exists for measuring attitudes and beliefs about the practice of Sabbath. Prior to the analysis, the full sample of 401 subjects was randomly divided into two groups, an exploratory sample ($N = 201$) and a confirmatory sample ($N = 200$). In the exploratory sample, the analysis utilized Wrigley's salient loadings criterion (Gorsuch, 1983) to determine the appropriate number of factors for the data. Wrigley suggested extracting several more factors than will ultimately be retained, and then note the number of trivial factors in the solution. Trivial factors are frequently defined as factors that do not have at

least two or three loadings above a certain specified level, or as those factors without a unique set of defining variables (Gorsuch, 1983). For the present analyses, the salient loadings criterion for determining the number of factors was two-fold: 1) a factor must have either two items that load greater than .5 or three items loading greater than .3, and 2) item cross-loading must not be greater than .13 across factors. Wrigley's criterion uses an exploratory factor analysis to determine the appropriate number of factors. For the exploratory sample, principal axis factoring was conducted on the 17 items utilizing a varimax rotation with a maximum of 3 iterations for convergence. Varimax rotation was used in this step as it typically produces a simple factor structure by maximizing variance for each factor, resulting in relatively uncorrelated factors. Multiple correlation with other variables was used as the starting communality. Based on Wrigley's salient loadings criterion, it was determined a five-factor solution was the best fit for the exploratory sample. All 17 items loaded on one of the five factors without significant cross-loading.

In an effort to confirm the five-factor solution evidenced in the exploratory sample, a cross-sample replication procedure was performed on the confirmatory sample. Like the previous sample, principal axis factoring extracting five factors was conducted utilizing a varimax rotation with a maximum of 3 iterations for convergence. Multiple correlation with other variables was used as the starting communality. The 17 items were subjected to a five-factor solution, resulting in all items loading on the same factors suggested by the exploratory analysis without significant cross-loading. In an effort to confirm that the five factors represent essentially the same construct across both samples, a bivariate correlation matrix between the two sample's factor scores was created. For both samples, individual factor scores were saved as variables using the regression

method in SPSS. The resulting Pearson correlations among factor scores were then compared within the confirmatory sample. If the five constructs were replicated in the confirmatory sample, one would expect the correlations among same factors (located on the diagonal of Table 1) to be noticeably larger than the relationships among different factors between the two samples. As evidenced in Table 1, the relationships among the same cross-sample factors are markedly larger than the correlations among the different cross-sample factors, providing support for a five-factor solution.

Table 1

Correlations among the Factors across Samples

	Confirmatory Sample				
Exploratory Sample	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	**.86**	.02	-.03	.29	.12
Factor 2	.02	**.98**	.06	.03	.04
Factor 3	.25	.04	**.95**	.09	.01
Factor 4	.14	.01	.09	**.96**	.04
Factor 5	.09	.07	.07	.11	**.97**

Cross-sample, same factor correlations are denoted in bold print.

After confirming the same five factors on the split-sample, a final factor analysis was performed on the combined full sample. Principal axis factoring extracting five factors was conducted using a promax rotation with a kappa of 3. A maximum of three iterations for convergence was utilized. Multiple correlation with other variables was used as the starting communality. After rotation, the five-factor solution, found in Table 2, accounted for approximately 65% of the variance. The factor structure replicated

findings from the exploratory and confirmatory split samples. Correlations among the factor scores were moderate to high, ranging from .31 to .65 (see Table 3). Cronbach's coefficient alphas for the five Sabbath belief factors ranged from .82-.67 (see Table 4). Given the scales demonstrated sufficient internal consistency, responses were summed and averaged across items to produce item scale scores. The first scale was named "positive Sabbath" (PosS) as its items stressed Sabbath as an eagerly anticipated, sacred event serving as a source of personal meaning. The second scale, "relational-God Sabbath" (RelG), addressed the role of Sabbath in promoting fellowship with God. The third scales described feelings of guilt and anxiety over not keeping the Sabbath coupled with items stressing the obligatory importance of Sabbath keeping. As a result, this scale was named "obligation Sabbath" (OblS) as it covered a rule-based approach to Sabbath. The fourth factor was deemed "restful Sabbath" (RstS), which views Sabbath as more restful and relaxing than non-Sabbath days. "Relational-others Sabbath" (RelO) was the final factor, and broadly assessed the degree to which Sabbath promotes a sense of community with others. Descriptive statistics for the Sabbath scales are in Table 4.

Table 2

Promax Structure Matrix for Sabbath Scales

Item	PosS	RelG	OblS	RstS	RelO
The Sabbath is a delight for me.	**.867**	.495	.275	.534	.379
I look forward to the beginning of Sabbath.	**.768**	.403	.178	.521	.341
Keeping Sabbath helps me have a more complete life.	**.669**	.527	.301	.389	.318
I treat Sabbath differently than other days.	**.635**	.389	.244	.277	.302

Table 2 (continued)

Item	PosS	RelG	OblS	RstS	RelO
Sabbath keeping helps me have a better relationship with God.	.579	**.891**	.303	.371	.362
Sabbath is an opportunity God gives us to come closer to Him.	.430	**.837**	.251	.261	.287
When I attend Sabbath worship I feel like I am a part of something bigger than myself.	.507	**.623**	.310	.447	.525
When I don't keep Sabbath I feel guilty.	.164	.235	**.700**	.150	.100
I would feel ashamed if I did not keep Sabbath.	.185	.206	**.698**	.163	.161
It is important to have rules for Sabbath observance.	.363	.284	**.578**	.222	.209
I have an obligation to keep the Sabbath.	.196	.176	**.543**	.164	.180
On Sabbath I usually feel more relaxed than on other days of the week.	.471	.374	.152	**.796**	.232
On Sabbath I feel relieved from the tensions that I normally experience.	.345	.266	.261	**.688**	.324
On Sabbath I am able to stop working on my day-to-day duties and not feel guilty.	.313	.138	.125	**.507**	.178
Sabbath is an opportunity God gives me to come closer to other people.	.289	.209	.085	.269	**.671**
Sabbath makes me feel part of a wider community.	.472	.318	.218	.251	**.653**
For me, an important part of Sabbath is the company of other people.	.203	.269	.175	.187	**.598**

Table 3

Factor Correlation Matrix

	PosS	RelG	OblS	RstS	RelO
PosS	1.000				
RelG	.643	1.000			
OblS	.376	.404	1.000		
RstS	.649	.460	.311	1.000	
RelO	.548	.479	.317	.455	1.000

Table 4

Descriptive Statistics for Eschatology Items

	Possible Ranges	Standard Deviation	Mean
Overall I sense joy at the thought of the Second Coming.	1-6	.60	5.62
I know very little about the doctrine of last day events.	1-6	1.30	2.31
I trust that God will protect me in the last days.	1-6	.80	5.47
As a child I feared earth's last day events.	1-6	1.62	3.73
As an adult I feel some anxiety about last day events.	1-6	1.49	3.56
Sometimes I question the validity of my church's view of the last days.	1-6	1.37	2.39
I do not feel that I am good enough to get safely through last day events.	1-6	1.67	3.56

Table 5

Descriptive Statistics for Continuous Scales

	Possible Ranges	Standard Deviation	Mean	Cronbach's Alpha
Age	18-88	14.67	56.88	N/A
MOS Mental Health	1-6	.68	5.02	.94
Positive Religious Coping	1-4	.54	3.22	.81
Negative Religious Coping	1-4	.37	1.40	.66
Religious Emotional Support	1-4	.62	2.93	.73
Negative Church Interaction	1-4	.51	1.65	.65
Positive Sabbath	1-6	.61	5.64	.82
Relational-God Sabbath	1-6	.65	5.65	.78
Relational-Others Sabbath	1-6	1.06	4.84	.67
Restful Sabbath	1-6	.85	5.28	.69
Obligation Sabbath	1-6	1.20	4.76	.72

Table 6

Descriptive Statistics for Nominal Items

	Frequency	Percent
Gender		
Male	151	37.7
Female	250	62.3
Ethnicity		
Caucasian	261	66.6
African American	89	22.7
Native American	1	.3
Hispanic	19	4.8
Asian	16	4.1
Other	6	1.5
Missing	9	2.2

N = 401

Results for Hypothesis 1

A hierarchical regression analysis was conducted to examine the effects of Adventist Sabbath and eschatology beliefs on mental health after controlling for age, gender, and ethnicity. The first part of the analysis examined the total variance explained by all of the belief variables. In step 1 of the regression analysis, covariance from demographic variables was removed from mental health. In step 2, all the Sabbath and eschatology variables were subsequently added to the analysis using the default entry method. Results indicated the Sabbath and eschatology items predicted almost 11% of the

variance in mental health after controlling for demographics (R^2 change = .109; $p < .001$). In order to examine the relative contribution of each Sabbath and eschatology belief variable, a series of individual regression analyses were conducted. After controlling for demographics, Sabbath belief variables were entered into individual regression analyses as predictors of mental health. Overall, three of the five Sabbath belief predictors were significantly related to mental health (see Table 7 below). Of the three significant predictors, Positive Sabbath had the largest effect followed by Relational-God Sabbath and Relational-Others Sabbath. As hypothesized, Positive, Relational-God, and Relational-Others Sabbath were positively related to mental health outcome. Contrary to expectations, neither Restful Sabbath nor Obligation Sabbath demonstrated a significant relationship with mental health.

Table 7

Sabbath Beliefs as Predictors of Mental Health

	Std. Beta	R^2 Change	P-value
Positive Sabbath	.195	.037	.000**
Relational-God Sabbath	.116	.013	.021*
Relational-Others Sabbath	.100	.010	.047*
Restful Sabbath	.055	.003	.274
Obligation Sabbath	-.011	.000	.827

*p < .05, **p < .01

In order to examine the relative contributions of the eschatology items on mental health, a single hierarchical regression was conducted. In step 1 of the analysis, demographic variance was removed from the outcome. In step 2, all seven of the

eschatology items were subjected to a stepwise process to determine the best predictors of mental health. Probability of F with entry values of .15 and removal values of .20 was selected as the stepping method criteria (Bendel, 1977). In total, three of the seven eschatology items were able to account for a statistically significant portion of the variance in mental health (R^2 Change = .077; $p < .001$). As predicted, expressions of fear or uncertainty about eschatology were negatively associated with mental health, while expressions of joy over the second coming of Christ showed a positive relationship with mental health (see Table 8).

Table 8

Eschatology Beliefs as Predictors of Mental Health

	Std. Beta	R^2 Change	P-value
Know little about last days	-.204	.041	.000**
Joy over 2nd coming	.170	.027	.001*
As a child I feared last days	-.101	.010	.039*

*p < .05, **p < .01

Results for Hypothesis 2

Similar to hypothesis 1, a hierarchical regression analysis was conducted to examine the effect of religious coping and religious social support on mental health after controlling for age, gender, and ethnicity. The initial regression analysis examined the total variance explained by all of the religious coping and social support variables. After demographic variance was removed from the outcome, all the religious coping and social support scales were subsequently added to the analysis using the default entry method. In total, religious coping and social support predicted almost 16% of the variance in mental

health after controlling for demographics (R^2 change = .159; $p < .001$). In order to examine the relative contribution of each religious coping and social support scale, a series of individual regression analyses were conducted. Controlling for demographics, coping and support predictors of mental health were individually entered into regression analyses. Overall, three of the four predictors were significantly related to mental health (see Table 9). As predicted, both negative religious coping and negative church interactions were associated with poorer mental health, while emotional support received was related to better mental health. Contrary to expectations, positive religious coping was unrelated to mental health.

Table 9

Religious Coping & Social Support as Predictors of Mental Health

	Std. Beta	R^2 Change	P-value
Religious emotional support received	.156	.024	.002**
Negative interactions in church	-.113	.012	.025*
Positive religious coping	.096	.009	.061
Negative religious coping	-.379	.136	.000**

*p < .05, **p < .01

Results for Hypothesis 3

Hypothesis 3 was contingent on statistically significant findings in hypothesis 1, which examined the relationships among Adventist beliefs and mental health. Hypothesis 1 found a number of belief variables were associated with mental health including Positive Sabbath, Relational-God Sabbath, Relational-Others Sabbath, and three eschatology items (see Tables 7 & 8). As a result, a hierarchical regression analysis was

conducted to determine whether or not religious coping and social support fully mediate the relationship between Adventist beliefs and mental health after controlling for age, gender, and ethnicity. In the analysis, demographics, religious coping, and religious social support predicted a combined 17.6% of the unique variance in mental health (R^2 = .176; $p < .001$). After controlling for these five variables, Adventist beliefs predicted mental health above and beyond the effects of the control variables (R^2 change = .047; $p < .001$). As hypothesized, the relationship between Adventist belief variables and mental health was not fully mediated by either religious coping or social support. In order to determine the strongest predictors of mental health, we subjected the predictor variables to a stepwise regression analysis. Stepping method criteria utilized the probability of F with entry values of .15 and removal values of .20. After controlling for demographics, religious coping and social support were entered into a stepwise analysis, followed by Adventist beliefs in a subsequent stepwise entry (see Table 10).

Table 10

Stepwise Regression of Religious Predictors & Mental Health Outcome

	Std. Beta	P-value	R^2 Change
Model 1			
Age	.161	.001**	
Gender	-.060	.227	
White	.053	.466	
Black	.042	.578	
Full Model		.018*	.030

Table 10 (continued)

	Std. Beta	P-value	R^2 Change
Model 2			
Negative Religious Coping	-.379	.000**	.136
Model 3			
Religious emotional support received	.095	.042*	.009
Model 4			
Know little about last days	-.166	.000**	.027
Model 5			
Joy over 2nd coming	.133	.004**	.016

*p < .05, **p < .01

Together, negative religious coping, religious emotional support received, and two separate eschatology items significantly predicted mental health. It appears religious coping and social support served as mediators of the relationship between Sabbath belief and mental health, while eschatological beliefs were not fully mediated by coping and support variables and remained statistically significant predictors of mental health.

Results for Hypothesis 4

Partial correlations were used to determine the relationships between religious coping, social support, and Adventist beliefs after controlling for the effects of demographics (see Table 11). As hypothesized, Sabbath scales emphasizing the importance of Sabbath as a source of personal meaning, relationship, and restfulness demonstrated positive correlations with both positive religious coping and emotional support received from church members. Similarly, expressions of joy or confidence about Adventist eschatology were positively related to beneficial religious coping and social

support, while doubts or uncertainty over end time events were positively related to negative religious coping. Contrary to expectations, keeping the Sabbath out of obligation was positively associated with beneficial religious coping as opposed to negative coping. Across all predictors, it appears negative interactions in the church were unrelated to either Sabbath or eschatology beliefs. A complete listing of eschatology items and partial correlations among predictor variables can be found in Appendices B and C respectively.

Table 11

Partial Correlations among Predictors

	Positive Coping	Negative Coping	Emotional Support	Negative Interactions
Positive Sabbath	.390**	-.194**	.161**	.030
Relational-God Sabbath	.325**	-.076	.121*	.071
Relational-Others Sabbath	.242**	-.104*	.189**	.056
Restful Sabbath	.291**	-.058	.135**	-.042
Obligation Sabbath	.237**	.033	.070	.060
Eschatology 1	.368**	-.104*	.098	.102*
Eschatology 2	-.151**	.097	-.054	-.060
Eschatology 3	.252**	-.074	.056	.089
Eschatology 4	.148**	.239**	-.098	.072
Eschatology 5	.049	.204**	-.066	-.018
Eschatology 6	-.065	.003	-.031	.049
Eschatology 7	.060	.103*	.032	.061

*p < .05, **p < .01

Discussion

The development of Adventist belief measures represented a formidable challenge as very little research has examined either Sabbath or eschatology as a predictor of mental health. In general, the Adventist belief measures performed as expected for the most part with the exception of two Sabbath scales. As suggested in hypothesis 1, both the Sabbath and eschatology measures were differentially associated with adjustment. Three of the five Sabbath scales demonstrated direct associations with mental health after controlling for demographics, while two scales were unrelated. The eschatology items were also related to adjustment as anticipated. Positive expressions of eschatology were positively associated with adjustment, while the inverse was true of negative items. Hypothesis 2 was partially confirmed as well. Both negative religious coping and negative interactions at church were related to poorer mental health, while emotional support from church members had a positive relationship with mental health. Contrary to expectations, positive religious coping was unrelated to adjustment. Hypothesis 3 tested the assumption that Adventist religious beliefs may exert an influence on mental health above and beyond the effect of religious coping and social support. The results of the present study indicate religious coping and social support may only partially mediate the influence of Adventist religious beliefs on mental health. In particular, eschatology beliefs predicted a significant portion of mental health even after controlling for religious coping and social support. Finally, hypothesis 4 examined the correlations among the predictors to determine whether or not the Adventist belief measures would differentially associated with religious coping and social support. In general, SDA beliefs associated with coping and social support in the direction anticipated; however, Adventist beliefs

were more strongly related to religious coping than to religious social support. Overall, each of the four hypotheses was either partially or fully supported.

Sabbath Beliefs

Perhaps the most challenging component of this study was attempting to create reliable scales to measure Adventist beliefs about Sabbath. The relative dearth of research into Sabbath attitudes and beliefs among Seventh-day Adventists required the creation of items with limited theoretical guidance. Initial attempts at finding a parsimonious factor solution for all 51 Sabbath items were inconclusive, which required a post hoc reanalysis of the content relevancy of each Sabbath item. Given the exploratory nature of the Sabbath scale development, replication will be needed to determine whether or not the five factors we uncovered can be generalized to a broader sampling of Adventists. Despite this caveat, exploratory factor analysis found five reliable, content valid Sabbath scales, which were subsequently confirmed on the split sample. For the most part, the relationships between four (positive, relational-God, relational-others, and restful) of the five Sabbath scales, social support, and religious coping predictors behaved as anticipated. In general, these four scales addressed beneficial beliefs about the roles and functions of Sabbath-keeping. As anticipated, these four scales were positively associated with positive religious coping and emotional support from the church, while being inversely associated with negative forms of religious coping. Given the observed relationships, it is reasonable to hypothesize that Sabbath attitudes promoting personal meaning, fellowship, and restfulness may facilitate the use of benevolent religious coping and social support while buffering against the expression of negative coping strategies. Contrary to expectations, obligation Sabbath was for the most part unrelated to social

support and religious coping. It was assumed obligation Sabbath might function more like a form of extrinsic religiosity in relation to coping and social support; however, closer examination of the individual scale items revealed the obligation Sabbath construct measured the extent to which individuals feel anxiety or guilt at the thought of not participating in Sabbath activities. Given the construct measured, naming the scale "obligation Sabbath" may have been a bit of a misnomer with regard to the functionality of the scale. Of note, factor analysis of the original 51 Sabbath items produced an extrinsic, legalistic Sabbath factor that assessed a rule-based approach to Sabbath observance. Though the factor did not have sufficient internal reliability to warrant the formation of a valid Sabbath scale, future revisions of Sabbath belief measures should investigate the addition of a law-based Sabbath observance scale. Despite the many challenges in devising functional Sabbath scales, the present findings are encouraging as they represent the first steps in exploring and identifying important Sabbath attitudes and beliefs held by Seventh-day Adventists.

Given the significant associations among Sabbath beliefs, religious coping, and social support, it was anticipated that the Sabbath scales would serve as a predictor of positive mental health. As hypothesized, three of the five Sabbath beliefs demonstrated small, but significant associations with the mental health outcome. Subjects who endorsed a benevolent view of Sabbath, or utilized Sabbath as a means of fellowship with God and fellow believers were more likely to experience better mental health. Such findings may suggest a stress buffering role for Sabbath beliefs. In hypothetical terms, the distress buffering components of Sabbath may operate via a number of mechanisms. First, congregants practicing a positive expression of Sabbath are acting in accordance

with Adventist teaching and theology, which may provide a sense of consonance with one's beliefs about God and the church. Such individuals may be more likely to perceive self and the world as orderly and positive, and may be more likely to endorse a benevolent appraisal of God's character. Second, the fellowship component of Sabbath-keeping likely serves as a stress buffering agent by helping individuals cope with the negative effects of stressful life events, increasing feelings of control and self-worth, and fostering a sense of hope and optimism (Krause, Ellison, & Wulff, 1998). Finally, beneficial forms of Sabbath keeping were related to positive religious coping strategies and social support in the present study, which have been frequently associated with a variety of positive outcomes in previous research. Contrary to expectation, restful Sabbath was not directly related to mental health. While taking time off from the daily stressors of life might intuitively be a means by which Sabbath promotes health, the present sample did not endorse such a direct relationship. Despite the lack of direct relationship between restful Sabbath and mental health, restful Sabbath was positively associated with both positive religious coping and emotional support from congregation. Thus, restful Sabbath may still exert an indirect influence on mental health by promoting beneficial coping and social support. Replication studies are needed on the relationship between Sabbath belief and mental health before any definitive conclusions can be reached.

Eschatology Beliefs

The relationship between Adventist eschatology belief and mental health was among the more fascinating components of the present study. Initially, it was hoped that the seven eschatology items would form a meaningful scale distinguishing between

negative and positive dimensions of the eschatology construct. Factor analysis results and internal reliability coefficients among the seven items did not support the development of an eschatology scale, so the individual item contributions to mental health were examined. Remarkably, the eschatology items were among the strongest predictors of mental health in our study, second only to negative religious coping. As a caveat, it is worth noting that individual items are not as reliable as scale scores, and due caution should be used when interpreting and generalizing findings from single items. Nevertheless, item scores are still meaningful, and provide a good starting point for exploration of a previously unaddressed topic. In the present study, individuals who endorsed experiencing joy at the thought of the second coming of Christ were more likely to experience positive mental health, while individuals expressing doubts or fears about Adventist eschatology reported poorer mental health. A variety of mechanisms may be responsible for these respective positive and negative associations with mental health. First, negative eschatology beliefs run contrary to the generally accepted teaching and theology of the Adventist church. Teachings about the return of Christ usually prescribe an attitude of joyful anticipation for the event among church members, while doubts or fears run contrary to taught doctrine. Thus, religious Adventists who endorse eschatology as a negative event may experience cognitive dissonance between the idealized perspectives of the church as opposed to their own negative perception of the return of Christ. The resulting cognitive dissonance may be one mechanism that contributes to poorer mental health. Second, negative eschatology beliefs may reflect a state of spiritual struggle, which has been shown to have a detrimental effect on well-being. Individuals engaged in spiritual struggle are confronted with the challenge of reformulating a sense

of existential meaning, as the core elements of their general religious orienting system are no longer sufficient. The uncertainty of changing from one system of belief to another may be reflected in doubts about Adventist eschatology, resulting in feelings of religious uncertainty and poorer mental health. Finally, subjects holding strong negative views of important church doctrine may feel abandoned or rejected by God, which are forms of negative religious coping responses frequently linked to poorer mental health. Such individuals may express feelings of limited personal control and struggle to discover a sense meaning without the religious framework provided by the church and religion. Given the results of the present study, eschatology beliefs represent a potentially meaningful area for future research provided our results are replicated and more sensitive measures of eschatological belief are created.

Religious Coping & Social Support

The second set of analyses in the present study examined the individual contributions of religious coping and social support to mental health. As hypothesized, three out of four religious coping and social support constructs demonstrated significant associations with mental health. The largest effect observed was between negative religious coping and mental health (R^2 Change = .136), which is in accordance with previous findings showing negative coping is often a powerful predictor of outcomes (Pargament et al., 2000). In general, our study found individuals who endorsed negative religious coping were more likely to be experiencing poorer mental health. The detrimental forms of religious coping typically characterize individuals as feeling a loss of control, discontent with the church, and abandoned by God. Such feelings may challenge one's sense of intimacy with God and others, while simultaneously confronting

the core meaning-making elements that provide a sense of personal stability. Essentially, those engaging in negative religious coping are effectively calling into question feelings of existential meaning and control in response to a stressor. The resulting challenges to personal meaning and control have been frequently associated with greater distress and poorer mental health (Pargament, Smith, Koenig, & Perez, 1998; Pargament, Koenig, & Perez, 2000; Pargament et al., 1998a). Like negative religious coping, experiencing negative interactions within the church was a significant predictor of poorer mental health, though the effects were quite small (R^2 Change = .012). As hypothesized, negative interactions were positively associated with negative coping (r = .231). The present study lends further support to the notion that negative religious coping and social support are often associated with detrimental mental health outcomes.

Contrary to our hypothesis, positive religious coping was unrelated to mental health in our regression analyses. The lack of relationship observed between positive religious coping and psychological adjustment is consistent with recent studies demonstrating similar findings (Kelley, 2003; Valdez, 2004; Vandecreek et al., 2004; Wenger, 2004; Witvliet, Phipps, Feldman, & Beckham, 2004). Across many studies, positive religious coping appears to be predictive of better stress-related growth and religious outcome (e.g., changes in closeness to God/church and spiritual outcome), while negative coping better predicts anxiety, depression, and general distress (Pargament, Koenig, & Perez, 2000; Tarakeshwar & Pargament, 2001). Though some studies have found a link between positive religious coping and psychological adjustment (Pargament et al., 2001), the general trend suggests negative religious coping serves as a stronger, more consistent predictor of anxiety and depression. In the present study, we utilized the

Medical Outcomes Study (MOS) Mental Health Index II (Stewart, Sherbourne, Hays, et al., 1992) as a measure of adjustment and mental health. The measure itself contains items assessing constructs such as depression, anxiety, feeling of belonging, and positive affect. Our findings effectively replicate previous studies demonstrating little to no direct relationship between positive religious coping and measures of psychological adjustment. In contrast, emotional support from congregation predicted mental health after controlling for demographics, though the effects were small (R^2 Change = .024). As predicted, receiving social support from the congregation was related to better mental health, and was positively associated with positive religious coping methods (r = .209). Similar to previous studies, our findings suggest subjective perceptions of religious emotional support may exert a significant relationship on mental health.

The Belief-Coping-Outcome Model

Based on the theoretical models of Pargament (1997) and Schaefer and Gorsuch (1991), it was hypothesized religious coping and social support would mediate the relationship between Adventist beliefs and mental health after controlling for demographics. As suggest by the theoretical model, religious coping and social support fully mediated the relationship between all Sabbath beliefs and mental health. The present findings call into question whether the positive effects of Sabbath observance may be better accounted for by religious social support (Krause et al., 2001) or the promotion of religious coping strategies (Pargament, 1997). Contrary to expectations, eschatology beliefs were only partially mediated by religious coping and social support, continuing to predict mental health outcome beyond the effects of the mediators. In the present sample, the relationship between eschatology and mental health appears to be an

exception to models suggesting religious beliefs are typically mediated by religious coping mechanisms (Pargament, 1997; Schaefer & Gorsuch, 1991). Speculatively, one might expect eschatology beliefs to exert a larger effect on mental health than Sabbath beliefs given the existential importance of the return of Christ among Adventists. As previously discussed, individuals expressing doubt or uncertainty about their position in Adventist eschatology may see the second coming as a dreaded, fearful event that threatens their very existence. The resulting threat of physical or spiritual annihilation may serve as a tremendous source of anxiety for the religious, exerting an influence on both thought and behavior. Conversely, positive thoughts about the return of Christ may buffer against feelings of distress, and serve as a coping resource when faced with significant life stressors. Though eschatology beliefs represent a relatively unexplored area of research, the present findings demonstrate the potential importance of examining end-time beliefs among religious individuals.

Limitations & Conclusions

Several limitations should be considered when examining the results of the present study. Perhaps the most prominent limitation to the generalizability of the present findings lies within the sampling methodology utilized to obtain our subjects. In particular, 273 of the 401 individuals who participated in the study were acquired via a nonprobability, expert sampling procedure that required ministers to select survey participants representative of the diversity within their respective congregations. The significant problem with such an approach is its tendency to introduce sample selection bias, which reduces the likelihood of obtaining a random cross section from the church population. When an expert sampling procedure is utilized, one is left to wonder about

the criteria by which each pastor determines who to select and who to omit from the study. In addition to concerns about sampling methodology, the response rate for the pastoral recruitment strategy was approximately 30% with 273 of 900 potential questionnaires returned. In general, low response rates pose a significant threat to the external validity and generalizability of the present study. Unfortunately, we were unable to track whether or not the pastors recruited actually handed out the surveys to their congregants. Thus, it is quite likely the response rate expressed above is unnecessarily low if we reasonably assume some of the questionnaires were never administered; however, we have no way of confirming this hypothesis. In contrast to the poor response rate achieved by the pastoral sampling methodology, the direct mailing to a random sampling of participants from the Adventist Health Study – 2 yielded an 85% response rate with 128 of 150 questionnaires returned. Though the second sampling procedure produced a much stronger response rate, the response rate for all of the subjects combined was only about 38%, which is substantially lower than our goal.

With regard to broad generalization of our findings, the present study was developed with Seventh-day Adventists in mind and designed to address constructs particularly salient to an Adventist population. The study was not intended to generalize across a range of protestant theologies; rather, our findings were designed to elucidate the impact of religious belief, coping, and social support among members of Adventism. Despite methodological concerns about sampling procedures and response rates, subjects in the present study were all members or attendees of the Seventh-day Adventist church, which assumes some commonality of religious belief and practice. In reference to the generalizability of our findings to other denominations, assuming religion works the same

way for all groups at all times is probably an overgeneralization. For example, a variety of religious groups hold Sabbath observation as an important component of faith practice, yet subtle differences may exist across groups with regard to the meaning, motivation, and rationale behind keeping the Sabbath. Additional research is needed to determine whether the relationships observed in the present study apply to subjects from other denominational backgrounds with varied demographics, theologies, and practices. In all likelihood, the effects of religious belief on mental health will vary across denominations. Further examination of group beliefs in a culturally sensitive manner has the potential to yield a significantly greater understanding of the religious beliefs and practices that influence thought and behavior.

A second caveat worth discussing is the relatively small statistical effects observed between many of the religious variables and mental health outcome. Concerns about statistical effect size naturally lead to the question of how large of an effect is necessary to constitute a meaningful result? We know that accounting for 1% of the variance in pharmaceutical trials may represent a huge effect in practical terms, but what is the significance of explaining 1% of the variance in a psychosocial construct such as religion? Undoubtedly, a variety of factors influence mental health in addition to religious beliefs, coping, and social support. Pargament et al. (1992) explain religious beliefs and coping orientations are only one part of the larger general orienting system of an individual. While a variety of general orienting system components were controlled for in the present study (age, race, and gender), personality factors, socioeconomic status, physical health, personal control, and situational characteristics may also exert a meaningful impact on mental health. Large effect sizes were limited in the present study,

and are rarely observed in religion-mental health research for multiple reasons. First, religion represents a relatively distal predictor of mental health, while more proximal explanations are more likely to exert a greater influence. In addition, religious coping was not measured within the context of specific stressful situations, which may have resulted in reduced magnitude of relationship with mental health. Finally, the brief religious measures utilized in the present study provide a limited glimpse into the roles of religion in promoting mental health. Despite such limitations inherent in religious research, the main effects of demographics, religious beliefs, coping, and social support on mental health were substantial, accounting for almost 22% of the variance in mental health, a large effect size according to Cohen (1988).

Third, the present study is limited by its cross-sectional design. In practice, it is easiest to think of religious beliefs, social support, and coping as either facilitating or diminishing mental health; however, cross-sectional designs allow for inverse interpretations as well. It is possible that different levels mental health evoke differing degrees of religious belief, coping, and social support. For example, our study assumes negative religious coping leads to poorer mental health, yet it is equally plausible that individuals experiencing poorer mental health are more likely to engage in negative religious coping. Simply put, causal direction cannot be implied in a cross-sectional design. The use of experimental designs with control groups would strengthen implications about the directionality of the relationships observed in the present study. Unfortunately, true experimental studies are difficult in religion research as subjects typically bring a preconceived system of religious beliefs into the study and cannot be randomly assigned to control group conditions. In addition, longitudinal research is still

needed to track whether or not religious constructs consistently predict mental health over time. As suggested by Pargament, Koenig, and Perez (2000), one could expect stronger relationships between religious coping and mental health as the cumulative effects of coping influence the larger total of life stressors experienced over time. For example, longitudinal designs could help answer questions about the long-term implications of utilizing a negative religious coping style or holding negative religious beliefs. Are the religious struggles that characterize negative religion a temporary phenomenon, or do they have lasting implications for mental health? Similar questions can be asked of religious belief and social support as well. Current evidence suggests negative religion may be a temporal entity associated with greater distress in the short term, but related to spiritual growth over time (Pargament et al., 2001; Rowland, 2003). Future research should seek to utilize both experimental and longitudinal designs to better predict causal directionality and to examine the long-term effects of religious belief, coping, and social support on mental health.

In summary, the results of the present study suggest tradition-sensitive religious variables, such as Sabbath and eschatology beliefs, exert a meaningful influence on mental health both directly and indirectly via religious coping and social support utilization. As hypothesized, religious coping mediates the relationship between religious belief variables and mental health; however, particularly prominent religious beliefs about eschatology exert a direct influence on mental health even after religious coping orientation is considered. In congruence with previous research, religious coping and social support were related to mental health, while negative religious coping was by far the strongest predictor. Clinicians sensitive to the present findings should be able to

identify potentially negative beliefs and coping responses, which serve as warning signs of poorer psychological health among highly religious individuals. As stated by Pargament et al. (1998b, 2000), items from negative religious coping subscales may serve as red flags to mental health professionals of the need to further explore and evaluate the influence of religious issues in therapy. In general terms, it appears positive expression of religious belief, coping, and social support may buffer against poorer mental health, while negative religious expressions could serve as potentially harmful resources in dealing with ordinary and extraordinary life stressors. When working with a Seventh-day Adventist cohort, counselors should take into consideration the influence of Sabbath and eschatology beliefs on clients experiencing distress. Within a religious setting, ministers should be sensitive to the psychological impact of their message on congregants by emphasizing attitudes and beliefs conducive to positive mental health. Granted, the issue of "good versus bad" beliefs is a sensitive matter, and the thought of altering established church doctrine is likely an abhorrent proposition to most religious practitioners. Rather than changing systems of belief, ministers sensitive to the present findings may consider altering the manner in which a doctrine is taught without deviating from their theological stance. For example, Adventist ministers may consider focusing on eschatology beliefs that encourage joy and optimism in contrast to emphasizing beliefs about impending judgment and destruction. While researchers continue to refine and replicate findings linking religious experience to psychological adjustment, the process of integrating such findings into clinical and religious settings presents a notable challenge to both professionals and religious practitioners.

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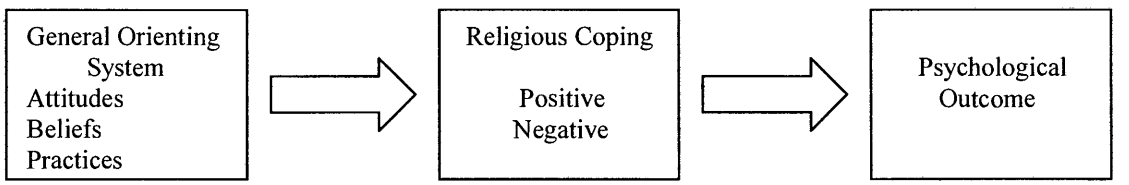
Appendix A

Chart illustrating the relationship between general orienting system, religious coping, and psychological outcomes (Pargament, 1997)



Appendix B

Eschatology Item Listing

Eschatology 1: Overall, I sense joy at the thought of the Second Coming.

Eschatology 2: I know very little about the doctrine of last day events.

Eschatology 3: I trust that God will protect me in the last days.

Eschatology 4: As a child I feared earth's last day events.

Eschatology 5: As an adult I feel some anxiety about last day events.

Eschatology 6: Sometimes I question the validity of my church's view of the last days.

Eschatology 7: I do not feel that I am good enough to get safely through last day events.

Appendix C

Partial Correlations among Predictor Variables

	EmSp	NgIn	PCop	NCop	PosS	GodS	OthS	RstS	OblS	Esc1	Esc2	Esc3	Esc4	Esc5	Esc6
NgIn	-.022	1.000													
PCop	.209**	.083	1.000												
NCop	-.172**	.231**	.095	1.000											
PosS	.161**	.030	.390**	-.194**	1.000										
GodS	.121*	.071	.325**	-.076	.590**	1.000									
OthS	.189**	.056	.242**	-.104*	.386**	.435**	1.000								
RstS	.135**	-.042	.291**	-.058	.466**	.362**	-.292**	1.000							
OblS	.070	.060	.237**	.033	.280**	.299**	.181**	.211**	1.000						
Esc1	.098	.102*	.368**	-.104*	.503**	.378**	.254**	.260**	.118*	1.000					
Esc2	-.054	-.060	-.151**	.097	-.172**	-.130**	-.125*	-.035	-.061	-.169**	1.000				
Esc3	.056	.089	.252**	-.074	.320**	.321**	.173**	.252**	.211**	.310**	-.082	1.000			
Esc4	-.098	.072	.148**	.239**	-.019	-.036	-.043	-.046	.052	.059	.064	-.076	1.000		
Esc5	-.066	-.018	.049	.204**	-.102*	.012	.040	-.036	.144**	-.148**	.175**	-.080	.244**	1.000	
Esc6	-.031	.049	-.065	.003	-.088	-.122*	-.120*	-.065	-.190**	-.122*	.261**	-.192**	.084	.127*	1.000
Esc7	.032	.061	.060	.103*	.002	.003	.031	.014	.137**	-.074	.034	.034	.056	.190**	.003

Scale Abbreviations: EmSp = Religious Emotional Support; IngIn = Negative Church Interaction; PCop = Positive Religious Coping; NCop = Negative Religious Coping; PosS = Positive Sabbath; GodS = Relational-God Sabbath; OthS = Relational-Others Sabbath; RstS = Restful Sabbath; OblS = Obligation Sabbath; Esc1-Esc7 = Eschatology Items (see Appendix B)

*p < .05, **p < .01