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The Roles of Religious Coping, World Assumptions, and Personal Growth in College Student Bereavement

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THE ROLES OF RELIGIOUS COPING, WORLD ASSUMPTIONS, AND PERSONAL
GROWTH IN COLLEGE STUDENT BEREAVEMENT

A thesis submitted in partial fulfillment of the requirements for the degree of Master of
Science at Virginia Commonwealth University.

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Table of Contents

	Page
Acknowledgements.....	ii
List of Tables.....	vi
List of Figures.....	vii
Abstract.....	viii
Introduction.....	1
Review of the literature.....	6
Bereavement.....	7
Bereavement and young adults.....	10
Coping.....	12
A stress-and-coping model of grief.....	13
Religion and bereavement.....	17
Religious coping and bereavement.....	19
Meaning-making.....	20
Meaning-making and bereavement.....	21
World assumptions.....	24
Religious coping and meaning-making.....	27
Growth following a loss.....	28
Religious coping and growth.....	31
Religious coping, growth and world assumptions theory.....	33
Spiritual wellbeing.....	34

Statement of the problem and hypotheses.....	37
Method.....	41
Participants.....	41
Measures.....	42
Procedure.....	50
Data analysis.....	50
Results.....	53
Frequencies.....	53
Demographic data.....	53
Characteristics of loss.....	55
Coping strategies.....	56
Descriptive statistics.....	58
Preliminary analyses.....	59
Bivariate correlations.....	59
Structural equation models.....	62
Estimation of error terms.....	62
Direct relationships between world assumptions and outcomes...	64
Direct relationships between religious coping and outcomes.....	67
The mediated models.....	71
Examination of subscales.....	77
Discussion.....	80
Effects of religious coping on world assumptions.....	82
Effects of religious coping on outcomes.....	83
Effects of world assumptions on outcomes.....	85
Summary of contributions.....	87

Limitations and future directions.....	89
List of References.....	92
Appendices	
A Demographic Questionnaire.....	103
B Characteristics of Loss.....	104
C RCOPE.....	106
D Hogan Grief Reaction Checklist.....	113
E World Assumptions Scale.....	117
F Spiritual Wellbeing Scale.....	120
Vita.....	121

List of Tables

	Page
Table 1. Frequencies and percentages for demographic variables.....	54
Table 2. Frequencies and percentages for characteristics of the loss event.....	55
Table 3. Frequencies and percentages for participant reports of most helpful coping strategies.....	57
Table 4. Descriptive statistics.....	58
Table 5. Bivariate pearson correlations.....	60
Table 6. Estimated error terms for the structural equation models.....	64
Table 7. Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 1 (N=222).....	66
Table 8. Standardized path coefficients, standard errors, and significance levels for models in Figures 2 and 3 (N=222).....	70
Table 9. Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 4 (N=222).....	73
Table 10. Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 5 (N=222).....	76
Table 11. Bivariate Pearson correlations between WAS first-order subscales and outcomes.....	78

List of Figures

	Page
Figure 1. Structural equation model of direct effects of world assumptions on outcome variables (Standardized Solution, N=222).....	65
Figure 2. Structural equation model of the direct effects of positive religious coping on outcome variables (Standardized Solution; N=222).....	68
Figure 3. Structural Equation Model of the Direct Effects of Negative Religious Coping on Outcome Variable (Standardized Solution; N=222).....	69
Figure 4. Structural equation model of mediated relationship for positive religious coping (Standardized Solution; N=222).....	72
Figure 5. Structural equation model of mediated relationship of negative religious coping (Standardized Solution; N=222).....	75

Abstract

THE ROLES OF RELIGIOUS COPING, WORLD ASSUMPTIONS, AND PERSONAL GROWTH IN COLLEGE STUDENT BEREAVEMENT

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A Thesis submitted in partial fulfillment of the requirements for the degree of Master of
Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2010

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The field of bereavement research is currently lacking empirical studies examining grief in adolescent and young adult populations. Furthermore, the roles of religion (Hays, & Hendrix, 2008), meaning-making (Park, 2005) and post-bereavement personal growth (Davis, 2008), all of which are critical to understanding the loss experiences of people in these age groups (Balk, & Corr, 1996), have yet to be enumerated in a reliable way in the literature. Stroebe (2004) has emphasized the need to improve methods and measurement tools by including more thorough measures of religious coping and bereavement experience. The current study aimed to clarify the process of meaning-making following the loss of a loved one by testing a mediational model in which the use of positive religious coping methods influence the maintenance or development of adaptive core beliefs, which in turn produce favorable outcomes.

Data were collected in a survey format from 222 college students, and analyzed using structural equation modeling to test the data against Baron and Kenny's (1986) criteria for mediation. The data do not support a mediational model of meaning-making for the current sample, but an acceptable model of the effects of world assumptions on outcome variables was developed. The data suggest that while all core beliefs are important to the process of personal growth following a loss, beliefs regarding self-worth are the strongest predictors of positive outcomes and stronger beliefs in the randomness of events are problematic.

The Roles of Religious Coping, World Assumptions, and Personal Growth in College Student Bereavement

The state of being *bereaved*, or having lost a close loved one has been of interest to psychologists since the early twentieth century (Archer, 2008). Modern psychologists differentiate between the terms bereavement and grief, defining bereavement as the objective state of having lost someone, and grief as the emotional, cognitive, and behavioral consequences of the bereavement experience (Stroebe, Hansson, Schut, & Stroebe, 2008). The psychological study of bereavement has come to the forefront of the psychological literature in the past few decades (Archer, 2008). In 2004, the Center for the Advancement of Health produced a report reviewing the current state of research and practice in this area. This report emphasized the importance of: a) continued empirical research into the areas of counseling and practice, b) more basic research on variables such as risk and protective factors, and c) documentation of the experiences of the diverse populations which suffer from loss. Research in the field is beginning to focus on the importance of understanding the resiliency, recovery and growth that many people experience following the loss of someone close to them (Bonanno, 2004; Hogan, & Schmidt, 2002). Folkman (2001) has also emphasized that understanding the role of coping processes is important because they represent a factor that is able to be influenced by brief interventions. Predictors and interventions that can help identify and treat the small but significant number of individuals who are at risk for poor long-term outcomes following a loss are being developed and refined (Boelen & Prigerson, 2007).

Although any individual may be at risk for bereavement at any stage of life, the majority of research has focused on children and older adults, with surprisingly little research being performed on adolescent and young adult bereavement experiences. Yet college-age individuals may be particularly at risk for certain negative outcomes following bereavement because of the challenges and rites of passage that face them at this time in their lives (Balk, & Corr, 1997, 2001; Blos, 1979). Moreover, a large proportion of college students, (90%, 40%, and 28% respectively) have experienced the loss of someone close to them (Ewalt & Perkins, 1979; Holland, Currier, & Neimeyer, 2006; Lagrand, 1985). Particularly salient to adolescents and young adults are issues of religious belief and spiritual well-being, growth and maturing following a loss, and the ability to form healthy relationships and beliefs about the world. The current study aimed to address these shortcomings in the bereavement literature by surveying a sample of college undergraduates. I applied a stress-and-coping model of bereavement to examine the ways in which participants utilize religious beliefs and activities as a way of lowering the stress of a loss. Outcomes such as grief intensity, personal growth, and spiritual well-being were measured in order to gain an understanding of how these important issues are affected by loss and the way that participants cope with loss. Furthermore, participants' beliefs in a just and predictable world were assessed in order to determine the relationship between religious coping, outcome measures, and participants' ability to formulate healthy world assumptions through the process of meaning-making.

The bereavement experience can be conceptualized through use of the transactional model of stress and coping originally developed by Lazarus and Folkman

(1984). The model consists of an appraisal process, during which an individual evaluates the stressor, its threat to him or her, and his or her ability to control or change the situation. Appraisal is followed by the implementation of coping strategies used to lessen the stress either by affecting the stressor itself, or the internal stress reaction that results from it. These coping strategies have been shown to either ameliorate or exacerbate the effects of the stressful event (Hansson, & Stroebe, 2007). Despite the applicability of the Lazarus and Folkman model, few studies to date have quantitatively evaluated the coping strategies of the recently bereaved. Additionally, a comprehensive and reliable measure of coping that is specific to the bereavement experience has yet to be developed (Van Heck, & de Ridder, 2001).

One of the most commonly reported coping resources that people draw on following a major life stressor is religion (Pargament, Smith, Koenig, & Perez, 1998). The development of religious beliefs and attitudes is also an important part of adolescence and young adulthood (Batten, & Oltjenbruns, 1999). Currently, research in the field of religion and bereavement tends to be inconsistent, with some studies demonstrating a positive relationship between religious beliefs and practices and increased well-being following bereavement, while others show negative effects or no effects at all (Becker et al., 2007). Hays and Hendrix (2008) suggest that these problems arise from the use of unitary, dispositional measures of religion and spirituality, and recommend a turn towards a more comprehensive and functional view of religion. A theory that fits these requirements has recently been developed by Pargament, Koenig, and Perez (2000). In religious coping theory, religion is studied through the ways that

individuals use it to cope with life stressors. This allows for a comprehensive view of religion that considers the positive and maladaptive ways that people utilize religion, and fits nicely into stress-and-coping theory. Recent research employing this theory has begun to elucidate the role that religion plays in bereavement by facilitating the meaning-making process and promoting growth. However, Hays and Hendrix (2008) warn that these data have yet to be applied systematically to a young adult population.

Park and Folkman (1997) further refined stress-and-coping theory by adding the dimension of meaning to the process. Meaning-making coping, as conceptualized by Park and Folkman, involves resolving a discrepancy between a situational meaning (thoughts and feelings brought about by a specific circumstance) and global meanings (basic goals and assumptions about the world) by altering one or the other. They cite loss of a loved one as an example of a situational meaning (i.e., my loved one died even though he or she was a good person) which conflicts with a global meaning (i.e., people get what they deserve). Meaning-making seems to be an important part of the bereavement process, and may emerge as the most important variable distinguishing between those who are able to effectively deal with a loss and those who are not (Davis, Noel-Hoeksema, & Larson, 1998; Holland, Currier, & Neimeyer, 2006). While the results are promising, the current literature on meaning-making suffers from weaknesses in the methods used to measure meaning-making (often measured using single-items) and in the definitions of meaning-making employed amongst researchers.

Assumptive world theory, originally conceptualized by Parkes (1971) and further refined by Janoff-Bulman (1989), was developed specifically as a method of assessing the way that people reorganize their lives after a loss or a trauma. The reconstructive process of meaning-making can therefore be conceptualized as regaining one's basic world assumptions when they have been challenged by a traumatic event (Holland, Currier, & Neimeyer, 2006). Despite the demonstrated usefulness of assumptive world theory in the field of trauma research and its good fit with stress-and-coping theory, it is just beginning to be utilized in the field of bereavement. These issues, however, are particularly salient to adolescent and young adult population because this is a developmental period when one's understanding of the world and one's basic system of beliefs is beginning to become solidified (Balk, & Corr, 1997).

Growth is a further issue that needs to be addressed when examining bereavement among adolescents and young adults. According to Hogan (2002), recovery from the loss of a loved one involves a qualitative change for the better, rather than a return to normal functioning. This change, termed personal growth by Hogan (2002), stress-related growth by Park, Cohen, and Murch (1996), and posttraumatic growth by Tedeschi and Calhoun (1998), includes gaining a greater appreciation for life, acceptance of the impermanence of things, an increased sense of self-worth, feelings of maturity, and, often, an increase in spiritual or religious belief. Balk (1979) went as far as to state that overcoming traumatic experiences such as loss is a normal developmental task for people in this age group, and it has been demonstrated that adolescents who experience a loss score higher on measures of maturity than those who do not (Offer, Ostrov, & Howard,

1981). Growth has also been linked to both religion and meaning making in the study of bereavement (Park, 2005). However, few studies have systematically applied a theory of posttraumatic growth to a sample of bereaved young adults.

In the current study, I attempted to address the important issues facing bereaved adolescents and young adults by examining a model of stress, coping, and growth following bereavement that included comprehensive measures of religious coping, world assumptions, grief outcomes, growth, and spiritual well-being. Drawing on models proposed by Park (2004), Tedeschi and Calhoun (2008), and Matthews and Marwit (2006), I use a structural equation modeling technique to examine the presence of a mediational relationship between positive religious coping strategies, world assumptions, and bereavement outcomes (grief intensity, personal growth, and spiritual wellbeing). The conceptualization of meaning-making through world assumption theory as recommended by Matthews and Marwit (2006) serves to prevent overlap between meaning-making and the outcome measure of personal growth. It also grounds meaning-making in two clearly defined theories: Park and Folkman's (1997) meaning-making model, and Janoff-Bulman's (1989) world assumptions theory, through the use of a reliable, multiscale measure (the World Assumptions Scale) rather than a single question.

Review of the literature

To properly conceptualize the model of coping and personal growth presented in the current study, it is necessary to review the relevant literature on the topics of bereavement, religious coping, meaning-making, and personal growth. The relevance of

spiritual well-being is further discussed, and its importance as an outcome measure in a variety of settings is reviewed.

Bereavement

Bereavement and the emotions that accompany it have been described as “universal human experiences” (Allumbagh & Hoyt, 1999, p. 370). However, they also represent a significant public health concern, as the recently bereaved are at increased risk for suicide, depression, substance abuse, and health problems as well as impaired quality of life (Boelen, & Prigerson, 2007; Yalom, & Vinogradov, 1988). Despite, or perhaps because of the ubiquitous nature of the bereavement experience, it has only been in recent years that grief and loss have become the focus of empirical study.

Before briefly reviewing the research in the area of bereavement in general, it is important to review the basic vocabulary of the field at present. Stroebe, Hansson, Schut, and Stroebe (2008) in a recent review of the state of grief research define *bereavement* as the “objective situation of having lost someone significant through death,” (p. 4). *Someone significant* can refer to any personal loss that can be experienced across the lifespan, and most research to date has focused on spouses, parents, children, or siblings. *Grief* is defined as the emotional reaction which accompanies the state of bereavement. This reaction today is generally considered normal and also idiosyncratic and may include “diverse psychological...and physical manifestations,” including loneliness, anger, despair, yearning, withdrawal, and even hallucinatory re-experiencing of the deceased (p. 5). Finally, *mourning*, a term often used interchangeably with grief, is

defined as the way that grief is displayed to the public, and is often based on religious beliefs and social customs.

The psychological study of bereavement and its effects on the human psyche can be traced back to Freud's publication *Mourning and Melancholia* in 1917 (Archer, 2008). This seminal work was influenced in part by the writings of Darwin, and proposed the notion that grief has a specific function: to facilitate the detachment of the psychic or emotional energy of the bereaved from the deceased so that this precious energy could be used elsewhere. This process is theorized to be accelerated by grief work, or the conscious confrontation of thoughts, memories, and feelings about the deceased and the loss experience. Implicit in this theory is the idea that the avoidance of this confrontation will result in a prolonged or pathological grief reaction. This idea has persisted until the present, although recently some researchers have challenged it (e.g., Wortman, & Silver, 1989; Bonanno, 2004).

Lindemann (1944) expanded beyond Freud's psychoanalytic theory of bereavement by examining symptoms and other consequences of grief. This initial research is still influential in the various grief inventories and other assessment tools currently in use (Stroebe et al., 2008). Kraus and Lilienfeld (1959) again moved the study of bereavement forward through their empirical demonstration that widows had a significantly higher mortality risk than their nonbereaved peers. John Bowlby was another major contributor to the field of bereavement research. Bowlby (1980) equated

grief with separation anxiety, which further solidified the idea that grief involved disengagement with the deceased in order for the bereaved to go on with their life.

During the mid-20th century, researchers began consolidating the research on bereavement into a framework designed to provide the best care for the recently bereaved. Parkes (1972) began publishing volumes of collected grief research at this time, and Parkes and Weiss (1983) began classifying risk factors that predict maladaptive grief responses. Contemporaneously, stage models began to be proposed by researchers such as Bowlby (1980) and Worden (1982) in an attempt to describe the grief experience of “normal” grievers.

Current research on grief is generally “theory guided” (Stroebe et al., 2008, p. 10), and more attention is being paid to the individual idiosyncratic nature of the grief reaction. Reviews published at the turn of the century have called into question the effectiveness of current grief counseling techniques (Allumbagh, & Hoyt, 1999; Currier, Neimeyer, & Berman, 2008). Bonanno (2004) recently published a review in which the Freudian grief-work hypothesis is challenged, and the importance of studying resiliency and growth is emphasized. According to Bonanno, only 10-20% of the bereaved are unable to deal with their grief without professional help. This subset of the bereaved are conceptualized by some researchers as meeting criteria for a new *complicated or prolonged* grief disorder, that has been proposed as an independent entity for the fifth edition of the American Psychiatric Association’s Diagnostic and Statistical Manual of psychiatric disorders (Lichtenthal, Cruess, & Prigerson, 2004). These individuals are at

risk for a variety of psychological and physical health consequences (Prigerson, Bierhals, Kasl, Reynolds, Shear, & Day, 1997). According to Bonanno, those in the resilient 80-90% of the population may not require any form of grief-work intervention.

Current intervention studies are exploring interventions tailored specifically to the needs of at-risk individuals (Shear Frank, Houck, & Reynolds, 2005; Boelen, de Keijser, van den Hout, & van den Bout, 2007). Stroebe et al. (2001) in a review of the field have recently emphasized the fact that future studies in the area of bereavement need to focus on risk and protective factors, coping mechanisms, and the effect of different types of bereavement (i.e., accident, illness, or homicide) on different populations (i.e., age groups, ethnicities, relationships with the deceased).

Bereavement and young adults.

Despite a general lack of research focusing on adolescent and college aged grievers (Center for the Advancement of Health, 2004), researchers such as Balk and Corr (1996) and Blos (1979) emphasize the impact that bereavement can have on adolescents and young adults. Indeed, a large percentage of adolescents and young adults (90%, 28%, and 40% respectively) have experienced the loss of someone close to them (Ewalt & Perkins, 1979; Lagrand, 1985; Holland, Currier, & Neimeyer, 2006). Balk and Corr (1996) assert that, because adolescence is a time of important transitions in the lifespan, traumatic events such as the loss of a loved one can have a powerful impact on developmental tasks. According to Blos, these tasks include forging an identity, identifying less with parents and more with peers, and developing autonomy. Fowler (1991) theorized that mid to late adolescence also involved the development of an

individuated-reflective faith which includes the restructuring of one's beliefs and values as well as choosing the responsibilities and roles that one will carry on later in life. Balk and Corr (1996) emphasize that during this stage of development, individuals are seeking the foundations that will support future roles and relationships. The period of young-adulthood, which follows but sometimes overlaps with late-adolescence, is further characterized by the developmental task of developing intimate, meaningful, lasting relationships, which may be disrupted by the loss of a significant other (Walter, & McCoyd, 2009).

It can be reasonably considered that these developmental features of the adolescent and young adult years may make individuals in this age group particularly vulnerable to challenges to their assumptive worldviews. Assumptive worldviews, as defined by Janoff-Bulman (1989), refer to individuals' beliefs regarding the safety and predictability of the world, the distribution of good and bad events, and their own self-worth. Moreover, existential variables such as religion may play an important role in the coping processes of adolescents and young adults.

In agreement with research on bereavement and resilience reviewed by Bonnano (2004), researchers in the field of adolescent and young adult bereavement emphasize the importance of resiliency and growth. Blos (1979) goes as far as to consider coping with a traumatic event as one of the developmental tasks that one must face before becoming an adult. Rando (2002) theorizes that having "too good a childhood" (p. 171) is a risk factor for maladaptive responses to later challenged world assumptions. There is empirical

evidence to support the idea that adolescents who experience tragedies such as the loss of a parent or loved -one may be able to benefit from the experience and further mature. For example, it has been found that bereaved adolescents and young adults score higher on measures of maturity than do their nonbereaved peers (Offer, Ostrov, & Howard, 1981; Offer, Ostrov, Howard, & Atkinson, 1988). Studies performed by Hogan and various colleagues also demonstrate the potential for growth after loss in this age-group (Hogan & Balk, 1990; Hogan & Desantis, 1992; Hogan & Greenfield, 1991; Hogan, & Schmidt, 2002). Oltjenbruns (1991) performed a qualitative study on the positive effects of bereavement on adolescents and young adults (aged 16-22) and found that 89 of 93 participants reported positive outcomes as a result of their loss.

In a report released in 2004, the Center for the Advancement of Health highlighted the need for further empirical study of the issues that children, adolescents, and young adults experience during the bereavement process. Balk and Corr (1996) further state that a developmental perspective should be taken when researching the effects of bereavement on this age group. This, along with the data reviewed above, suggests that more research conducted on college campuses could improve our understanding of the nature of young-adult grieving, and fill a gap in the existing literature.

Coping

One approach to understanding bereavement and the grief reactions that result from it is *cognitive stress theory*, as expounded by Lazarus and Folkman (1984).

According to cognitive stress theory, the ways in which an individual deals with (or

cope with) stress and the emotions that accompany it can either ameliorate or exacerbate the effects of the event (Hansson & Stroebe, 2007). The transactional stress-and-coping model proposed by Lazarus and Folkman (1984) describes a process through which people identify stressors, evaluate the threat that they pose, and identify and implement procedures to reduce the stress response either by changing the stressful situation (problem-focused coping strategy) or by regulating the internal stress response (emotion-focused coping strategy). The first step in this model is one's appraisal of the stressful situation, including why the event occurred, how threatening the event is, and whether it is controllable or not (this is termed *primary appraisal*). *Secondary appraisal* occurs when one decides what coping strategies might be effective in the situation (i.e., what can be done) and whether one has the resources to deal with the stressor (i.e., can I do it). The appraisal process, in turn, determines what coping strategies will be deployed by the individual, and reappraisal can occur at any point during the process.

A stress-and-coping model of grief.

Despite the clear importance of coping in the study of bereavement, relatively few empirical studies have been conducted to ascertain what coping strategies or styles are beneficial or detrimental in the context of grief. One possible reason for this lack of research is the absence of a well-validated coping measure designed specifically for bereavement. Van Heck and De Ridder (2001) note that most bereavement research that includes coping variables uses generic, multi-situation coping inventories that may not represent the full range of coping strategies employed by the bereaved. Furthermore, bereavement-specific scales tend to confound coping efforts and behavioral grief

symptoms. For example, the Grief Experience Inventory includes items assessing both coping strategies and grief symptoms. A further issue is the idea that the appropriateness of different coping strategies may change throughout the grieving process. The Dual Process Model of coping with loss emphasizes that an oscillation between a generally emotion-focused and a problem-focused coping style is necessary to resolve one's grief effectively (Stroebe, & Schut, 1999). Throughout this coping process, it is also theorized that reappraisal can occur at any point, changing individuals' understanding of their losses, and therefore their subjective experiences of grief. This idea of reappraisal is supported by research into meaning-making and the constructivist viewpoint of recovery from loss. In fact, some researchers conceptualize meaning-making as a process of positive reappraisal (Park, 2005).

Despite these theoretical issues, in recent years, a small number of important studies have been conducted examining coping strategies and bereavement. Schneider, Elhai, and Gray (2007) conducted a study of coping strategies among college students reporting a traumatic (unexpected) loss. Participants ($N=123$) completed the Stressful Life Events Screening Questionnaire, the Post-traumatic Stress Disorder Checklist, and the Inventory of Complicated Grief-Revised in order to assess their levels of PTSD and grief symptoms. The Brief COPE was used to assess coping strategies. The items of the Brief COPE were rationally grouped in order to form three subscales: problem focused coping (e.g., planning how to overcome a problem), emotion-focused coping (e.g., reinterpreting the stressor in a positive way), and avoidant coping (e.g., using denial or self-distraction). ICG-R scores were found to be positively correlated with all three types of coping (the

strongest correlation was with avoidant coping: $r = .72$). Similar results were found for the relationship between coping strategies and PTSD symptoms.

However, a path-analysis technique that controlled for years since loss, frequency of trauma, and the overlapping variance between the coping subscales produced a solution in which only avoidant coping was significantly related to complicated grief and post-traumatic stress syndrome. These results indicate several important conclusions that have implications for the use of stress-and-coping theory in conceptualizing bereavement. First, there is significant overlap in the usage of all three of these coping strategies among sufferers of traumatic loss. Also, avoidant coping strategies such as denial, which are reported by many individuals, may not be effective in the face of sudden or unexpected bereavement. Finally, based on the significant negative relationship between the amount of time elapsed since the loss and the endorsement of avoidant coping strategies ($\beta = -.24$), it is possible that the recently bereaved are more likely to engage in avoidant coping than those who suffered their loss a longer time ago. Although this research is a step in the right direction, it is unknown to what degree the conclusions regarding the use of avoidant coping strategies can be generalized to those bereaved under less traumatic circumstances. Furthermore, the criticisms of van Heck and de Ridder (2001) apply to the use of the Brief COPE in this study, a fact which the authors acknowledge by reporting the “limited clinical relevance” (p. 348) of the instrument as a limitation of the study.

Hansen, Tarakeshwar, Ghebremichael, Zhang, Kochman, and Sikkema (2006) evaluated the relationship between coping skills and outcomes among HIV positive participants who had recently lost a loved one to AIDS. Avoidant coping strategies were significantly associated with increased grief symptoms over time, while active coping was not associated with grief symptoms (as measured by the Grief Reaction Index). A second study by Rogers, Hansen, Levy, Tate, and Sikkema (2005) on coping strategies and optimism among bereaved HIV-infected men and women found that active coping strategies were positively associated with optimism and negatively associated with hopelessness. Conversely, avoidant coping strategies had the opposite relationships with those two variables. However, in this study once again, both active coping and avoidant coping were positively related to grief symptoms.

Finally, a recent study investigated the use of loss- versus restoration-oriented coping in dealing with the death of a child (Wijngaards-de Meij, Stroebe, Schut, Stroebe, van den Bout, van der Heijden, & Dijkstra, 2008). In the context of the Dual Process Model of coping with bereavement, loss-oriented coping is any coping strategy, problem- or emotion-focused, which is associated with dealing with the loss itself. Restoration-oriented coping is defined as any coping activity aimed at dealing with the stress resulting from events secondary to the loss, such as loss of an income, or other changes resulting from the loss. The researchers found that loss-oriented coping was predictive of negative psychological adjustment, whereas restoration-oriented coping was associated with positive psychological adjustment. These findings, while important, have a weakness. They do not take into account the broader context of cognitive stress theory. Without

analyzing the extent to which their participants used problem- and emotion-focused coping strategies, it is therefore difficult to interpret how these findings fit into the context of previous research.

These results highlight the problems associated with performing research on coping in the context of bereavement. It seems that different bereavement populations may use coping strategies differently with different effects on mental health and grief symptoms. It is also possible that the simple distinction between problem-focused, emotion-focused, and avoidant coping strategies is not appropriate for bereaved individuals. As theorized by Stroebe and Schut (1999) in the Dual Processing Model, each method of coping may be appropriate in limited doses. In either case, it is clear that further research into the strategies that individuals use in coping with a loss should include more comprehensive measures with a more specific focus in order to avoid these confounding effects.

Religion and Bereavement

By focusing on more circumscribed domains of coping, such as the use of religion to cope, rather than utilizing more global measures of coping, it is possible to avoid some of the methodological shortcomings discussed above. There is currently sufficient evidence in the literature to demonstrate that bereaved individuals regard religion as an important resource when coping with a loss. McIntosh, Silver, and Wortman (1993) have demonstrated that religion is one of the most important coping resources that bereaved parents report using to deal with their loss. In another study, involving over 300 bereaved adults, more than 80% of participants reported that their spiritual or religious beliefs were

helpful in dealing with their loss (Frantz, Trolley, & Johll, 1996). Similar results were reported by King, Speck, and Thomas (1999) among a sample of hospitalized patients: 79% of the participants reported that religion was useful in helping them to cope with their illnesses.

Yet there is little data regarding the role that religion plays in the bereavement process, and there is currently a lack of acceptable, empirical research on the topic (Hays & Hendrix, 2008; Stroebe, 2004). Aside from the limited number of studies, the results of the few studies that have been conducted tend to be equivocal, with some studies finding a positive effect for religious coping, some finding a negative effect, and many finding that religious coping is helpful for some participants and not others (Becker, Xander, Blum, Lutterbach, Momm, Gysels, & Higginson, 2007; Hays, & Hendrix, 2008).

Becker et al. (2007) systematically reviewed the literature which included studies relating to bereavement, religion, and spirituality. Thirty-two studies met inclusion criteria. Becker et al. concluded that most studies that met criteria for inclusion still suffered from weaknesses in measurement and lacked clear definitions of the concepts of religion or spirituality. Another recent review of the research on religion and religious coping strategies in bereavement reached similar conclusions, asserting that much of the variation in results can be attributed to inconsistent measurement of religious coping (Hays & Hendrix, 2008).

Religious coping and bereavement.

Pargament, Koenig, and Perez (2000) have recently developed a comprehensive measurement for the religious coping construct which attempts to ameliorate some of the inconsistencies found in other methods of measuring religion or spirituality. Traditional studies, such as those reviewed above, tend to view religion as a dispositional measure (Ano, & Vasconcelles, 2005). Rather than conceptualizing religion as a unitary construct, religious coping theory focuses on the multiple ways that religion functions in people's lives, both positive and negative. According to this model, religious coping is defined as "the use of religious beliefs or behaviors to facilitate problem-solving to prevent or alleviate the negative emotional consequences of stressful life circumstances," (Koenig, Pargament, & Nielson, 1998, p.513). For this reason their measurement tool, the RCOPE incorporates 17 empirically derived subscales which further load onto two factors: positive or negative religious coping (Pargament, Koenig, Tarakeshwar, & Hahn, 2004). Ano and Vasconcelles' (2005) meta-analysis on the effects of positive and negative religious coping on psychological adjustment to stress demonstrated a moderate effect size for the relationship between positive religious coping and positive psychological outcomes and a small significant relationship between negative religious coping and negative psychological outcomes.

Stroebe (2004) recommends the use of the RCOPE in future research in order to capture and differentiate between the positive and negative roles that religion may play in the coping process, and warns against the use of subjective anecdotal evidence for the role that religion plays in the grieving process. A small number of studies have recently

been conducted using standardized measurements of religious coping in the context of bereavement research. One study evaluated the relationships between secular and religious coping strategies and grief intensity in bereaved mothers using the Religious Coping Activities Scale (RCAS) to assess religious coping (Anderson, Marwit, Vandenberg, & Chibnall, 2005). The combination of problem-focused secular coping and positive religious coping was found to be strongly negatively associated with grief intensity as measured by the Revised Grief Experience Inventory (RGEI). Other studies using comprehensive measurement techniques to examine this relationship are currently restricted to unpublished dissertations (Dahl, 1999; Kelley, 2003; Matthews, 2006). The dearth of studies of this nature, using validated, quantitative measures of religious coping and grief constructs demonstrates the need for further exploration of the relationship between religious coping and grief.

Meaning-Making

Balk and Corr (1996) have stated that individuals suffering from loss may need to attempt to find ways to make sense of the world again, and that this search for meaning can take the form of a “spiritual quest.” Current research has advanced the Lazarus and Folkman (1984) stress-and-coping model to include the process of meaning-making (Park & Folkman, 1997). As defined by Park and Folkman, meaning-making is the process of reconciling *situational meanings*, or those thoughts and feelings about the world which are brought about by a specific circumstance, with *global meanings*, which are “people’s basic goals and fundamental assumptions, beliefs, and expectations about the world.” (p. 116). Other researchers have provided a variety of different definitions of meaning-

making, some specific, some less so. For example, recent research into the processes of meaning-making during bereavement have divided meaning-making into the ability to make sense of a loss by finding an explanation for it, and the ability to find benefit from it (Davis, Nolen-Hoeksema, & Larson, 1998; Davis, & Nolen-Hoeksema, 2001; Holland, Currier, & Neimeyer, 2006). Other researchers in the field of trauma define meaning-making as the reconstruction of formerly violated assumptions about the safety and goodness of the world (Janoff-Bulman, 1989; Park & Ai, 2006). Although there is clear overlap between the various interpretations of meaning-making, no study has yet attempted to reconcile these differences in operationalization. Park (2005) emphasizes the point that future “research on meaning must continue to increase in methodological sophistication.” In future research on meaning-making there will be a need to measure “meaning” more precisely in order to distinguish between “different meaning-making constructs such as *meaning-making*, *searching for meaning*, and *finding meaning*,” (p.724).

Meaning-making and bereavement.

Despite these measurement issues, recent research has strongly implicated the importance of the meaning-making process throughout the course of bereavement. Neimeyer, Baldwin, and Gillies (2006) point out that the concept of meaning-making in the face of loss is descended from a variety of theoretical perspectives, including Janoff-Bulman’s assumptive world theory (1989, 1992), cognitive theory, stress-and-coping theory, and narrative/constructivist theories. Research from all of these perspectives has been conducted, and meaning-making has been linked empirically to better adjustment to

loss in a variety of studies (Currier, Holland, & Neimeyer, 2006; Davis, Noel-Hoeksema, & Larson, 1998; Park, 2005). Conversely, the inability to find meaning when meaning has been challenged is linked to greater distress and the diagnosis of a complicated grief disorder (Currier, Holland, & Neimeyer, 2006; Davis, Noel-Hoeksema, & Larson, 1998).

Davis, Noel-Hoeksema, and Larson (1998), for example, demonstrated that participants' ability to make-sense of, and find benefit in their loss, were both associated with reduced grief symptoms as measured in a semistructured interview. Sense-making was associated with lower levels of grief in the first year after loss, and benefit finding became associated with lower grief intensity after the first year. However, a major weakness of this study is the use of open-ended questions to assess the two theorized aspects of the meaning-making process.

Holland, Currier, and Neimeyer (2006) performed a similar study among a sample of 1,022 college students who had been bereaved within the past two years. Their results partially replicated those reported by Davis et al. (1998), however, research showed that sense-making was a stronger predictor of low grief scores as measured by the well-validated Inventory of Complicated Grief (ICG) than was benefit finding. Another compelling study evaluated the importance of meaning-making by testing the meditational role that it plays in the relationship between the circumstances of a loss and the intensity of grief symptoms following the loss (Currier, Holland, & Neimeyer, 2006). A large, ethnically diverse sample of bereaved college students was administered the ICG, a single item assessing the ability to make sense of a loss, and a questionnaire

regarding the circumstances of the loss. The researchers compared the grief reactions of those who had suffered a violent loss (homicide, suicide, or accident) and those who had suffered a natural loss due to an expected illness. It was found that the higher levels of complicated grief symptoms in the violent loss group relative to the natural loss group were mediated partially by the self-reported ability of the participants to make-sense of their loss. More notably, when suddenness of the loss was accounted for, sense-making became a complete mediator of the relationship between type of loss and complicated grief symptoms.

Meaning-making has also been studied as a variable in research on the importance of retaining emotional ties to the deceased (a construct referred to as *continued attachment*). A study performed by Neimeyer, Baldwin, and Gillies (2006) examined the relationship between the strength of bereft participants' continuing attachment to the deceased, meaning-reconstruction and complicated grief symptoms as measured by the ICG. It was found that the use of continued attachment to the deceased as a coping method was positively associated with complicated grief symptoms, but this relationship was moderated by meaning-making variables (sense-making, benefit finding, and identity reconstruction) such that the relationship only remained significant in participants who were less able to construct meaning in the face of their loss.

Despite the evidence demonstrated in the reviewed research, there are important weaknesses in all of these studies. Most importantly, the meaning-making process was measured in each study using a single item or a collection of items without any

information on reliability or validity provided. Furthermore, the use of a single item measure for meaning-making only exacerbates the issue of properly defining meaning-making as a construct. A second issue is the emphasis on measuring rare maladaptive symptoms of grief through use of the ICG. Although it is important to differentiate between complicated grief (CG) and normal grief trajectories, more research is needed on the role that meaning-making plays in the outcome of normal bereavement reactions, especially since 80 to 90 percent of bereaved individuals fall into the latter category. The current research is intended to circumvent some of these issues through the application of a clearly defined and theoretically based measure of meaning-making and the use of an empirically derived measure of the normal bereavement process.

World assumptions.

Holland, Currie, and Neimeyer (2006) have stated that:

...bereavement often challenges people's cherished beliefs about themselves and their worlds, thereby rocking the very foundation that sustains and supports them. Healing from loss can therefore be seen as a reconstructive process that involves weaving together the remaining fragments of one's "assumptive world." (p. 176)

C.M. Parkes (1972) first coined the term "assumptive world" to refer to the way that people organize their immediate environment within the world at large. According to Parkes, the assumptive world represents "our interpretations of the past and our expectation of the future, our plans and our prejudices." (p.102). Janoff-Bulman (1992) built upon this idea and proposed three primary categories of assumptions which people use to orient themselves in the world, and which can become challenged and possibly destroyed in the face of a traumatic event: benevolence of the world, meaningfulness of

the world, and worthiness of self. These three primary assumptions break down further into eight subcategories. Benevolence of the world includes both the assumption that the impersonal world is safe, and also that people are generally good. Meaningfulness includes justice, controllability, and randomness. Worthiness of self contains the assumptions of self-worth, self-controllability, and luck. For Janoff-Bulman (1989) and Kaufmann (2002) these basic world assumptions are internal schemas or “constant internal constructs” which allow us to feel that our lives are orderly and that we are safe and able to function (p. 2). Since the introduction of this theory it has been used widely in research in the field of trauma (for a review see Kaufmann, 2002) serving as a model for the way that meaning can be challenged and rebuilt in the face of extremely stressful experiences.

Despite the widespread application of Janoff-Bulman’s (1989) assumptive world theory to the field of trauma, and its close relationship with the “global meaning” construct that is part of Park and Folkman’s (1997) stress and coping model of meaning-making, very little empirical investigation of this construct has been directly conducted in the field of bereavement, and only one has examined the construct of the assumptive world in the context of a bereaved young adult population. Schwartzberg and Janoff-Bulman (1991) explored the impact of bereavement on the three theorized categories of world assumptions among a sample of college students who had recently lost their parents. Twenty-one bereaved undergraduate students and a matched sample of controls were administered the Symptom Checklist-90, a self-esteem scale, and a locus of control scale along with a semi-structured interview assessing participants’ beliefs in the

benevolence of the world, the meaningfulness of the world, and their self-worth.

Meaningfulness of the world emerged as an important variable, differentiating between the nonbereaved control participants and their bereaved counterparts. Participants with stronger world assumptions also reported fewer symptoms and higher self-esteem.

In a more recent study, Wickie and Marwit (2000) administered the World Assumptions Scale, the Revised Grief Experience Inventory, and a packet of demographic information to a sample of parents of murdered children and a sample of parents of children who had died in accidents. They found that parents bereaved by homicide had significantly more negative opinions of the benevolence of the world than those bereaved by an accident. However, there was no significant difference found between the two groups on the measures of meaningfulness of the world, or self-worth. A further finding was that world assumption scores significantly predicted grief intensity after controlling for both gender and time since the death occurred. A second study of bereaved parents evaluated the predictive power of the World Assumptions Scale among a sample of parents bereaved by a variety of circumstances: homicide, accident, and illness and a sample of nonbereaved controls (Matthews, & Marwit, 2003). It was found that bereaved parents, regardless of type of loss, reported lower benevolence of the world, and self-worth scores than controls. All three world assumptions were highly predictive of grief intensity, beyond time since death and gender of the participant, thus replicating the results of Wickie and Marwit (2000). However, the ability of world assumptions to differentiate between the three categories of loss was somewhat more complex. Parents bereaved by homicide were found to report lower benevolence of the world scores than

the other two subsamples (illness and accident). Parents bereaved by illness were found to have the most negative scores on meaningfulness, while parents bereaved by homicide demonstrated the lowest scores of self-worth. These results, while complex, are consistent with statements made by other researchers in the field of trauma and loss that even a nontraumatic or expected death can serve as a challenge to one's assumptive worldview and may result in complications of the grieving process (Corr, 2002).

These studies lay the groundwork for future research into the area of world assumptions and bereavement. World assumptions act as a reliable, theoretically based interpretation of the concept of meaning-making and are highly predictive of grief intensity.

Religious coping and meaning-making.

Religious coping strategies have also been implicated in the process of meaning-making, in addition to their relevance as a variable in the study of bereavement outcomes. Park (2005) states that religion is “a primary way through which people make sense of the world” (p. 34). In fact, religion is theorized to play a key role in the search for meaning among those who hold a religious belief, and meaning has been characterized as one of the five basic functions of religion (Pargament, Koenig, & Perez, 2000). Beyond these theoretical considerations, a small number of empirical studies have demonstrated the role that religious coping plays in a person's ability to find meaning. McIntosh, Sliver, and Wortman (1993) performed a study of religion's role in parents' ability to cope with the loss a child. They found that a self-report of the importance of religion in the parents' lives predicted the level of meaning that parents were able to find in their

infants' death. More recently, Murphy, Johnson, and Lohan (2003) evaluated the role of religious coping processes among parents who had recently experienced the unexpected loss of a child. Religious coping techniques such as prayer, and seeking God's help were found to be significant predictors of parent's ability to find meaning in their loss.

Furthermore, the parents self-report of their ability to find meaning was significantly associated with less mental distress as measured by the Brief Symptom Inventory (BSI) and better self-reported physical health. However, each of these studies suffered from weaknesses in their use of poor measures of religious coping, and the measurement of meaning-making through single-item self-report. The studies which have been conducted have been primarily qualitative or descriptive, and measured religious beliefs were assessed rather than religious coping strategies. Even less attention has been given to the role of religion in the meaning-making process among adolescents and young adults, with no studies on this population currently available in the literature (Hays & Hendrix, 2008).

Growth Following a Loss

Tedeschi and Calhoun (2008) purport that people who experience loss may, through the process of meaning-making, become more appreciative of life, gain greater feelings of self-reliance, become aware of the empathic understanding of others, develop stronger and more meaningful relationships, become more spiritual, and discover new possibilities in life. A large body of empirical evidence has been amassed in the last two decades which demonstrates that many people report positive changes like these after a stressful event, in particular, after a loss (Bonanno, 2004; Bonanno & Kaltman, 2001; Calhoun and Tedeschi, 1989; Davis, Nolen-Hoeksema, & Larson, 1998; Ho, Chu, & Yiu,

2008). These positive changes have since been labeled variously as posttraumatic growth, stress-related growth, finding benefits, or making positive life changes (Tedeschi, & Calhoun, 2004).

The Tedeschi and Calhoun model of posttraumatic growth is based, in part, on the theory of shattered world assumptions put forth by Janoff-Bulman (1989) and Parkes (1972). In this model “events that shatter one’s assumptive world—which includes one’s fundamental and often implicit beliefs about control, predictability, and the benevolence of others—motivate a search for meaning” (Davis, 2008, p.311). This “search for meaning” is operationalized as an attempt to restructure the assumptive world in the face of the loss. This rebuilding of the assumptive world, then, is what leads to a positive outcome or subjective feeling of having gained something from the experience. As Davis (2008) states, “The realization of posttraumatic growth appears to be contingent on successful processing of the meaning of loss or trauma” (p. 312).

There is some evidence for the Tedeschi and Calhoun model for posttraumatic growth, especially with regards to the effect of loss and trauma on world assumptions (e.g., Matthews & Marwit, 2003). Specifically, there is a literature suggesting that the severity of a stressor is directly related to later reports of perceived growth. For example, Park, Cohen, and Murch (1996) performed a series of three studies during the development of a stress related growth scale (SRGS). In the third study, 147 college students provided data longitudinally at two points separated in time by six months. Participants at time 1 filled out a variety of questionnaires and described both the most

negative and most positive events that had happened to them in the past year. At time two, six months later, participants again were administered a battery of questionnaires, including the SRGS. Severity of the reported negative event was found to be significantly correlated with the measure of SRG, which the authors proposed could be well explained by Janoff-Bulman's assumptive world theory. Tedeschi and Calhoun (1996) conducted a similar series of studies while developing their own scale, the Posttraumatic Growth Inventory (PTGI). They found that individuals who had experienced an extraordinary stressor were more likely to report the positive changes measured by their scale than those who had not experienced such a stressful event. More recently, Davis and McDonald (2004) performed interviews amongst a small community of Canadian adults just six weeks following the terrorist attacks of September 11, 2001. They found that those who reported the greatest distress within the first 24 hours of the attacks and who experienced more negative changes within the first 6 weeks after the attacks were most likely to report positive life changes when interviewed at 1-year follow-up.

These studies provide the groundwork for further research into the model of stress related or posttraumatic growth, especially in the context of world assumptions theory. However, it is important to remember that stress-related and posttraumatic growth scales were not developed to reflect bereavement experiences in particular. Davis, Noelen-Hoeksema, and Larson (1998) performed a prospective study of grief in which they assessed whether one's ability to make sense of a loss was related to perceived benefits found in the loss. They did not find a relationship between these two constructs.

However, each construct was measured using a single item question, rather than having a fully developed measure of stress-related growth to represent the construct. Furthermore, the variable of meaning-making was assessed with a single question framed as the ability to “make-sense” of the loss, rather than with the use of the World Assumptions Scale (WAS) which was developed specifically to be used in the context of world assumptions theory, and thus would apply more directly to the assessment of the Tedeschi and Calhoun model of posttraumatic growth.

Religious coping and growth.

Religion is often implicated as a cause or predictor of growth following trauma or loss, and in some models is even included as an outcome measure, with people experiencing new religious or spiritual strength or well-being following a loss or other stressor (Calhoun & Tedeschi, 2000). However, few empirical studies have examined this religion-growth link in detail. A systematic review of the literature recently produced a mere 11 examples of studies reporting links between religion and growth (Shaw, Joseph, & Linley, 2005). Emmons, Colby, & Kaiser (1998) performed a qualitative study examining the personal goals of individuals who had lost a loved one. They concluded that participants who were more committed to religious and spiritual goals after a traumatic event were also more likely to report having recovered from trauma and found greater meaning in their lives as a result of it. Park et al. (1996) reported that intrinsic religiousness, or the existence of deep faith in and a strong relationship with God, was strongly positively associated with stress-related growth. Tedeschi and Calhoun (1996) found similar results when measuring religious participation and posttraumatic growth.

These results were replicated by Calhoun, Cann, Tedeschi, and McMillan (2000) using the religious quest variable, which measures the extent to which one has an “open-ended, responsive dialogue with existential questions raised by the contradictions and tragedies of life,” (Batson, Schoenrade, & Ventis, 1993, pg. 169) and their own Posttraumatic Growth Inventory.

It should be noted that the studies mentioned above all continue to use “global indicators of religion” which may leave important questions regarding the different ways in which a participant might use religion to cope with stress unanswered (Shaw, Joseph, & Linley, 2005). Three studies reviewed by Shaw et al. make use of the RCOPE or related measures, which examine a variety of coping methods, both positive and negative, which people employ through their religious beliefs and practices. Pargament, Smith, Koenig, and Perez (1998) reported that both positive and negative religious coping were associated with posttraumatic growth in one study. A later study performed by Koenig, Pargament, and Nielsen (1998) further examined these results and found that all positive religious coping subscales were strongly associated with posttraumatic growth, along with several negative religious coping subscales. Reappraisal of God’s power (e.g., deciding that God is not able to intervene in the loss), and Low self-directing religious coping (e.g., seeking a partnership with God in problem-solving) were both religious coping mechanisms which had significant negative correlations with Stress Related Growth. Pleading for direct intercession (e.g., begging God for a miracle), Making religious boundaries (e.g., choosing to engage in acceptable religious behavior), Demonic reappraisal (e.g., attributing the loss to the work of the Devil), and Passive religious

deferral (e.g., waiting for God to fix the situation) were all religious coping strategies which were positively related to Stress-Related Growth.

It is clear from the evidence cited above that there is sufficient reason to examine the role that religion plays in the growth process following a stressful event, particularly in the case of bereavement. Shaw et al. (2005) suggest that further use of the RCOPE may help to begin “teasing apart” the factors of religious coping which significantly impact growth under specific circumstances.

Religious coping, growth, and world assumptions theory.

Few studies to date have been performed which examine the hypothesized relationship between religious coping, world assumptions and bereavement outcomes like grief intensity, growth, and spiritual well-being. Park (2005) proposed a model of religion as a meaning-making framework in the coping process. She states that “because religion serves as the basis for the global beliefs of many individuals, religious meaning often plays crucial roles throughout the coping process” (p. 711). She goes on to implicate religion as an agent of change in both situational and global meaning systems for those experiencing a difficult life-stressor. To test her model, Park surveyed 169 college students who reported experiencing the death of a loved one within the last year. She found that meaning-making coping, conceptualized in this case as positive reappraisal of the stressful event, fully mediated the relationship between intrinsic religiosity and subjective wellbeing among her participants. This means that the relationship between religiosity and subjective wellbeing was completely explained statistically by the relationship which both variables had with meaning-making coping.

A further analysis found a significant positive correlation between intrinsic religion and stress-related growth. This relationship was also partially mediated once meaning-making coping was added to the model, such that a portion, but not all, of the relationship between religiosity and stress-related growth was explained by their relationship with meaning-making coping. This study provided an important framework for the model tested in the current study by revealing some preliminary evidence for a meditational relationship between religion, meaning-making, and growth amongst bereaved college students.

However, the current study aimed to improve on the methodology of the Park (2005) study by incorporating the advice of researchers such as Stroebe (2004) and Matthews and Marwit (2006). Specifically, these researchers emphasize the weaknesses of measuring religion as a unitary concept, and both recommend the use of the long form of the RCOPE as a more informative measure of the role that religion plays in dealing with stress. Matthews and Marwit (2006) go on to recommend the use of world assumptions theory as a method of conceptualizing the meaning-making process in clear operational terms that are not confounded with outcome measures such as growth. In Park (2005) the variable meaning-making, as defined by using the positive reinterpretation and growth scale of the COPE, may have been confounded with the stress-related growth outcome measure.

Spiritual Well-being

As noted above, traumatic experiences such as bereavement are theorized to affect the spiritual lives of those who go through them (Shaw, Joseph, & Linley, 2005).

Calhoun and Tedeschi (2000) in particular emphasize that an increased reliance on, and involvement in, spiritual and religious issues is an aspect of the posttraumatic growth process. There is some empirical evidence which points to the possibility of major life stressors resulting in an increase in religious beliefs amongst those who experience them. For example, Calhoun, Tedeschi, and Lincourt (1992) performed a study in which people experiencing loss reported that their religion had become a more central part of their everyday lives. Ullman (1982) conducted an interesting study in which he compared individuals who had converted to their religion to religiously affiliated non-converts. For the purposes of the study, converts were defined as individuals who reported a significant change in religious beliefs, either by converting from one denomination to another, or by becoming religious after being raised in a non-religious household. Non-converts were religious individuals who reported on significant changes in their religious beliefs or practices during their lifetimes. He found that converts reported significantly more traumatic experiences as children, and less fulfilling home lives. However other research, particularly with adolescents, has shown that anger at God or no change in religiosity at all are also common responses to loss or trauma (Overcash, Calhoun, Cann, & Tedeschi, 1996).

Spiritual well-being is a construct which refers to the meaning one has in life, as well as the relationship that one has with God (Ellison, 1983). Although it does not tap into church attendance or other religious behaviors directly, spiritual well-being assesses “both the horizontal and vertical aspects of spirituality, respectively, and reflects the existential as well as the religious side of the construct.” (Arnette, Mascaro, Santana,

Davis, & Kaslow, 2007, p.911-912). Arnette et al. (2007) go on to state that “a person’s spiritual wellbeing should be considered integral to the evaluation of overall functioning...in research settings,” especially when examining populations for whom issues of spirituality and belief are particularly salient (p.912). For these reasons, spiritual wellbeing is particularly suited as an outcome measure in a study of bereavement amongst young adults and adolescents. Despite the usefulness of such a measure, only two published empirical studies in the area of bereavement or trauma have made use of the construct of spiritual wellbeing, and neither examined the construct of spiritual wellbeing as part of its primary analysis. Benight, Flores, and Tashiro (2001) included spiritual wellbeing as an outcome measure in their study of coping self-efficacy among the bereaved. They found that spiritual wellbeing was positively correlated with psychological wellbeing and general physical health and significantly negatively correlated with the stressfulness of a life event and subjective distress. No report was made, however, on the relationship between spiritual wellbeing and growth or grief intensity. In their study of African American women who suffered from chronic interpersonal violence, Arnette et. al demonstrated that positive religious coping was significantly related to the religious well-being subscale of the Spiritual Wellbeing Scale. Hopelessness was significantly negatively correlated to the existential well-being subscale. This small number of relevant studies makes it clear that greater use of spiritual wellbeing as an outcome measure in bereavement studies is warranted. It also provides preliminary evidence for the existence of a relationship between religious coping and

spiritual wellbeing, which will be particularly relevant to the age group being examined in the proposed study.

Statement of the problem and hypotheses

The current study aims to investigate the mediating effect that meaning-making has on the relationship between religious coping strategies and young-adult participants' responses to bereavement within the past two years. It is expected that the use of positive religious coping strategies will work through an individual's world assumptions to alleviate grief symptoms and facilitate growth. The use of positive religious coping strategies will result in more positive world assumptions, which, in turn, result in lower levels of grief and an increase in personal growth and spiritual wellbeing.

Previous research has provided evidence that positive religious coping is related to both lower levels of subjective grief and higher reports of meaning-making (Anderson, Marwit, Vandenberg, & Chibnall, 2005; Murphy, Johnson, & Lohan, 2003). It has also been demonstrated that meaning-making plays an important role in the grieving process (Davis, Noel-Hoeksema, & Larson, 1998; Holland, Currier, & Neimeyer, 2006; Currier, Holland, & Neimeyer, 2006) and the process of stress-related growth (Park, 2005). However, no published studies have investigated these relationships in the context of world assumptions theory. Furthermore, the effects that bereavement has on college-aged individuals have been insufficiently investigated in the literature (Center for the Advancement of Health, 2004).

The meditational model will be tested using the statistical technique of Structural Equation Modeling (SEM) and the criteria proposed by Baron and Kenny (1986).

According to Baron and Kenny, four steps must be followed in order to demonstrate a significant mediated relationship: 1) The independent variables or variables must demonstrate significant relationships with the mediator variables 2) The mediator variable or variables must demonstrate significant relationships with dependent measures 3) The independent variable or variables must demonstrate significant relationships with dependent variables and 4) when the mediated model is tested, the direct relationships between independent and dependent measures must decrease, ideally to the point of nonsignificance.

This methodology is designed to supplement previous research on meaning-making and bereavement by providing data from the use of a theoretically based measure rather than a single-item assessment of meaning-making. It is also hoped that the use of a recently developed, multidimensional measure of the religious coping construct will help to clarify the role that religion plays in coping with loss. The current study also examines the relationships between religious coping, bereavement, and spiritual well-being, which have yet to be examined empirically but have been hypothesized by researchers such as Chen (1997) and Calhoun and Tedeschi (1990).

The following, specific hypotheses are tested:

Hypothesis 1

Positive religious coping is expected to fulfill step 1 of Baron and Kenny's (1986) criteria for mediation by demonstrating direct positive relationships with the three subscales of the WAS.

Hypothesis 2

Negative religious coping is expected to fulfill step 1 of Baron and Kenny's (1986) criteria for mediation by demonstrating a significant inverse relationship with the three subscales of the WAS.

Hypothesis 3

The three subscales of the WAS are hypothesized to produce significant relationships with dependent measures in the study, therefore fulfilling Baron and Kenny's (1986) second criteria for showing a mediational relationship. Specifically, the subscales of the WAS are expected to have a positive relationship with personal growth and spiritual wellbeing, and a negative relationship with grief.

Hypothesis 4

Positive Religious Coping will meet Baron and Kenney's (1986) third criteria for mediation by demonstrating significant direct effects on the outcome variables. It is expected that Positive Religious Coping, as measured by the Positive Religious Coping subscale of the RCOPE, will have significant positive effects on Personal Growth, as measured by the HGRC, and Spiritual Wellbeing, as measured by the SWBS.

Additionally, Positive Religious Coping is expected to show a significant inverse relationship with Grief, as measured by the HGRC.

Hypothesis 5

Negative Religious Coping will meet Baron and Kenney's (1986) third criteria for mediation by demonstrating significant direct effects on outcome variables. It is expected that Negative Religious Coping, as measured by the Negative Religious Coping subscale of the RCOPE, will have significant negative effects on Personal Growth, as measured by the HGRC, and Spiritual Wellbeing, as measured by the SWBS. Additionally, Negative Religious Coping is expected to show a significant direct relationship with Grief, as measured by the HGRC.

Hypothesis 6

The relationships between positive religious coping and outcome variables will be mediated by participants' self-reported levels of positive world assumptions. Participants' reports of positive religious coping will be positively correlated with their level of positive world assumptions. World assumptions will in turn demonstrate direct effects on Personal Growth and Spiritual Wellbeing, and inverse effects on Grief. Additionally, when the mediator variables (world assumptions) are added to the model, the relationships between Positive Religious Coping and outcome variables will become nonsignificant. Confirmation of this hypothesis will provide evidence that the world assumptions of bereaved individuals are at least partially contingent upon their use of positive religious coping strategies, and that these world assumptions in turn affect outcomes.

Hypothesis 7

The relationships between negative religious coping and outcome variables will be mediated by participants' self-reported levels of positive world assumptions. Participants' reports of negative religious coping will be inversely correlated with their level of positive world assumptions. World assumptions will in turn demonstrate direct effects on Personal Growth and Spiritual Wellbeing, and inverse effects on Grief. Additionally, when the mediator variables (world assumptions) are added to the model, the relationships between Negative Religious Coping and outcome variables will become nonsignificant. Confirmation of this hypothesis will provide evidence that the world assumptions of bereaved individuals are at least partially contingent upon their use of negative religious coping strategies, and that these world assumptions in turn affect outcomes.

Method

Participants

The sample included 281 undergraduate students from a large, urban, public university in the southeastern United States. Students participated for research credit and/or extra credit in undergraduate psychology courses. Students eligible for participation in the study were at least 18 years of age and were asked to participate only if they had experienced a loss within the last two years. Balk and Corr (1996) emphasize the difficulty in defining adolescence and young adulthood as developmental periods. However, they define the ages between 18 and 22 as roughly corresponding to Blos' (1979) stage of late adolescence during which one is becoming independent from one's

parents. As further temporal definitions of what constitutes young adulthood may be arbitrary, the current study made use of any participants available in the undergraduate sample, and excluded only 8 participants whose ages represented significant outliers. An additional 51 participants were excluded from analyses for exceeding the restrictions placed on the amount of time elapsed since the loss, resulting in a final sample of 222 participants.

This large number of bereaved participants was necessary in order to meet the sample requirements for a path analysis procedure, which is generally considered a “large sample” statistical technique requiring at least that many participants (Tabachnick & Fidell, 2007, p. 683). A standard rule of thumb for ensuring adequate sample size for detecting parameter estimates is to include at least 10 participants for every parameter being estimated (Tabachnick, & Fiddell, 2007). Each model being tested in the current study includes, at most, 15 estimated paths, thus requiring a minimum of 150 participants to adequately detect significant relationships between variables. By including 222 participants, the author ensured adequate power for calculating most model fit indices as well.

Measures

Demographic Questionnaire (Appendix A) Participants completed a form including general demographic information including age, gender, class rank, marital status, religious affiliation, and ethnicity.

Characteristics of Loss (Appendix B) Participants completed a brief survey regarding the circumstances of their loss and their relationship with the deceased. These questions will include: relationship to the deceased, age of the deceased at the time of death, gender of the deceased, time elapsed since the loss occurred, and the circumstances of the death (accident, illness, homicide, or suicide).

RCOPE (Pargament, Koenig, & Perez, 2000; Pargament, Koenig, Tarakeshwar, and Hahn, 2004). (Appendix C)

The RCOPE is a recently developed, multifactor, 105-item self-report assessment of religious coping methods used in response to life stress. It was designed based on Pargament's theory of a functionally oriented measure of religion, in order to replace dispositional measures and single item assessments such as church attendance. Items for the RCOPE were generated from interviews with participants, the author's interpretation of the clinical literature, or adapted from preexisting scales. The items load onto 17 factors, which can further be combined into a positive religious coping factor and a negative religious coping factor (Pargament, Koenig, Tarakeshwar, & Hahn, 2004). Examples of subscales which load onto the positive religious coping factor are Benevolent Religious Reappraisal, Active Religious Surrender, Forgiveness, and Seeking Support from Clergy or other Religious Members. Examples of subscales which load onto the negative religious coping factor include Interpersonal Religious Discontent, Passive Religious Deferral, Pleading for Direct Intercession, and Punishing God Reappraisal. Each individual item is designed to measure how much a participant has

utilized a given type of religious coping. Responses are given on a four-point Likert scale ranging from 0 (*not at all*) to 3 (*a great deal*).

The original RCOPE was validated on a college sample (N =540) and was further examined among an elderly hospitalized population (N = 551) during the scale development process. An exploratory factor analysis on the college sample revealed a 17 factor solution. Internal consistencies among the 17 subscales of the RCOPE ranged from moderate to high (.61 -.94) in the college sample, and were acceptable in the hospital sample with three of the subscales falling below .65, and seven falling above .80. A confirmatory factor analysis performed on the hospital sample supported a shortened version of the RCOPE including only 14 factors as the best fit model, however, the 17 factor model demonstrated further evidence of validity, and was able to distinguish between the college and hospital sample when a t-test was performed (Pargament, Koenig, & Perez, 2000). Positive religious coping scales were shown to be positively correlated with measures of stress-related growth, religious outcome, and physical health, while negative religious coping subscales tended to show the opposite pattern of correlation.

The current study made use of a shortened version of the RCOPE, validated by Pargament, Koenig, Tarakeshwar, and Hahn (2004). This 63-item version is composed of 21 subscales with three items each, and has been shown to sum into two higher order factors: Positive religious coping and negative religious coping.

Hogan Grief Reaction Checklist (Hogan, Greenfield, & Schmidt, 2001). (Appendix D)

The Hogan Grief Reaction Checklist (HGRC) is a 61-item self-report measure of normal bereavement reactions. Items were derived empirically based on a qualitative analysis of the written reports and interviews of bereaved adults in a focus group format. Items are worded as declarative statements and responses are measured on a five-point Likert continuum ranging from one (Does not describe me at all) to five (Describes me very well). It is a multidimensional measure, including six empirically derived subscales: Despair, Detachment, Disorganization, Panic Behavior, Blame and Anger, and Personal Growth. The Despair subscale measures “hopelessness, sadness and loneliness” and is made up of 13 items. The Panic Behavior subscale measures “fear, panic, and somatic symptoms” and contains 14 items (p.14) The Disorganization subscale measures difficulty with concentration and memory retention and recall, and is measured with 7 items. The Detachment subscale measures feelings of detachment from ones old identity, from others, and an avoidance of intimate relationships and is represented by 8 items. The Anger and Blame subscale measures anger and feelings of injustice and contains 7 items. The Personal Growth subscale measures a participants “sense of having become more compassionate, tolerant, forgiving, and hopeful” as the result of their loss. It is measured with 12 items. Scores are computed by summing the responses on each subscale. Total HGRC scores cannot be computed due to the negative correlation between the Personal Growth subscale and the other five subscales of the measure. However, recent research has demonstrated that the five grief subscales of the HGRC (Despair, Detachment, Disorganization, Panic Behavior, and Blame and Anger) can be

combined reliably into a unitary measure of grief intensity (Gamino, Sewell, & Easterling, 2000). Internal consistency alphas ranged from .79 to .90 among the six subscales, with an alpha of .90 for the entire scale. This current study makes use of this overarching grief intensity score as an outcome measure for analysis. The personal growth subscale will be analyzed as a separate outcome measure.

Temporal stability with a group of 47 undergraduate students ranged from .56 (Blame and Anger) to .85 (Disorganization) over a four-week interval. Convergent Validity has been demonstrated through positive correlations between HGRC grief subscales and other measures of grief including the Texas Revised Inventory of Grief (TRIG), the Grief Experience Inventory (GEI), and the Impact of Events Scale (IES). Negative correlations are reported for the Personal Growth Subscale and these three measures. Discriminate validity of the HGRC was assessed with a sample of bereaved mothers based on cause of death (illness, accident, homicide, or suicide), and time since death. Significant differences on scores of the Blame and Anger and Panic Behavior subscales differentiated between mothers whose children had died in a homicide from the other types of loss. Significant Differences were also found for all six subscales between mothers who experienced loss more than three years ago and less than three years ago. Exploratory factor analysis with 586 bereaved adult participants revealed six subscales, and a Confirmatory factor analysis during the initial development of the measure revealed an acceptable model fit for the six factor solution after the data was transformed to compensate for nonnormality: chi squared =313.26, $p < .01$, SRMR =.05 and CFI =.94.

World Assumptions Scale (Janoff-Bulman, 1989). (Appendix E) The World Assumptions Scale (WAS) is a 32-item self-report questionnaire based on Janoff-Bulman's theory of shattered assumptions. It is known for being the "most widely used measure of beliefs and attitudes after traumatic events." (Elklit, Shelvin, Solomon, & Dekel, 2007). The items are grouped into eight subscales which are further grouped into three primary categories of assumptions (Benevolence of the World, Meaningfulness of the World, and Worthiness of Self). The Benevolence of the World assumption involves a person's belief that the world is a good place full of people who are basically caring and good, and is made up of two subscales: benevolence of the world, and benevolence of people, each with four items. The Meaningfulness of the World Assumption encompasses a person's beliefs regarding the "distribution of good versus bad outcomes" in life, and includes three subscales: justice, controllability, and randomness, each with four items (Elklit et al., 2007, p. 292). The Worthiness of Self assumption regards one's beliefs that one is a good person with the ability to control outcomes and avoid ill fortune. It contains three subscales: self-worth, self-controllability, and luck, each represented by four items. Each item is phrased as a declarative statement and is measured on a six-point Likert scale from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). Subscales are scored by summing the relevant items, with a higher score corresponding to a stronger belief. These subscales can be summed further to generate a score on each of the three assumption categories. The current study makes use of the three assumption categories (Benevolence of the World, Meaningfulness of the World, and Worthiness of Self) for the purposes of analysis.

Internal consistencies from the original development of the measure ranged from $\alpha = .68$ to $\alpha = .86$. More recent studies have reported alphas between .66 and .76 (Dekel, Solomon, Elklit, & Ginzburg, 2004) and .48 and .82 (Elklit et. al, 2007). The lower reliabilities of these subscales are most likely a reflection of the small number of items (four) dedicated to each subscale. A recent confirmatory factor analysis demonstrated that an eight-factor solution did indeed generate the best model fit for data obtained from 1,710 participants who had been exposed to a car accident or other injury related trauma (Elklit et. al, 2007). A second model, which included 8 correlated factors which loaded onto the three expected second-order factors also demonstrated acceptable, although less robust, model fit, which provides additional evidence for the combination of the eight subscales into the three overarching assumptions which will be examined in the current study. Convergent and divergent validity of the WAS has been established over the course of numerous studies in the field of trauma, and within a variety of cultures (Dekel et. al, 2004). For example, Magwaza (1999) compared traumatized and nontraumatized children in South Africa and found that traumatized youths scored significantly lower on the meaningfulness assumption and the benevolence of the world subscale. Another recent study found expected negative correlations between many of the WAS subscales and measures of PTSD severity and trauma-related cognitions (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). A recent psychometric evaluation of the WAS used the Harvard Trauma Questionnaire (HTQ) as a measure of trauma symptoms in order to assess concurrent validity. Self-worth, luck, benevolence of the world, and

benevolence of people subscales were all significantly negatively correlated with HTQ subscales.

Spiritual Well-Being Scale, (Ellison, 1983). (Appendix F) The Spiritual Well-Being Scale (SWBS) is a 20-item measure of spiritual quality of life. Items load onto two, 10-item subscales: religious well-being (RWB) and existential well-being (EWB). The religious well-being subscale evaluates ones relationship with a higher power and includes items such as: “I don’t find much satisfaction in private prayer with God” and “I believe that God loves me and care about me.” The existential well-being subscale evaluates life purpose and life satisfaction. Items include, “I don’t know who I am, where I came from, or where I’m going” and “I believe there is some real purpose for my life.” Responses to declarative statements are recorded on a 6-point Likert scale, ranging from 1 = *strongly disagree* to 6 = *strongly agree*. Scores can be summed into the individual subscales or combined into an overall SWB score.

Internal consistency as measured by cronbach’s alpha is .94 for religious well-being, .80 for existential well-being and .89 for the entire scale according to recent research (Hammermeister and Peterson, 2001). Although some researchers have questioned the two-factor structure of the SWBS, a recent study of a religiously diverse sample of students (N = 211) supported the two-factor structure through an exploratory factor analysis (Genia, 2001). Furthermore, this study replicated previous findings in demonstrating convergent validity through significant positive correlations with intrinsic faith, fundamentalism, and worship attendance for RWB, and significant positive and negative correlations with self-esteem and depression,

respectively, for EWB. The current study will make use of the total spiritual wellbeing score for the purpose of analysis.

Procedure

Students completed the survey packet in its entirety through the online SONA systems program. SONA systems is a secure and confidential online database which allows students to view and schedule participation in research studies which are currently being conducted on campus. The students who chose to participate in the current study first viewed a brief introduction including the nature of the study, the topics of the questions to be answered, and a statement informing the participants that all participation is voluntary and may be discontinued at any time. Due to the sensitive and emotional nature of the topic to be addressed, participants were also provided with referral information for the University counseling center in the event that reminders of a recent loss resulted in emotional distress for the participant. Upon completion of the survey packet, participants were debriefed online and were provided with information regarding University counseling services for a second time. Course credit for participation in the study was rewarded upon completion of the survey packet as appropriate.

Data Analyses

This study aims to measure the indirect relationship between religious coping and bereavement outcomes. The current research will be performed using the technique of Structural Equation Modeling (SEM). SEM is conducted performing a series of hypothesized regressions simultaneously to generate an estimated covariance matrix. This estimated matrix is then compared to the covariance matrix of the actual sample.

The results are represented by a group of goodness of fit statistics including a chi-square significance value, a chi-square to degrees of freedom ratio, a Goodness of fit index (GFI), comparative fit index (CFI), and a root mean square error of approximation (RMSEA) value. Smaller chi-square values represent better model fit, with a nonsignificant chi-square indicating that the model being proposed is not significantly different from the covariance matrix derived from sample data. Because this chi square criterion is sensitive to sample size and assumes perfect fit between the model being tested and the data collected, a ratio between the chi-square statistic and the degrees of freedom in the model is generally used to measure goodness of fit, with good fit being indicated by a ratio three or less (Byrne, 2001). The GFI can be described as a comparison of the model being tested to the absence of a model. It can range from 0 to 1.00, with larger numbers indicating better fit. Generally, the cutoff for the GFI is considered to be .95. The CFI compares the model being tested to a baseline model which assumes no relationships between any of the model variables. The model is sensitive to sample size, and may underestimate fit in samples of insufficient size. The cutoff for acceptable fit for the CFI is generally agreed to be 0.95. Finally, RMSEA is an expression of the discrepancy between the model being tested and an estimation of the data from the population as a whole, through the use of the “error of approximation in the population.” (Byrne, 2001, p. 84). RMSEA is an informative test statistic, but must be interpreted with caution, as the sample size needed to meet the criterion increases the fewer degrees of freedom there are available in the model.

This technique allows the complex, hypothesized relationships between the variables which make up the model to be confirmed by empirical observations (the participants' responses to the survey measures). When performing SEM or path analysis, the first step is to specify a model for the data being tested. In this case, the hypothesized model is represented by a path diagram showing that religious coping effects world assumptions, which in turn affects bereavement outcome as measured by the Hogan Bereavement Checklist. The next step is model identification, in which the number of data points is compared to the number of parameters being estimated using the equation $n(n-1)/2$ to calculate the number of parameters (or paths) which can be estimated for the model, where n represents the number of measured variables in the diagram. If the number of parameters being estimated is lower than the number of possible parameters that can be measured, a solution is possible and the model is considered identifiable. This means that estimates of model fit can be calculated for the proposed model. In the case of the current study, the model is identifiable or overjustified to use an alternate term.

SEM is an appropriate analysis in this case because the researcher is interested in evaluating both the direct and the indirect or meditational relationships between the variables in question.

Results

Frequencies

Demographic data.

Frequencies were calculated for each of the categorical demographic variables examined in this study. Frequency percentages included are calculated from the final sample (N=222) included for analysis. These variables included gender, class rank, marital status, religious affiliation, ethnicity, and socioeconomic status. Table 1 below displays frequency data for each of these variables.

As indicated in Table 1, the current sample was predominantly female (n =139) as compared to male (n = 83). The sample was also skewed towards students who are earlier in their academic careers, with 66.2% of the sample reporting either freshman or sophomore status. The majority of individuals sampled reported being single (78.8%) and coming from a middle or high-middle class socioeconomic background (64.4%; \$50,000-\$150,000 per year combined household income). A majority of participants reported Christian religious beliefs (67.6%) with atheist (14%), agnostic (5.4%) and other (5.4%) beliefs accounting for the next largest proportions of participants. The sample collected was predominantly Caucasian (52.3%), with large percentages of Black American (23.4%) and Hispanic (4.5%) participants included as well.

Table 1

Frequencies and percentages for demographic variables

Variable	Frequency	Percentage
Gender		
Male	83	37.4
Female	139	62.6
Class Rank		
Freshman	85	38.3
Sophomore	62	27.9
Junior	39	17.6
Senior	32	14.4
Graduate	1	.5
Other	3	1.4
Marital Status		
Single	175	78.8
Married	3	1.4
Divorced	2	.9
Long-Term	32	14.4
Living Together	9	4.1
Separated	1	.5
Religion		
Christian	150	67.6
Muslim	11	5.0
Jewish	3	1.4
Hindu	3	1.4
Atheist	31	14.0
Agnostic	12	5.4
Other	12	5.4
Ethnicity		
Caucasian	116	52.3
Black American	52	23.4
Hispanic	10	4.5
Asian	24	10.8
Middle-Eastern	4	1.8
Mixed Heritage	6	2.7
Other	6	2.7
SES		
Low	24	10.8
Low-Middle	31	14.0
Middle	79	35.6
High-Middle	64	28.8
High	24	10.8

Characteristics of loss.

Frequencies were also calculated for two important factors regarding the characteristics of the participants' loss experience: the circumstance of the loss, and the participants' relationship to the deceased. Table 2 below summarizes the frequency data for these variables.

Table 2

Frequencies and percentages for characteristics of the loss event

Variable	Frequency	Percentage
Circumstance		
Suicide	14	6.3
Homicide	12	5.4
Illness	143	64.4
Accident	53	23.9
Relationship		
Friend	75	33.8
Nuclear	12	5.4
Extended	123	55.4
Spouse	4	1.8
Other	8	3.6

Note. All percentage values are calculated out of a sample of N=222. There was no missing data present for the frequencies above.

As indicated in Table 2, the current sample has experienced the loss of a variety of attachment figures in a variety of circumstances. The most common circumstance of

loss was loss due to illness (64.4%) followed by loss due to accident (23.9%). A small but significant portion of participants (11.7%) experienced what has been defined as a traumatic loss (loss due to homicide or suicide). A majority of participants experienced the loss of a member of their extended family (55.4%), and a large percentage of participants reported experiencing the loss of a friend (33.8%). Participants in this sample were less likely to report the loss of a member of their nuclear family (5.4%) or of a spouse (1.8%) or other attachment figure (3.6%).

Coping strategies.

After completing the RCOPE, participants were asked to reflect on and report what specific religious coping strategy (operationalized as specific questions on the RCOPE) they found to be most helpful in coping with their loss. Frequencies, summarized in Table 3 below, were calculated for each of 21 subscales of the RCOPE, as well as for whether participants reported finding positive or negative coping strategies to be most helpful.

Table 3

Frequencies and percentages for participants reports of most helpful coping strategies

Coping Strategy	Frequency	Percentage
RCOPE Subscales		
Seeking Spiritual Support	29	13.1
Self-Directing Religious Coping	27	12.2
Religious Forgiving	22	9.9
Benevolent Religious Reappraisal	21	9.5
Active Religious Surrender	16	7.2
Spiritual Connection	16	7.2
Religious Helping	14	6.3
Pleading for Direct Intercession	13	5.9
Reappraisal of Gods powers	11	5.0
Religious Conversion	10	4.5
Seeking Religious Direction	7	3.2
Collaborative Religious Coping	5	2.3
Religious Purification	5	2.3
Interpersonal Religious Discontent	4	1.8
Punishing God Reappraisal	3	1.4
Passive Religious Deferral	3	1.4
Religious Focus	3	1.4
Marking Religious Boundaries	2	.9
Seeking Support from Clergy	2	.9
Demonic Reappraisal	1	.5
Spiritual Discontent	0	0
Type of Coping		
Positive Religious Coping	179	80.6
Negative Religious Coping	35	15.8
Missing Values	8	3.6

Note: 8 participants (3.6%) failed to answer this question, resulting in 8 missing values for the above sets of frequencies

Participants were much more likely to report finding a positive religious coping strategy to be most helpful in dealing with their loss (80.6%) than they were to find a negative religious coping strategy to be most helpful (15.8%). More specifically, participants endorsed a wide variety of RCOPE subscales as the most helpful coping strategies in dealing with their loss. The most commonly endorsed subscales (accounting

for more than 10% of participants each) included seeking spiritual support (13.1%) and self-directing religious coping (12.2%). Benevolent religious reappraisal (9.5%) and religious forgiving (9.9%) also accounted for almost 10% of participants' responses respectively, with spiritual connection (7.2%) and active religious surrender (7.2%) representing the 5th most commonly reported coping strategies. Together, these six positive religious coping strategies account for 59.1% of participants' responses regarding what coping strategies were most helpful to them. Notably, one negative religious coping strategy, spiritual discontent, was not endorsed by any participant.

Descriptive Statistics

Descriptive statistics were calculated for all continuous variables analyzed in the current study. Descriptive data is reported below in Table 4.

Table 4

Descriptive statistics

Variable	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Age	18	34	20.4	2.4	2.4	8.3
Time	0	24	10.0	7.9	0.7	-0.8
Expectedness	1	4	2.8	1.1	-0.2	-1.3
Sense	1	4	2.9	0.9	-0.5	-0.5
Benefit	1	4	2.3	0.9	-0.0	-1.1
PosRCOPE	0	96	42.7	24.6	0.1	-1.0
NegRCOPE	0	45	13.0	9.8	0.7	-0.4
Grief	49	203	86.3	30.9	1.2	1.4
Growth	12	59	38.6	9.1	-0.4	0.3
WASMeaning	12	66	39.2	8.8	0.5	1.1
WASBenevolence	13	45	28.8	6.5	0.1	-0.4
WASSelf	17	70	48.5	9.0	-0.3	0.4
SWBeing	41	120	85.3	19.2	-0.1	-0.8

Note. PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

Preliminary Analyses (Hypotheses 1 and 2)

Bivariate correlations.

Bivariate correlations were calculated to test the direct relationships between continuous variables included in this study. Among the relationships tested are those between the independent variables (positive religious coping and negative religious coping) and the proposed mediator variables (assumptions of meaningfulness, benevolence, and the self) thus evaluating step one of the Baron and Kenny (1986) criteria for mediation. Table 5 below summarizes the correlations between these variables.

For the current sample, time since loss did not demonstrate a significant relationship with any of the other continuous measures used. Similarly, age of participant revealed only one significant relationship: older participants were more likely to have stronger beliefs regarding the benevolence of the world $r(220) = .16, p < .05$.

Table 5

Bivariate Pearson correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Age	-												
2 Time	-0.02	-											
3 Expectedness	0.00	0.05	-										
4 Sense	-0.03	0.10	-0.26**	-									
5 Benefit	0.04	0.10	-0.08	0.35**	-								
6 PosRCOPE	0.10	0.03	0.09	-0.02	0.09	-							
7 NegRCOPE	0.08	0.11	0.16*	-0.15*	-0.04	0.71**	-						
8 Grief	-0.07	-0.05	0.01	-0.16*	-0.17**	0.09	0.27**	-					
9 Growth	0.01	0.08	0.05	0.20**	0.20**	0.32**	0.09	0.05	-				
10 WASMeaning	-0.02	0.02	0.00	0.06	-0.06	0.01	0.01	0.13*	0.33**	-			
11 WASBenevolence	0.16*	-0.04	0.03	-0.07	0.03	0.07	-0.02	-0.01	0.30**	0.23**	-		
12 WASSelf	0.09	-0.03	-0.08	0.05	-0.01	0.08	-0.10	-0.26**	0.42**	0.46**	0.42**	-	
13 SWBeing	0.10	0.01	0.02	0.01	0.07	0.68**	0.32**	-0.28**	0.28**	-0.07	0.22**	0.26**	-

Note. PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

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

Interestingly, participants who reported that their loss was more expected tended to score lower on their reported ability to make sense out of their loss $r(220) = -.26, p < .01$ and to report using more negative religious coping strategies $r(220) = 0.16, p < .05$. The individuals' ability to make sense of their loss was positively correlated with their ability to find some benefit from the experience $r(220) = .35, p < .01$ and scores on the growth subscale of the HGRC $r(220) = .20, p < .01$, while being negatively associated with negative religious coping $r(220) = -.15, p < .05$ and grief symptomology $r(220) = -.16, p < .05$. Self-reported ability to find some benefit in the loss experience was also positively associated with personal growth $r(220) = .20, p < .01$, while being negatively correlated with grief symptomology $r(220) = -.17, p < .01$.

Use of positive religious coping strategies was positively associated with personal growth $r(220) = .032, p < .01$ and spiritual wellbeing $r(220) = .68, p < .01$. As expected based on previously reported associations in the literature, positive religious coping also was strongly associated with negative religious coping $r(220) = .71, p < .01$. Use of negative religious coping strategies also varied directly with grief symptomology $r(220) = .27, p < .01$ and spiritual wellbeing $r(220) = .32, p < .01$.

The world assumptions subscales were all intercorrelated with the meaningfulness subscale of the WAS being significantly positively associated with both the benevolence $r(220) = .23, p < .01$ and self subscales $r(220) = .46, p < .01$ and the self and benevolence subscales showing a similar positive relationship $r(220) = .42, p < .01$. Individually, the subscales of WAS showed differing patterns of relationships with outcome variables. Grief symptomology showed a positive relationship with the meaningfulness subscale $r(220) = .13, p < .05$ while demonstrating a negative relationship with the subscale measuring assumptions about the self $r(220) = -.26,$

$p < .01$. Personal Growth was positively associated with the meaningfulness subscale $r(220) = .33, p < .01$, the benevolence subscale $r(220) = .30, p < .01$, and the self subscale of the WAS $r(220) = .42, p < .01$. Finally, spiritual wellbeing was associated positively with both assumptions about the self $r(220) = .22, p < .01$ and assumptions about benevolence $r(220) = .26, p < .01$, but was not significantly associated with assumptions regarding the meaningfulness of the world $r(220) = -.07, p > .05$.

The initial criteria for performing a test of mediation were not met by the data in the current sample, as both positive religious coping and negative religious coping failed to demonstrate any significant relationship with the subscales of the WAS. However, more recent studies on the methodology of testing for mediation have argued that it is possible in some cases to demonstrate a mediated model without producing significant results at every step of the Baron and Kenny criteria (McKinnen et. al, 2002).

Testing Hypotheses 3-7: Structural Equation Models

Estimation of error terms.

Each of the proposed models represents a single-indicator latent variable model. This means that each latent construct in the model (positive religious coping, spiritual wellbeing, grief, etc.) is represented by a single measurement (i.e. the positive religious coping subscale of the RCOPE) rather than with multiple measurement tools. Models of this type are frequently estimated using path analysis techniques which do not account for measurement error.

Netemeyer and colleagues (1990) have demonstrated that failing to account for measurement error can result in an overestimation of path coefficients in a given model, with the end result

being an inaccurately optimistic representation of model fit and the strength of the relationships between latent constructs in the model.

The current model cannot accommodate the estimation of error terms within the model without becoming arithmetically underidentified. However, an alternative method for applying reliability theory to the estimation of error variances has been developed by Netemeyer et. al (1990) for use with single-indicator latent variable models. This method allows for the estimation of error variances using data outside of the model, so that error terms can be set as known quantities when the model is estimated.

In order to estimate the error variances for each latent construct in the model, the alpha reliability coefficient for each measurement is calculated. The inverse $(1-\alpha)$ of this value is then multiplied by the variance of the indicator in order to produce an estimated error variance. These estimated error variances can then be included in the model to set error terms as known rather than predicted quantities by constraining the path coefficient between the indicator and the error term to one. Similarly, the path coefficient between each indicator and its associated latent variable is set to one, in order to reflect the perfect relationship between indicators and latent constructs in the proposed model. Table 7 below summarizes the estimated error terms for the constructs to be included in the model tested in the current study.

Table 6

Estimated error terms for the structural equation models

Variable	Cronbach's alpha	Variance	estimated error term
PosRCOPE	0.97	603.33	18.10
NegRCOPE	0.89	95.97	10.56
WASMeaning	0.81	76.66	14.57
WASBenevolence	0.78	41.85	9.21
WASSelf	0.78	80.70	17.75
Grief	0.97	955.64	28.67
Growth	0.89	82.64	9.09
SWBeing	0.92	368.58	29.49

Note. PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

Direct relationships between world assumptions and outcomes (Hypothesis 3).

In order to test the second criterion of the Baron and Kenny (1986) process for demonstrating mediation, a structural equation model was evaluated for the effects of the three world assumptions scales on the three outcome variables of interest in the current study. Figure 1 and Table 8 below summarize the results of this analysis.

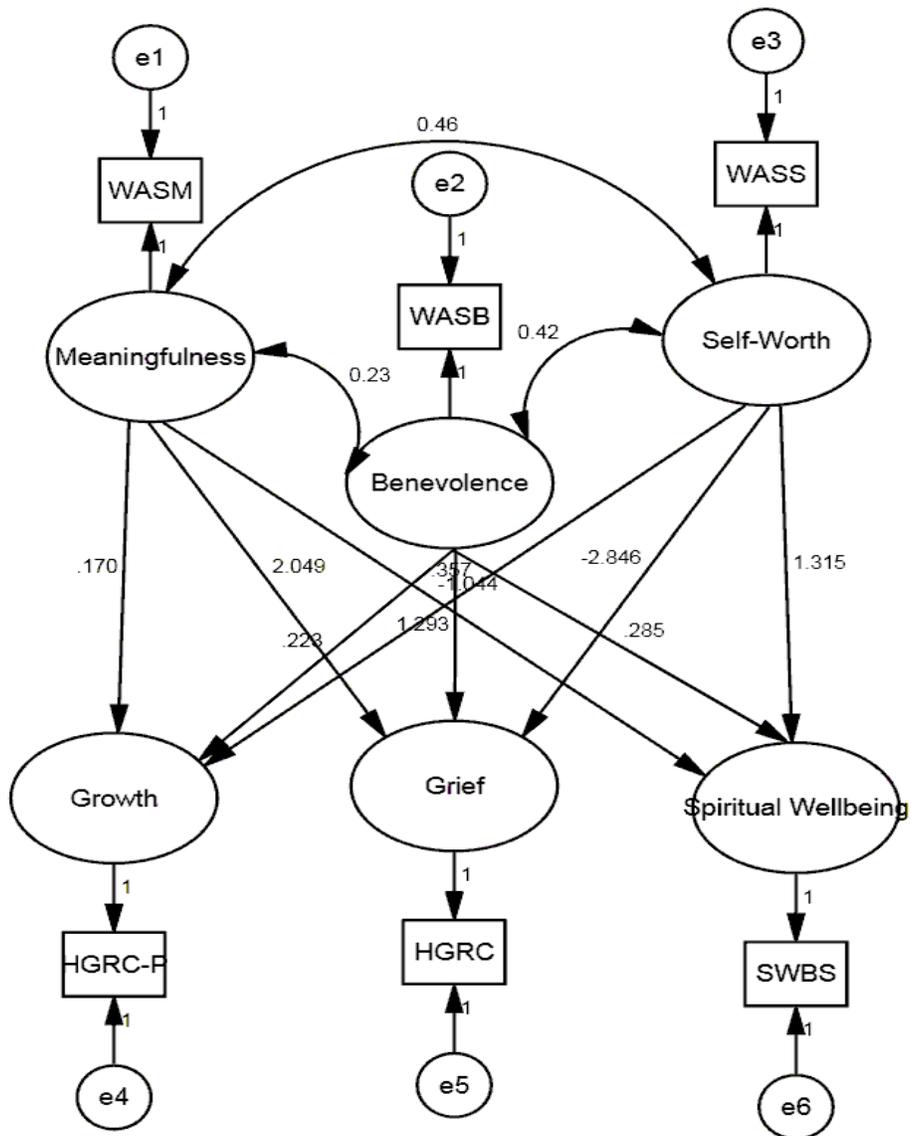


Figure 1. Structural equation model of direct effects of world assumptions on outcome variables (Standardized Solution, N=222)

Table 7

Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 1 (N=222)

<i>Parameter</i>	<i>Standardized Estimate</i>	<i>S.E.</i>	<i>p</i>
Personal Growth ← WASBenevolence	.223	.137	.104
Grief ← WASBenevolence	1.293	.525	.014
SWBeing ← WASBenevolence	.285	.309	.356
Grief ← WASMeaning	2.049	.394	<.001
Personal Growth ← WASMeaning	.170	.101	.092
SWBeing ← WASMeaning	-1.044	.233	<.001
Personal Growth ← WASSelf	.357	.120	.003
Grief ← WASSelf	-2.846	.483	<.001
SWBeing ← WASSelf	1.315	.276	<.001

Note: $\chi^2(3) = 19.90$, $p < .001$; GFI = .974; RMSEA = .160; CFI = .927; PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

As illustrated above, the model of the direct effects of world assumptions on outcome variables shows acceptable model fit with some of the model fit statistics. Although the ratio of χ^2 to df in this case is 6.63, indicating poor fit, and the RMSEA value is .160, indicating poor fit, but approaching mediocre fit, both of these methods of establishing model fit are sensitive to sample size, particularly RMSEA, which is known to over-reject hypothesized models, particularly when they have few degrees of freedom (Byrne, 2001). The model demonstrates acceptable fit on the GFI and CFI indices, and therefore is superior to both no model at all and a baseline model where it is assumed that none of the variables share relationships. Although there are no certain rules for assessing differential findings between model fit indicators, resulting in

the need for “subjective judgment” in evaluating acceptable model fit (Byrne, 2001, p. 85), the current model appears to have demonstrated acceptable, if not good, model fit.

Despite the fact that the model fits the data to within acceptable criteria, the pattern of relationships between the variables being tested do not conform to those proposed in hypothesis 3. The assumption of Benevolence demonstrated only a single significant effect, the opposite of what was proposed: a positive relationship with grief symptoms. Additionally, the assumption of meaningfulness produced two significant relationships which disconfirm the proposed pattern of relationships in hypothesis 3: it demonstrated a strong positive effect on grief symptoms, and a strong negative effect on spiritual wellbeing. Assumptions of the Self, however, produced three significant relationships which all conformed to those proposed in hypothesis 3: positive relationships with both personal growth and spiritual wellbeing, and an inverse relationship with grief. Although these results do not completely fulfill the Baron and Kenny criteria for step two of the process for testing for mediation, the acceptable fit of the model, and the presence of several significant path coefficients suggest that a continuation of the process is warranted.

Direct relationships between religious coping and outcomes (Hypotheses 4 and 5).

Step three of the process for evaluating a mediated relationship is to test the effects of predictor variables on dependent measures. In the current study, two distinct models of direct effects are tested: one for the effects of positive religious coping and one for the effects of negative religious coping. These predictor variables have been tested separately to avoid problems of overlapping variance which may make it difficult to detect significant associations between variables. It was suspected that overlapping variance may be a problem due to the findings of Pargament, Smith, Koenig, and Perez (1998) which showed that some negative

religious coping subscales are positively associated with outcomes such as growth, and these concerns were confirmed by the high correlation between the two variables (see Table 5).

Figure 2 below illustrates the structural model representing the direct relationships between the positive religious coping construct and the three outcome variables of the current study (Grief scores, personal growth, and spiritual wellbeing). Figure 3 below illustrates the structural model representing the direct relationships between the negative religious coping construct and outcome variables.

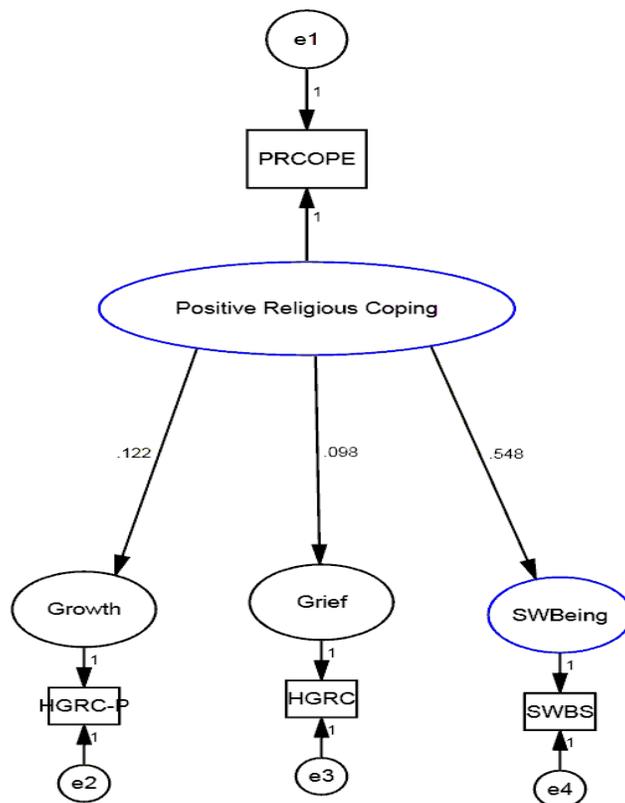


Figure 2. Structural equation model of the direct effects of positive religious coping on outcome variables (Standardized Solution; N=222)

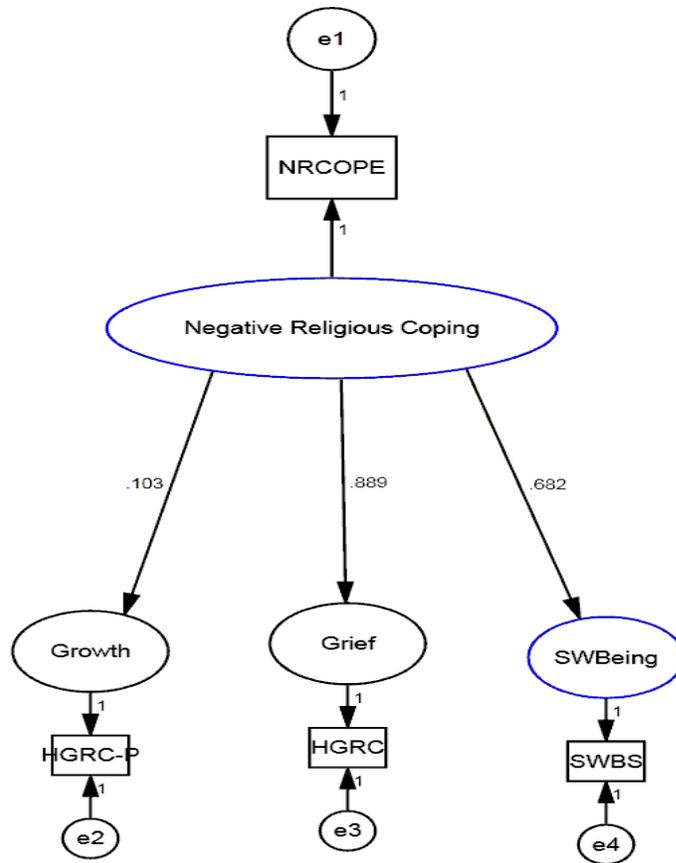


Figure 3. Structural equation model of the direct effects of negative religious coping on outcome variables (Standardized Solution; N=222)

Table 8

Standardized path coefficients, standard errors, and significance levels for models in Figures 2 and 3 (N=222)

<i>Parameter</i>	<i>Standardized Estimate</i>	<i>S.E.</i>	<i>p</i>
Figure 1			
Personal Growth←Positive RCOPE	.122	.024	<.001
Grief Score←Positive RCOPE	.098	.087	.261
Spiritual Wellbeing←Positive RCOPE	.548	.040	<.001
Figure 2			
Personal Growth←Negative RCOPE	.103	.070	.140
Grief Score←Negative RCOPE	.889	.231	<.001
Spiritual Wellbeing←Negative RCOPE	.682	.141	<.001

Note. Fit indices for Figure 1: $\chi^2(3) = 58.02$, $p < .001$; GFI = .897; RMSEA = .288; CFI = .743. Fit indices for Figure 2: $\chi^2(3) = 61.92$, $p < .001$; GFI = .894; RMSEA = .298; CFI = .387

As noted in Table 8 above, neither of the direct models tested in the current study met criteria for being a good fit for the data collected. The model testing the effects of positive religious coping on the three outcome variables (personal growth, grief, and spiritual wellbeing) showed significant positive relationships with both personal growth and spiritual wellbeing, but not grief. Further, the model fit statistics for Figure 1 did not fall within the recommended scores to indicate sufficient model fit. The model depicted in Figure 2, representing the direct relationships between negative religious coping and the outcome variables demonstrated significant positive relationships with both spiritual wellbeing and grief, but did not have a significant relationship with personal growth. Model fit statistics for Figure 2 followed a similar pattern to those in Figure 1, and did not indicate sufficient model fit. These results indicate that

although some of the hypothesized relationships were present, the overall model of direct effects was not supported by the data collected.

The mediated models (Hypotheses 6 and 7).

The failure of the initial models tested above to produce sufficient model fit is a violation of the conditions for mediation as described by Barron and Kenny (1986). However, more recent studies on the methodology of testing for mediation have argued that it is possible in some cases to demonstrate a mediated model without first producing a model of direct effects which fit the data (McKinnen et. al, 2002). For that reason, the hypothesized mediated model described above was tested to examine whether religious coping variables affect outcomes through their effects on participants' assumptions about the world. As with the direct effect models described above, two mediated models were tested: one for the effects of positive religious coping and one for the effects of negative religious coping.

Figure 4 and Table 9 below summarize the results of the structural equation model testing the proposed pattern of relationships between positive religious coping, world assumptions, and outcome variables.

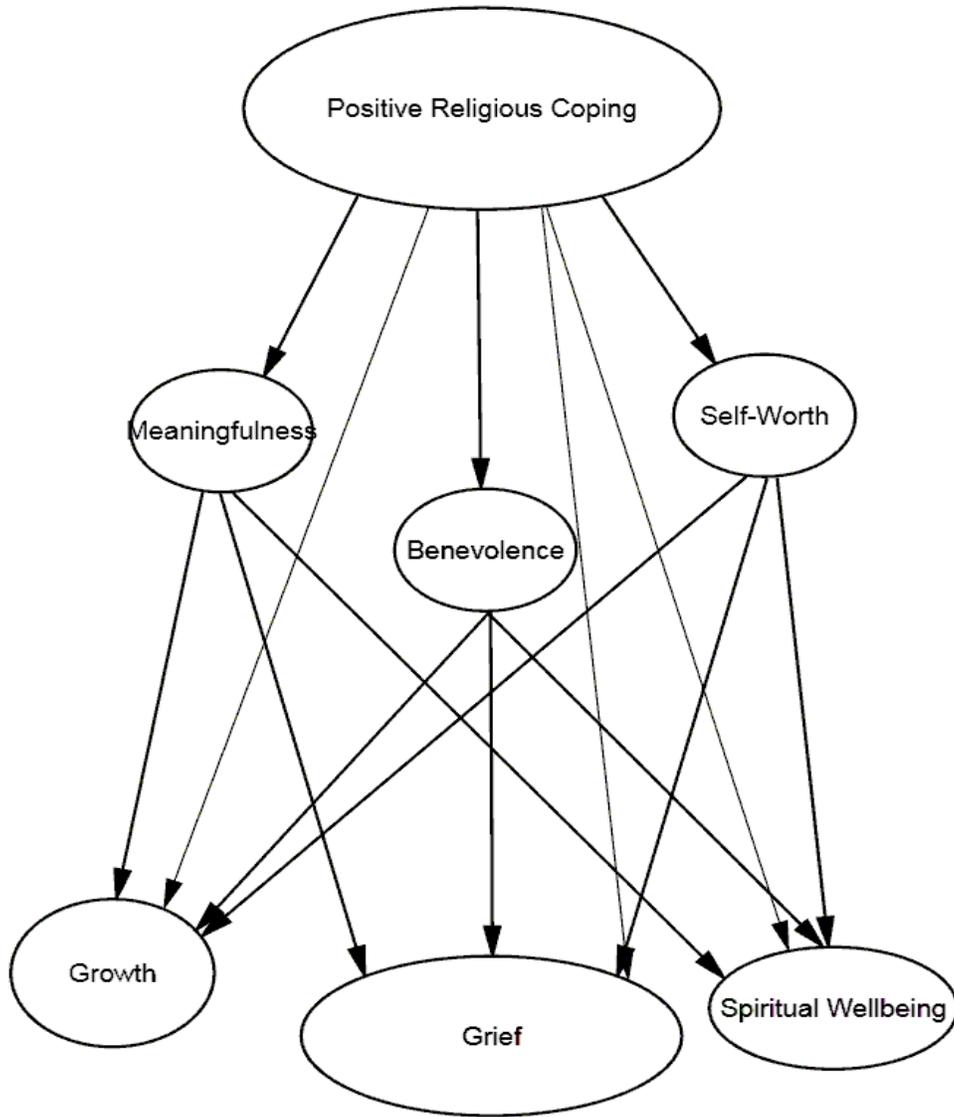


Figure 4. Structural equation model of mediated relationship of positive religious coping (Standardized Solution; N=222). Standardized path estimates can be found in Table 9.

Table 9

Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 4 (N=222)

<i>Parameter</i>	<i>Standardized Estimate</i>	<i>S.E.</i>	<i>p</i>
WASMeaning←PosRCOPE	.005	.025	.850
WASBenevolence←PosRCOPE	.021	.018	.260
WASSelf←PosRCOPE	.029	.025	.253
Personal Growth←WASBenevolence	.238	.102	.020
Grief←WASBenevolence	.711	.366	.052
SWBeing←WASBenevolence	.321	.166	.053
Grief←WASMeaning	1.699	.261	<.001
Personal Growth←WASMeaning	.263	.073	<.001
SWBeing←WASMeaning	-.765	.119	<.001
Personal Growth←WASSelf	.297	.073	<.001
Grief←WASSelf	-2.364	.269	<.001
SWBeing←WASSelf	.941	.121	<.001
Personal Growth←PosRCOPE	.107	.022	<.001
SWBeing←PosRCOPE	.517	.036	<.001
Grief←PosRCOPE	.153	.079	.054

Note. $\chi^2(6) = 120.92, p < .001$; GFI = .865; RMSEA = .294; CFI = .725. PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

As illustrated above, the mediated model depicted in Figure 4 did not produce acceptable model fit, and is therefore not a good representation of the data. Hypothesis 6, which stated that a mediated relationship existed between positive religious coping, world assumptions, and outcome variables was not supported by the data. Furthermore, the pattern of relationships

suggested by the model fail to conform to those hypothesized. Similarly to the data provided by the correlations in Table 5, the use of positive religious coping strategies did not have an impact on participants' assumptions regarding the meaningfulness or benevolence of the world around them, or their assumptions regarding the self. Additionally, positive religious coping did not demonstrate a significant relationship with grief symptoms, although it did produce effects on personal growth and spiritual wellbeing in the expected, positive direction.

World assumptions showed a complex pattern of results, only some of which conformed to those hypothesized by the researcher. Assumptions of benevolence were directly associated with personal growth, as expected, but failed to demonstrate any other significant effects. Assumptions of meaningfulness were positively associated with growth, as expected, but were also positively associated with grief and inversely associated with spiritual wellbeing. Only assumptions regarding the self fit with the researcher's hypotheses completely, showing positive relationships with growth and spiritual wellbeing, and a strong negative relationship with grief symptoms.

Figure 5 and Table 10 below summarize the results of the structural equation model testing the proposed pattern of relationships between negative religious coping, world assumptions, and outcome variables.

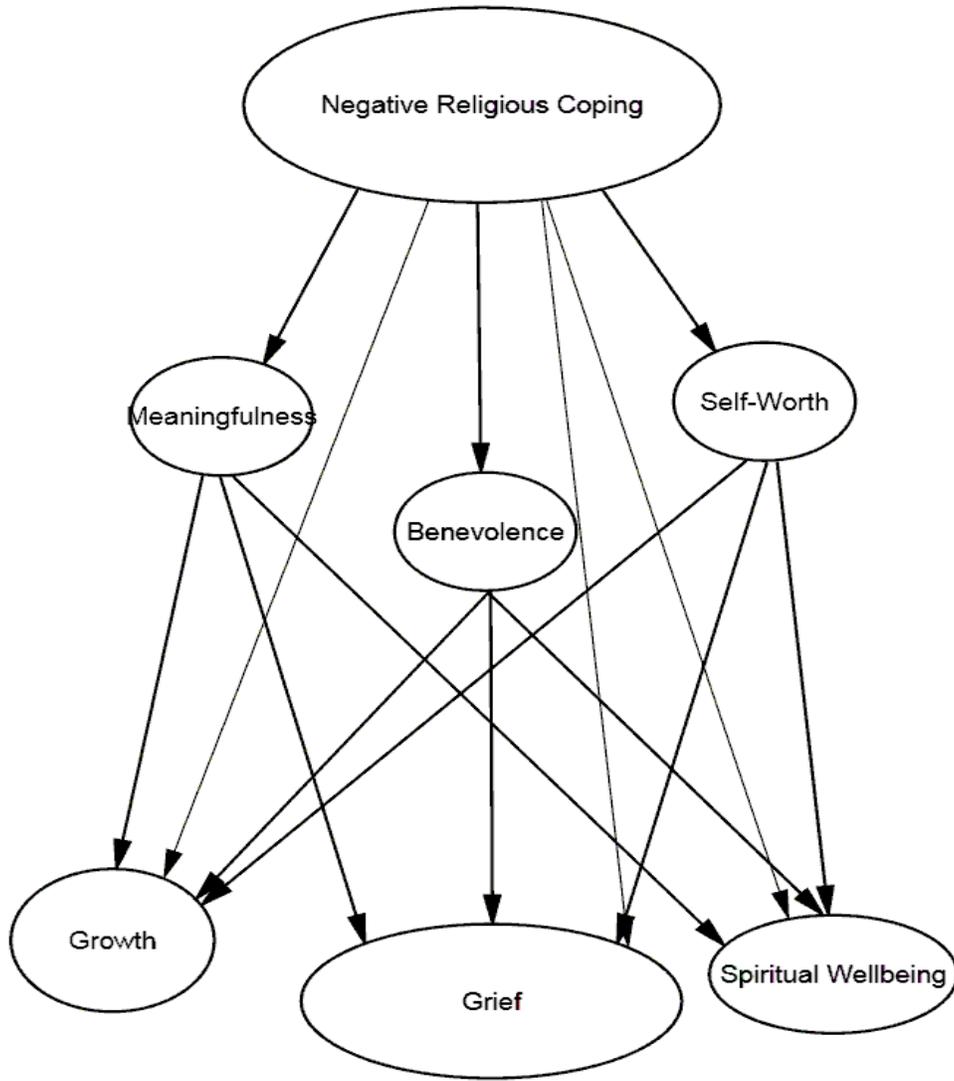


Figure 5. Structural equation model of mediated relationship of negative religious coping (Standardized Solution; N=222)

Table 10

Standardized path coefficients, standard errors, and significance levels for model depicted in Figure 5 (N=222)

<i>Parameter</i>	<i>Standardized Estimate</i>	<i>S.E.</i>	<i>p</i>
WASMeaning←NegRCOPE	.001	.067	.990
WASBenevolence←NegRCOPE	-.018	.050	.722
WASSelf←NegRCOPE	-.102	.069	.138
Personal Growth←WASBenevolence	.261	.106	.014
Grief←WASBenevolence	.698	.361	.053
SWBeing←WASBenevolence	.438	.215	.041
Grief←WASMeaning	1.530	.258	<.001
Personal Growth←WASMeaning	.203	.075	.007
SWBeing←WASMeaning	-.880	.153	<.001
Personal Growth←WASSelf	.396	.077	<.001
Grief←WASSelf	-2.085	.265	<.001
SWBeing←WASSelf	1.246	.158	<.001
Personal Growth←NegRCOPE	.145	.062	.020
SWBeing←NegRCOPE	.835	.128	<.001
Grief←NegRCOPE	.708	.213	<.001

Note. $\chi^2(6) = 123.87, p < .001$; GFI = .865; RMSEA = .298; CFI = .600. PosRCOPE = Positive Religious Coping; NegRCOPE = Negative Religious Coping; WASMeaning = Assumptions of Meaningfulness; WAS Benevolence = Assumptions of Benevolence; WASSelf = Assumptions regarding the self; SWBeing = Spiritual Wellbeing

Similarly to the model tested in Figure 4, the model tested in Figure 5 failed to meet minimum criteria for acceptable model fit, and therefore fails to provide support for Hypothesis 7. The model illustrated above also showed a similar pattern of relationships between variables as that depicted in Figure 4. Negative religious coping did not have a significant impact on

participants' world assumptions, but did have significant positive relationships with personal growth, spiritual wellbeing, and grief, the latter of which was predicted by the researcher. As with the mediated model for positive religious coping, the mediated model for negative religious coping showed a complex pattern of relationships between world assumptions and outcome variables, such that only assumptions of the self completely matched the hypothesized pattern of effects. For both of the mediated models tested above, it should be noted that individual path coefficients should be interpreted with caution, as the model did not demonstrate sufficient fit to be assumed to accurately fit the data.

Examination of subscales.

Despite the fact that the data collected in the current study did not confirm any of the hypotheses proposed, a model of the data was tested which demonstrated acceptable fit. This model (illustrated in Figure 1) showed a pattern of relationships which was inconsistent with those hypothesized based on previous research (Matthews, & Marwit, 2006). In order to more closely examine the effects of various types of world assumptions on grief symptoms specifically, and outcomes in general, Pearson correlations were calculated for the first-order subscales of the WAS, and for the subscales of the HGRC. Of most interest in the correlations reported below in Table 12 are the correlations between the first-order subscales of the WAS and the three outcome measures used in the current study (spiritual wellbeing, grief, and personal growth).

Table 11

Bivariate Pearson correlations between WAS first-order subscales and outcomes

Variable(WAS scale)	Grief	Personal Growth	Spiritual Wellbeing
WASbp (Benevolence)	.133*	.205*	.060
WASbw (Benevolence)	-.095	.309**	.290**
WASsw (Self)	-.507**	.201**	.453**
WASsc (Self)	-.064	.393**	.183*
WASl (Self)	-.023	.328**	-.026
WASj (Meaningfulness)	.037	.334**	.179*
WASc (Meaningfulness)	.056	.201**	.064
WASr (Meaningfulness)	.189**	.189**	-.379**

Note. Wasbp = benevolence of people; WASbw = benevolence of the world; WASsw = self-worth; WASsc = Self-controllability; WASl = luck; WASj = justice; WASc = controllability; WASr =randomness. First-order subscales noted in parentheses.

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

When broken down into its two component subscales, benevolence of the world, and benevolence of people, the pattern of results found for the world assumption of benevolence is easier to interpret. Beliefs that the world is a benevolent place (WASbw) follow the expected pattern of being positively associated with spiritual wellbeing and growth, although they do not have a significant relationship with grief. Beliefs that people are good (WASbp), however, are positively associated with both grief and growth. This may indicate that, although faith in the positive nature of mankind are an aspect of the personal growth process, individuals holding strong beliefs that people are good may react more strongly to the loss of a person who is close to them.

An examination of the component subscales of the world assumption of the self reveals that assumptions regarding self-worth (WASsw) most strongly support the hypotheses set down by the researcher, a result which partially replicates findings reported in the literature (Engelkemeyer, & Marwit, 2008). Assumptions of self worth predict lower grief scores, and higher scores of spiritual wellbeing and personal growth. Similarly, assumptions of self-controlability (WASsc) were positively associated with both growth and spiritual wellbeing, but were not associated with grief. This indicates that although a greater belief in one's ability to control outcomes is a predictor of growth following a loss, and a positive feeling regarding purpose in life and spirituality, grief symptoms are independent of one's ability to maintain this belief (possibly because the loss of a loved one directly violates the assumption). Finally, assumptions regarding luck (WASl) or ones beliefs about the proportion of good versus bad events that happened to the self failed to show a significant relationship with either grief or spiritual wellbeing, it was a positive predictor of growth.

Breaking down the world assumption of meaningfulness into its component subscales reveals data that is partially supported by findings reported previously in the literature. The assumption of justice, although not associated directly with grief outcomes, was positively associated with both spiritual-wellbeing and personal growth. Similarly, the belief of controllability, that one can control one's environment, was positively associated with personal growth. The assumption of randomness, however, although positively associated with personal growth, was negatively associated with spiritual wellbeing was positively associated with grief. This finding is consistent with results reported elsewhere (Dekel, Solomon, Elklit, & Ginzburg, 2004) which indicated that assumptions of randomness are associated with greater levels of distress in individuals who have experienced a trauma.

Discussion

The results of the current study failed to confirm the hypotheses set out by the researcher. The hypothesized mediational model, whereby bereaved participants' religious coping efforts impact outcomes by assisting participants in maintaining or rebuilding world assumptions, was not supported by the data. Although participants frequently reported that the use of a positive religious coping strategy was most helpful in dealing with their loss, the participants' self-reported use of positive and negative religious coping strategies did not have any effect on assumptions regarding the meaningfulness of the world, the benevolence of the world and the people in it, or assumptions about the self.

Additionally, models representing the direct effects of religious coping strategies on outcomes failed to show acceptable model fit, suggesting that neither negative nor positive religious coping strategies impact grief, spiritual wellbeing, or personal growth in the way hypothesized by the researcher. In the current study, both positive religious coping and negative

religious coping showed a positive relationship with spiritual wellbeing, suggesting that any use of religious coping strategies is related to a stronger sense of purpose in life and closeness to a higher power. However, as predicted, only positive religious coping showed a significant association with personal growth. Furthermore, negative religious coping demonstrated a strong positive association with grief scores, while positive religious coping did not have a significant relationship with grief scores at all. These data suggest that the use of positive religious coping strategies may have important effects on growth and wellbeing without impacting bereaved individuals' grief-related distress directly, and that the use of negative religious coping strategies, while related to spiritual wellbeing, may have deleterious effects on individuals' experience of grief. However, these relationships must be interpreted with caution, as the failure of the models to demonstrate a minimum level of model-fit indicate that the regression weights may be distorted.

A model representing the direct effects of participants' assumptions about the world on outcome variables did demonstrate acceptable model fit, suggesting that the hypothesis that world assumptions have direct effects on grief-related outcomes is fairly represented by the data. However, not all of the relationships represented in the model were in the expected direction. Assumptions regarding the benevolent nature of the individuals' environment were positively associated with grief, and did not show a relationship with either personal growth or spiritual wellbeing. Assumptions regarding the meaningfulness of the world showed a strong positive relationship with grief and a negative relationship with spiritual wellbeing, which suggests that participants reporting stronger beliefs regarding the distribution of negative outcomes in the world around them may be more prone to negative reactions following a loss. Finally,

participants' beliefs relating to the self were strong predictors of grief-related outcomes, in the expected direction.

Although the hypothesized mediated model was not supported by the data, the results reported above suggest important implications for the roles of religious coping and world assumptions in the grief experiences of the bereaved. Furthermore, these results add to the growing body of literature focusing on the process of coping with the loss of a loved one, and pose important questions which future research may be able to answer. A further examination of the results in the context of current research below will make these contributions clear.

Effects of religious coping on world assumptions.

The data collected in the current study indicate that neither positive nor negative religious coping strategies share a significant relationship with the assumptive worldviews of bereaved college students; a fact which contradicts the hypotheses of the researcher and previous theorists who have suggested that religious coping plays a role in maintaining or rebuilding world assumptions (e.g. Engelkemeyer, & Marwit, 2008). These results may indicate that world assumptions represent dispositional variables which are not easily modified by individuals' coping efforts or meaning-making strategies. As originally conceptualized by Janoff-Bulman (1989), world assumptions represent core beliefs or "constant internal structures" and thus are assumed to be relatively stable over time (Kauffman, 2002, p.2). Conceptualized in this way, positive world assumptions can be viewed as protective factors which provide individuals with a "predominantly positive or optimistic belief system" through which to interpret their loss, rather than as mediators of the meaning-making process (Currier, Holland, & Neimeyer, 2009, pg. 182).

Furthermore, Janoff-Bulman's theory of shattered assumptions, while appropriate in some cases of loss (e.g. the loss of a child; Matthews, & Marwit, 2006), was originally intended to apply to traumatic experiences. While it is clear that a loss *may* act as a traumatic experience for an individual, recent research has emphasized the resilient nature of human beings, and it has been estimated that up to 80% of bereaved individuals shown resilience in the face of their loss (Bonanno et. al, 2002), and one study has found that bereaved and nonbereaved individuals do not differ greatly on world assumptions scores when the circumstance of the loss (e.g. traumatic versus nontraumatic) is not taken into account (Currier, Holland, & Neimeyer, 2009). It has been suggested that losses that are violent in nature (e.g. suicide or homicide) or that violate individuals' expectations (e.g. the loss of a child) are more likely to impact belief systems than those which do not have these characteristics (Currier, Holland, & Neimeyer, 2009). In the current study, the majority of losses experienced by participants were losses due to an accident or illness, and most individuals reported the loss of an extended family member, such as a grandparent or aunt or uncle. It is therefore possible that the lack of a significant relationship between religious coping and world assumptions is due to the fact that many or most individuals in the sample did not experience a violation of their world assumptions, and therefore had no need to rebuild them.

Effects of religious coping on outcome variables.

Although the model of direct effects of both positive and negative religious coping on outcomes failed to demonstrate acceptable model-fit, the relationships between these variables that are present in the data help to elucidate the role that the use of religious coping strategies plays in the process of dealing with the loss of a loved one. In the current study, positive religious coping and negative religious coping were highly correlated factors ($r = 0.71$), which

indicates a significant overlap in participants' use of these different types of coping strategies. This may partially explain the fact that both positive religious coping strategies and negative religious coping strategies were positively associated with participants' self-reported spiritual wellbeing. Additionally, this pattern of relationships may indicate that an underlying variable, such as religiosity or intrinsic religious motivation, may be causing these effects. For example, an individual who self-describes as more religious or spiritual may be more likely to engage in both positive religious coping strategies and negative religious coping strategies than a less religious individual, and may also be more likely to report a stronger feeling of purpose in life and a closer relationship with a higher power as measured by the spiritual wellbeing scale.

Data from the current study further indicate that the use of positive religious coping strategies does not directly impact participants' experience of grief symptoms. Although this finding is contrary to that hypothesized by the researcher, it matches the findings suggested in the literature, that the direct role of religion on grieving is variable across studies and is therefore most likely more complex than a simple effect (Hays & Hendrix, 2008; Becker, Xander, Blum, Lutterbach, Momm, Gysels, & Higginson, 2007). Results from the current study suggest a complicated and possibly interactional role of religion, religious coping, and grief outcomes. Positive religious coping demonstrated significant positive relationships with both spiritual wellbeing and growth, which suggests that the use of these strategies may be important in recovery or growth following bereavement without directly affecting participants' experience of grief. These positive effects of religious coping are also supported by the fact that participants were far more likely to report finding a positive religious coping strategy to be the most useful coping strategy in dealing with their loss than a negative coping strategy. However, negative religious coping demonstrated a strong positive relationship with grief scores, such that a greater

use of negative religious coping strategies was associated with greater symptoms of grief. It is possible that the equivocal state of research on the role of religion in bereavement is due to these disparate findings. One explanation, which should be investigated in future studies, is that a dispositional religious construct, such as religiosity, promotes the use of religious coping strategies in general, and is also related to spiritual wellbeing, while the specific coping strategies used by the individual have an impact on grief intensity and personal growth, such that the use of negative strategies causes greater or more distressing grieving, while positive strategies promote growth following the loss.

Additionally, it may be the case that the current organization of religious coping strategies into positive and negative subscales is not appropriate for a bereaved population. Notably, some negative religious coping strategies (e.g. Reappraisal of Gods Powers, Pleading for Direct Intercession) were endorsed by several participants as being the most useful in dealing with their losses. Previous research has demonstrated positive effects for some negative religious coping subscales (e.g. Koenig, Pargament, & Nielson, 1998) which indicates that a further examination of the effects of specific religious coping subscales on grief outcomes may be warranted.

Effects of world assumptions on outcomes.

The model tested for step 2 of Baron and Kenny's (1986) criteria, demonstrating the direct effects of the three world assumptions higher-order subscales on outcome variables, showed acceptable model fit, implying that the relationships represented are a fair fit to the data collected. However, the patterns of relationships obtained during the analysis were inconsistent with the hypotheses suggested by the researcher and reported elsewhere in the literature (Currier, Holland, & Neimeyer, 2009). Assumptions regarding the benevolence of the world and assumptions regarding the meaningfulness of the world were positively associated with grief,

and assumptions regarding the meaningfulness of the world were negatively associated with spiritual wellbeing. Only assumptions regarding the self conformed completely to the researcher's hypotheses, being positively associated with growth and spiritual wellbeing, and negatively associated with grief.

An examination of the first-order subscales of the world assumption scale yields a more explicable pattern of results, which is in line with previous research. First, all subscales showed a significant positive correlation with personal growth. This finding provides evidence for the idea that the process of growth following a loss is related to the maintenance of positive assumptions about the world, as hypothesized by the researcher and suggested by world assumptions theory (Janoff-Bulman, 1989). It appears that individuals who endorse a basic, positive worldview are more likely to report a positive impact that their loss has had on their lives. Furthermore, participants reporting greater beliefs regarding the benevolence of the world, their own self-worth, their ability to engage in self-protective behaviors, and the just distribution of outcomes in life, also endorsed greater feelings of spiritual wellbeing. It seems likely that basic beliefs of this sort may act as protective factors, promoting one's ability to maintain a positive view of one's relationship with a higher power and one's purpose in life. Individuals' beliefs regarding the randomness of the world showed an inverse relationship with spiritual wellbeing, which might be expected, as spiritual wellbeing captures an individual's feelings of having a purpose in life, which may be contradicted by an assumption that negative outcomes are distributed to people randomly, or without purpose.

Participants' assumptions regarding the basic goodness of the people around them, and their beliefs that negative outcomes are distributed randomly were both positively related with grief scores. The loss of a loved one, even if due to an illness or accident, may reinforce

individuals' beliefs that events can occur without purpose, as is sometimes the case with trauma (Elklit et. al, 2007). Additionally, a stronger belief that people are basically good may be a risk factor, particularly for individuals experiencing a non-traumatic loss. The loss of a friend, a member of one's extended family, or an acquaintance may be more distressing the greater one's belief in the basic good in people is. This idea provides some evidence for Rando's (2002) theory that having too positive a childhood may result in more adverse reactions to loss or trauma due to the strength of some world assumptions. Alternatively, it may be the case that the loss of a loved one results in a more idealized view of people for those who experience more distress. Self-worth was the only assumption which significantly predicted lower grief scores, a finding similar to those recently reported in the literature, which have cited assumptions of self-worth as having the greatest impact on symptoms of distress and posttraumatic growth (Currier, Holland, & Neimeyer, 2009; Engelkeymeyer, & Marwit, 2008).

Overall, the current model of world assumptions and grief outcomes suggests that assumptions regarding the self, particularly those regarding self-worth, may be important protective factors for those experiencing a loss, and may be the most important beliefs to rebuild if one's assumptive world is shattered. Additionally, beliefs regarding the randomness of the world and the basic good inherent in people may make one more sensitive to a loss, or may be promoted by greater experiences of grief. Importantly, world assumptions in general appear to be related to growth, which supports the theory of shattered world assumptions as one way to measure the meaning-making process.

Summary of contributions.

Despite the failure of the current study to support the hypotheses of the researcher, the data yield important conclusions which add to the field of bereavement research in general, and

the areas of religious coping and world assumptions theory in particular. First, the current study helps to disentangle the role that religion plays in the process of dealing with the loss of a loved one. The results suggest that participants find positive religious coping strategies to be helpful with greater frequency than negative religious coping strategies, but that both types of coping may be useful in promoting spiritual wellbeing. In the current study, positive religious coping has positive effects on grief outcomes, but not directly on grief symptoms, which may explain some of the discrepancies that are found in the literature. The current study also demonstrated that negative religious coping strategies are strongly associated with grief symptoms, a finding which may have clinical utility by providing a target for spirituality-based interventions for grief. These findings also suggest the importance of accounting for both dispositional and functional measures of religion/spirituality when investigating the role that they play in the grieving process.

The current study also serves to elucidate the role that world assumptions play in a bereaved population. First, it has been shown that religious coping strategies do not modify world assumptions in a sample that is diverse in terms of circumstances of loss and relationships with the deceased. An acceptable model of the effects of world assumptions on bereavement outcomes has been provided, which can be improved in future studies through a more thorough examination of first-order subscales. Additionally, it has been demonstrated that beliefs regarding self-worth are particularly important in protecting individuals from problematic grief reactions and in promoting growth and spiritual wellbeing, while beliefs regarding randomness and the basic good of people may be risk factors in experiencing more severe symptoms of grief. These results may serve to guide or enrich current inquiry into cognitive-behavioral conceptualizations of the grieving process and the intervention strategies that have been

developed from such an approach, as core beliefs play a central role in the theory of how grief symptoms are maintained over time (Boelen, van den Hout, & van de Bout, 2006). Clinicians who are dealing with grieving clients should be prepared to explore these beliefs with patients, and to work toward changing them when necessary.

Limitations and directions for future research.

Based on the results of the current study, future studies can elaborate and improve on the methods and measurements used in order to produce a more complete picture of the process of meaning-making in a bereaved population. First, based on the large sample-sizes needed for sufficient power in meeting RMSEA criteria for model-fit, larger samples should be collected in the future in order for more accurate estimations of model-fit to be produced. Furthermore, it has been suggested in the literature that meaning-making and religious coping are best studied longitudinally, and, ideally, prospectively, in order to capture the processes as they occurs across time (Stroebe, 2004). As the current study is not longitudinal, it only provides a snapshot of each participant's bereavement experience, and therefore may not accurately represent the process of rebuilding world assumptions. Future studies using similar variables should collect follow-up data, or data across several time-points in order to measure changes in the use of religious coping strategies and world assumptions throughout the process of coping with a loss.

Additionally, the current sample provided few examples of traumatic losses, or losses which would be expected to result in the modification of participants' core beliefs. This may be one reason why the mediational model proposed by the researcher failed to be supported by the data. Future studies should collect samples that include a greater proportion of participants who have experienced these types of losses, or compare matched groups of participants who have experienced different circumstances of loss in order to test for differences in the effects of the

losses on world assumptions. In addition, studies in the future may benefit from the inclusion of a question or questions evaluating the emotional impact that the loss experience had on each participant at the time that the loss occurred, in order to get an idea of whether losses that are more distressing when they occur result in a different impact on world assumptions than those that are less distressing.

The lack of a dispositional measure of religiosity makes it difficult to evaluate the overlapping results of positive and negative religious coping. Future studies should make use of such a measure so that the differential roles played by religiosity and religious coping can be tested. Frequency data reported in Table 4 for participants reports of most helpful RCOPE subscales indicate that some negative religious coping subscales are seen as useful by a substantial proportion of participants. An examination of the factor structure of the RCOPE is warranted, so that researchers in the future can make use of scales of items that are functionally relevant to participants and have predictable influences on outcomes with bereaved participants.

Recently it has been suggested that coping research diverge from the use of large nomothetic methods and general coping checklists, and move toward a more process-oriented, idiographic approach (Tennen, Affleck, Armeli, & Carney, 2000). A focus on evaluating the processes and outcomes of coping-skills interventions has also been suggested (Coyne, & Racioppo, 2000). An example of a successful application of these method of researching coping with a bereaved population can be found in the HIV/AIDS literature, where effective coping-skills interventions have been developed out of the analysis of coping strategies among HIV-positive individuals who have lost a loved-one to AIDS (Sikkema, Kalichman, Hoffman, et. al, 2000) and qualitative research methods have yielded a clearer picture of how individuals cope than can be provided by a general coping checklist (Cadel, & Sullivan, 2006; Moneyham, Demi,

Mizuno, et. al, 1997). Similarly, some researchers focused on the meaning-making process and how it relates to grieving have emphasized the use of narrative methods and therapies when researching and treating individuals suffering from a loss (i.e. Gilbert, 2002). Future studies may therefore benefit from extending the use of qualitative research methods with specific bereaved populations (i.e. military casualty, breast cancer etc.) in order to develop more refined descriptions of how religious and general coping methods function during the grieving process. Finally, future research should make refinements to the model of world assumptions effects on grief outcomes, examining the roles of randomness, benevolence of people, and self-worth in greater detail, and incorporate these findings into cognitive or cognitive-behavioral conceptualizations of grief.

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Appendix A

Demographic Questionnaire

Listed below are questions for the demographic section of the survey. Please provide a response for every question.

1. Age: _____
2. Gender: (Please choose one)

Male Female
3. Class Rank: (Please choose one)

Freshman Sophomore Junior Senior Graduate Student Other
4. Marital Status: (Please Choose one)

Single Married Separated Divorced Widowed

Long-Term Relationship (not married) Living Together (not married)
5. Religious Affiliation: _____
6. Ethnicity: _____
7. Which of the following best represents your approximate family income, annually?

High (above \$150,000 per year)

High Middle (between \$90,000 and \$150,000 per year)

Middle (between \$50,000 and \$90,000 per year)

Low Middle (between \$25,000 and \$50,000 per year)

Low (less than \$25,000 per year)

Appendix B

Characteristics of Loss

Listed below are questions for this section of the survey. These questions regard the loss of a family member, friend, or loved one. If you have experienced the loss of more than one significant other, please respond regarding your most recent loss experience. Please provide a response for every question.

1. Please describe your relationship to the deceased (for example, if you are a parent of the deceased, type "parent").

2. How much time has elapsed since your loss occurred (please record your answer in months and years): _____

3. Which of the following best describes the circumstances of your loved ones death?

Accident Illness Homicide Suicide Military Casualty

4. To what extent was your loved ones death sudden or unexpected; to what extent were you able to "see it coming" ahead of time?

Very Expected

Expected

Unexpected

Very Unexpected

5. How much sense would you say you have made of your loss?

No sense

Little sense

Some sense

A good deal of sense

6. Despite your loss, have you been able to find any benefit from your experience of the loss?

No Benefit

Little Benefit

Some Benefit

Great Benefit

7. Do you feel that you are different, or that your sense of identity has changed as a result of this loss?

No different

A little different

Somewhat different

Very different

8. Do you feel that the change described in the question above has been positive or negative?

Very negative

Negative

Positive

Very positive

Appendix C

RCOPE

The following items deal with ways you coped with the loss of a loved one which you have experienced. There are many ways to try to deal with problems. These items ask what you did to cope with this negative event. Obviously different people deal with things in different ways, but we are interested in how you tried to deal with it. Each item says something about a particular way of coping. We want to know to what extent you did what the item says. *How much or how frequently*. Don't answer on the basis of what worked or not-just whether or not you did it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can. Circle the answer that best applies to you.

**Note: Highlighted items represent negative religious coping strategies*

- | | |
|------------------|---|
| 1 – Not at all | 0 |
| 2 – Somewhat | 1 |
| 3 – Quite a bit | 2 |
| 4 – A great deal | 3 |

- | | | | | | |
|----|---|---|---|---|---|
| 1. | Didn't try much of anything; simply expected God to take control..... | 0 | 1 | 2 | 3 |
| 2. | Prayed for a miracle..... | 0 | 1 | 2 | 3 |
| 3. | Worked together with God as partners..... | 0 | 1 | 2 | 3 |
| 4. | Saw my situation as part of God's plan..... | 0 | 1 | 2 | 3 |

- | | | | | | |
|-----|--|---|---|---|---|
| 5. | Decided that God was punishing me for my sins..... | 0 | 1 | 2 | 3 |
| 6. | Questioned the power of God..... | 0 | 1 | 2 | 3 |
| 7. | Prayed to get my mind off of my problems..... | 0 | 1 | 2 | 3 |
| 8. | Tried to deal with my feelings without God's help..... | 0 | 1 | 2 | 3 |
| 9. | Did my best and then turned the situation over to God..... | 0 | 1 | 2 | 3 |
| 10. | Tried to put my plans into action together with God..... | 0 | 1 | 2 | 3 |
| 11. | Believed the devil was responsible for my situation..... | 0 | 1 | 2 | 3 |
| 12. | Felt punished by God for my lack of devotion..... | 0 | 1 | 2 | 3 |
| 13. | Tried to make sense of the situation with God..... | 0 | 1 | 2 | 3 |
| 14. | Trusted that God would be by my side..... | 0 | 1 | 2 | 3 |
| 15. | Did what I could and put the rest in God's hands..... | 0 | 1 | 2 | 3 |
| 16. | Felt the situation was the work of the devil..... | 0 | 1 | 2 | 3 |

17.	Pleaded with God to make things turn out okay.....	0	1	2	3
18.	Made decisions about what to do without God's help.....	0	1	2	3
19.	Didn't do much; just expected God to solve my problem for me.....	0	1	2	3
20.	Didn't try to cope; only expected God to take my worries away.....	0	1	2	3
21.	Thought about spiritual matters to stop thinking about my problems.....	0	1	2	3
22.	Realized that God cannot answer all of my prayers.....	0	1	2	3
23.	Bargained with God to make things better.....	0	1	2	3
24.	Tried to make sense of the situation without relying on God.....	0	1	2	3
25.	Looked to God for strength, support and guidance.....	0	1	2	3
26.	Focused on religion to stop worrying about my problems.....	0	1	2	3
27.	Sought God's love and care.....	0	1	2	3
28.	Decided the devil made this happen.....	0	1	2	3

29.	Tried to find a lesson from God in the event.....	0	1	2	3
30.	Thought that some things are beyond God's control.....	0	1	2	3
31.	Took control over what I could, and gave the rest up to God.....	0	1	2	3
32.	Tried to see how God might be trying to strengthen me in this situation.....	0	1	2	3
33.	Wondered what I did for God to punish me.....	0	1	2	3
34.	Asked God to help me be more forgiving.....	0	1	2	3
35.	Wondered whether God had abandoned me.....	0	1	2	3
36.	Confessed my sins.....	0	1	2	3
37.	Offered spiritual support to family or friends.....	0	1	2	3
38.	Prayed for a complete transformation of my life.....	0	1	2	3
39.	Prayed to discover my purpose in living.....	0	1	2	3
40.	Tried to be less sinful.....	0	1	2	3

41.	Stuck to the teachings and practices of my religion.....	0	1	2	3
42.	Asked others to pray for me.....	0	1	2	3
43.	Sought help from God in letting go of my anger.....	0	1	2	3
44.	Thought about how my life is part of a larger spiritual force.....	0	1	2	3
45.	Asked forgiveness for my sins.....	0	1	2	3
46.	Looked for a stronger connection with God.....	0	1	2	3
47.	Tried to give spiritual strength to others.....	0	1	2	3
48.	Wondered whether my church had abandoned me.....	0	1	2	3
49.	Questioned God's love for me.....	0	1	2	3
50.	Sought a stronger spiritual connection with other people.....	0	1	2	3
51.	Sought spiritual help to give up my resentments.....	0	1	2	3
52.	Asked God to help me find a new purpose in life.....	0	1	2	3

53.	Looked for a total spiritual reawakening.....	0	1	2	3
54.	Sought God's help in trying to forgive others.....	0	1	2	3
55.	Avoided people who weren't of my faith.....	0	1	2	3
56.	Prayed for the well-being of others.....	0	1	2	3
57.	Prayed to find a new reason to live.....	0	1	2	3
58.	Tried to find a completely new life through religion.....	0	1	2	3
59.	Looked for love and concern from members of my church.....	0	1	2	3
60.	Ignored advice that was inconsistent with my faith.....	0	1	2	3
61.	Voiced anger that God didn't answer my prayers.....	0	1	2	3
62.	Asked God to help me overcome my bitterness.....	0	1	2	3
63.	Looked for spiritual support from clergy.....	0	1	2	3
64.	Disagreed with what the church wanted me to do or believe.....	0	1	2	3

65. Felt dissatisfaction with the
clergy.....

0 1 2 3

Appendix D

Hogan Grief Reaction Checklist

This questionnaire consists of a list of thoughts and feelings that you may have had **since** your loss. Please read each statement carefully, and choose the number that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement that best describes you. Please do not skip any items.

1 Does not describe me at all 4 Describes me well
 2 Does not quite describe me 5 Describes me very well
 3 Describes me fairly well

- | | | | | | | |
|---|---|---|---|---|---|--------------------|
| 1. My hopes are shattered | 1 | 2 | 3 | 4 | 5 | <i>Despair</i> |
| 2. I have learned to cope better with life | 1 | 2 | 3 | 4 | 5 | <i>Growth</i> |
| 3. I have little control over my sadness | 1 | 2 | 3 | 4 | 5 | <i>Despair</i> |
| 4. I worry excessively | 1 | 2 | 3 | 4 | 5 | <i>Panic</i> |
| 5. I frequently feel bitter | 1 | 2 | 3 | 4 | 5 | <i>Blame/Anger</i> |
| 6. I feel like I am in shock | 1 | 2 | 3 | 4 | 5 | <i>Despair</i> |
| 7. Sometimes my heart beats faster than it normally
does for no reason | 1 | 2 | 3 | 4 | 5 | <i>Panic</i> |
| 8. I am resentful | 1 | 2 | 3 | 4 | 5 | <i>Blame/Anger</i> |
| 9. I am preoccupied with feeling worthless | 1 | 2 | 3 | 4 | 5 | <i>Detachment</i> |
| 10. I feel as though I am a better person | 1 | 2 | 3 | 4 | 5 | <i>Growth</i> |
| 11. I believe I should have died and he or she should
have lived | 1 | 2 | 3 | 4 | 5 | <i>Despair</i> |
| 12. I have a better outlook on life | 1 | 2 | 3 | 4 | 5 | <i>Growth</i> |
| 13. I often have headaches | 1 | 2 | 3 | 4 | 5 | <i>Panic</i> |
| 14. I feel a heaviness in my heart | 1 | 2 | 3 | 4 | 5 | <i>Despair</i> |
| 15. I feel revengeful | 1 | 2 | 3 | 4 | 5 | <i>Blame/Anger</i> |

16. I have burning in my stomach	1	2	3	4	5	<i>Panic</i>
17. I want to die to be with him or her	1	2	3	4	5	<i>Despair</i>
18. I frequently have muscle tension	1	2	3	4	5	<i>Panic</i>
19. I have more compassion for others	1	2	3	4	5	<i>Growth</i>
20. I forget things easily, e.g. names, telephone numbers	1	2	3	4	5	<i>Disorganization</i>
21. I feel shaky	1	2	3	4	5	<i>Panic</i>
22. I am confused about who I am	1	2	3	4	5	<i>Detachment</i>
23. I have lost my confidence	1	2	3	4	5	<i>Detachment</i>
24. I am stronger because of the grief I have experienced	1	2	3	4	5	<i>Growth</i>
25. I don't believe I will ever be happy again	1	2	3	4	5	<i>Despair</i>
26. I have difficulty remembering things from the.. Past.	1	2	3	4	5	<i>Disorganization</i>
27. I frequently feel frightened	1	2	3	4	5	<i>Panic</i>
28. I feel unable to cope	1	2	3	4	5	<i>Detachment</i>
29. I agonize over his or her death	1	2	3	4	5	<i>Despair</i>
30. I am a more forgiving person	1	2	3	4	5	<i>Growth</i>
31. I have panic attacks over nothing	1	2	3	4	5	<i>Panic</i>
32. I have difficulty concentrating	1	2	3	4	5	<i>Disorganization</i>
33. I feel like I am walking in my sleep	1	2	3	4	5	<i>Despair</i>
34. I have shortness of breath	1	2	3	4	5	<i>Panic</i>
35. I avoid tenderness	1	2	3	4	5	<i>Detachment</i>
36. I am more tolerant of myself	1	2	3	4	5	<i>Growth</i>

37. I have hostile feelings	1	2	3	4	5	<i>Blame/Anger</i>
38. I am experiencing periods of dizziness	1	2	3	4	5	<i>Panic</i>
39. I have difficulty learning new things	1	2	3	4	5	<i>Disorganization</i>
40. I have difficulty accepting the permanence of the death	1	2	3	4	5	<i>Despair</i>
41. I am more tolerant of others	1	2	3	4	5	<i>Growth</i>
42. I blame others	1	2	3	4	5	<i>Blame/Anger</i>
43. I feel like I don't know myself	1	2	3	4	5	<i>Detachment</i>
44. I am frequently fatigued	1	2	3	4	5	<i>Panic</i>
45. I have hope for the future	1	2	3	4	5	<i>Growth</i>
46. I have difficulty with abstract thinking	1	2	3	4	5	<i>Disorganization</i>
47. I feel hopeless	1	2	3	4	5	<i>Despair</i>
48. I want to harm others	1	2	3	4	5	<i>Blame/Anger</i>
49. I have difficulty remembering new information	1	2	3	4	5	<i>Disorganization</i>
50. I feel sick more often	1	2	3	4	5	<i>Panic</i>
51. I reached a turning point where I began to let go of some of my grief	1	2	3	4	5	<i>Growth</i>
52. I often have back pain	1	2	3	4	5	<i>Panic</i>
53. I am afraid that I will lose control	1	2	3	4	5	<i>Detachment</i>
54. I feel detached from others	1	2	3	4	5	<i>Detachment</i>
55. I frequently cry	1	2	3	4	5	<i>Despair</i>
56. I startle easily	1	2	3	4	5	<i>Panic</i>

57. Tasks seem insurmountable	1	2	3	4	5	<i>Disorganization</i>
58. I get angry often	1	2	3	4	5	<i>Blame/Anger</i>
59. I ache with loneliness	1	2	3	4	5	<i>Despair</i>
60. I am having more good days than bad	1	2	3	4	5	<i>Growth</i>
61. I care more deeply for others	1	2	3	4	5	<i>Growth</i>

Appendix E

World Assumptions Scale

Respond to each of the following statements regarding your general beliefs about the world according to the following scale:

1-Strongly Disagree 2-Disagree 3-Slightly Disagree 4-Slightly Agree 5-Agree
6-Strongly Agree

1. Misfortune is least likely to strike worthy, decent people.

1 2 3 4 5 6 *Meaning: Justice*

2. People are naturally unfriendly and unkind.

1 2 3 4 5 6 *Benevolence: of People*

3. Bad events are distributed to people at random.

1 2 3 4 5 6 *Meaning: Randomness*

4. Human nature is basically good.

1 2 3 4 5 6 *Benevolence: of People*

5. The good things that happen in this world far outnumber the bad.

1 2 3 4 5 6 *Benevolence: of the World*

6. The course of our lives is largely determined by chance.

1 2 3 4 5 6 *Meaning: Randomness*

7. Generally, people deserve what they get in this world.

1 2 3 4 5 6 *Meaning: Justice*

8. I often think I am no good at all.

1 2 3 4 5 6 *Self: Self-Worth*

9. There is more good than evil in the world.

1 2 3 4 5 6 *Benevolence: of the World*

10. I am basically a lucky person.

- 1 2 3 4 5 6 *Self: Luck*
11. People's misfortunes result from mistakes that they have made.
- 1 2 3 4 5 6 *Meaning: Controllability*
12. People don't really care what happens to the next person.
- 1 2 3 4 5 6 *Benevolence: of People*
13. I usually behave in ways that are likely to maximize good results for me.
- 1 2 3 4 5 6 *Self: Self-Controllability*
14. People will experience good fortune if they themselves are good.
- 1 2 3 4 5 6 *Meaning: Justice*
15. Life is too full of uncertainties that are determined by chance.
- 1 2 3 4 5 6 *Meaning: Randomness*
16. When I think about it, I consider myself very lucky.
- 1 2 3 4 5 6 *Self: Luck*
17. I almost always make an effort to prevent bad things from happening to me.
- 1 2 3 4 5 6 *Self: Self-Controllability*
18. I have a low opinion of myself.
- 1 2 3 4 5 6 *Self: Self-Worth*
19. By and large, good people get what they deserve in this world.
- 1 2 3 4 5 6 *Meaning: Justice*
20. Through our actions we can prevent bad things from happening to us.
- 1 2 3 4 5 6 *Meaning: Controllability*
21. Looking at my life, I realize that chance events have worked out well for me.
- 1 2 3 4 5 6 *Self: Luck*
22. If people took preventative actions, most misfortune could be avoided.

- | | | | | | | |
|--|---|---|---|---|---|-----------------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Meaning: Controllability</i> |
| 23. I take the actions necessary to protect myself from misfortune. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Self: Self-Controllability</i> |
| 24. In general, life is mostly a gamble. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Meaning: Randomness</i> |
| 25. The world is a good place. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Benevolence: of the World</i> |
| 26. People are basically kind and helpful. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Benevolence: of People</i> |
| 27. I usually behave so as to bring about the greatest good for me. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Self: Self-Controllability</i> |
| 28. I am very satisfied with the kind of person I am. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Self: Self-Worth</i> |
| 29. When bad things happen, it is typically because people have not taken the necessary actions to protect themselves. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Meaning: Controllability</i> |
| 30. If you look closely enough, you will see that the world is full of goodness. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Benevolence: of the World</i> |
| 31. I have reason to be ashamed of my personal character. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Self: Self-Worth</i> |
| 32. I am luckier than most people. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | <i>Self: Luck</i> |

Vita

Benjamin D. Lord was born on September 25, 1985, in Bethesda Naval Hospital in Bethesda, Maryland, and is an American citizen. He graduated from Chancellor High School, Fredericksburg, Virginia in 2003. He received his Bachelor of Science in Psychology from Longwood University, Farmville, Virginia in 2007 and now attends Virginia Commonwealth University, Richmond, Virginia. He is working towards a Doctor of Philosophy degree in Clinical Psychology with a concentration in Behavioral Medicine, and has worked as a teaching assistant for three years while completing coursework. While completing his degree, he has also presented posters at three conferences, and has worked as a student therapist at the Center for Psychological Services and Development, Richmond, Virginia, and as part of the Virginia Commonwealth University Medical Center Primary Care Psychology Service.