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## Religiosity and Psychological Inflexibility on Grief Outcomes of the Suicide-Bereaved

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Philadelphia College of Osteopathic Medicine  
School of Professional and Applied Psychology  
Department of Clinical Psychology

RELIGIOSITY AND PSYCHOLOGICAL INFLEXIBILITY ON GRIEF OUTCOMES  
OF THE SUICIDE-BEREAVED

By Samantha Algauer

Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Psychology

February 2021

## DISSERTATION APPROVAL

This is to certify that the thesis presented to us by Samantha Algauer

on the 20th day of August, 2020, in partial fulfillment of the

requirements for the degree of Doctor of Psychology, has been examined and is

acceptable in both scholarship and literary quality.

### COMMITTEE MEMBERS' SIGNATURES

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### ACKNOWLEDGEMENTS

I would like to thank my extremely supportive committee members, Drs. Stephen Poteau, Beverly White, and Charles Jin, who assisted me in making this area of interest become my dissertation. Your constant guidance and thought-provoking questions led me to develop a dissertation I am truly proud of on a topic many are reluctant to discuss. Your unfailing support assisted in my achievement of this doctoral milestone that will forever be a source of pride and accomplishment. I would also like to extend a huge thank you to Dr. Michael Roberts, who assisted me with my statistical analyses in this study.

I would also like to thank my mentor, Dr. Gerard Figurelli, for being my constant guide and instilling in me a fervor to help others. Your patience and persistence throughout many years of training provided me with a strong desire to pursue many challenging clinical experiences. I've always admired your passion and dedication to this field, and I have always tried to replicate that within my own practice. You have supported me in more ways than I could ever thank you for. Now when you call me doctor, it will be actually be true!

To my husband, Jared, you have always been my guiding light during difficult times. Being your wife has been one of the greatest joys of my life. To my family, thank you for your constant love and support throughout this whole process and for all of the years leading up to it. To my mother, Elizabeth, thank you for revising more papers than I can count. You have always believed in me unfailingly, even when I didn't believe in myself. I am eternally grateful for all of your help and persistence in making my life goals come to fruition. To my friends, thank you for always being my reality check and source of lightheartedness when it was much needed. After what seems like endless years of education, now when you all ask me when I'm graduating, I can finally say this year!

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**ABSTRACT**

Most research on religion supports its efficacy in improving mental health, yet minimal research has been conducted on religion's influence on grief specific to those who have lost someone to suicide (i.e., the suicide-bereaved). Psychological inflexibility has also been associated with poorer grief and mental health outcomes. The primary objective of this study was to assess the impact of religiosity and psychological inflexibility on grief outcomes among a suicide-bereaved sample of 323 participants. Participants were recruited through online and face-to-face convenience sampling. Using a between-subjects, two-way ANCOVA design, this quasi-experimental study divided participants into four groups based on high and low religiosity and high and low psychological inflexibility. Severity of grief was assessed across all four groups. Results showed that psychological inflexibility was statistically significant in regard to grief outcomes, while religiosity had no significant impact on grief. Specifically, high psychological inflexibility was associated with worse grief outcomes compared to low psychological inflexibility. No significant interaction effects between psychological inflexibility and religiosity were found. Additionally, duration of time since loss was statistically significant in its predictive value on grief outcomes while age of the deceased was not. Other categorical demographic variables, such as race, education, socioeconomic status, religious identification, self-assessed change in religiosity over time and relationship closeness to the deceased, type of relationship to the deceased, and history of mental health treatment, were also assessed for their influence on grief, using a one-way ANOVA. Clinical implications of the findings are discussed.

*Keywords:* religion, suicide, bereavement, grief, psychological inflexibility

## CHAPTER 1: INTRODUCTION

### Statement of the Problem

Often, individuals use religion and faith as first-line sources of emotional and social support in times of crisis; doing so can improve physical and mental health issues (National Alliance on Mental Illness, 2020; Webb et al., 2011). In fact, much of the research has emphasized the benefit of religion on mental health (Vahia et al., 2011). However, when variables are more specifically defined and controlled for, namely expressions of religiosity (i.e., extrinsic and intrinsic; Salsman et al., 2005), specific life stressors (e.g., marital conflict, child rearing, divorce; Strawbridge et al., 1998), and other demographic variables (e.g., gender, age of deceased, race; Schneider et al., 2011; Jacobson et al., 1990), the research on religious coping and mental health outcomes becomes incongruent. When the aforementioned variables were considered, mental health and grief outcomes were negatively impacted by high religiosity. Mental health outcomes were also adversely impacted when religion was used to cope with the suicide of a loved one. In this regard, religion exacerbated grief when coping with a traumatic loss, as opposed to an expected loss to natural causes (Wortmann & Park, 2008). The suicide-bereaved population, as compared to the general population, was more likely to develop feelings of shame, guilt, rejection, and anger, as well as depression, PTSD, and suicidality (Young et al., 2012). The negative emotionality and psychopathology experienced by this population may be explained by the stigmatization of suicide perpetuated across most major faiths (Cook, 2013). Therefore, contrary to most research on religion and grief, strict adherence to religion as a framework to interpret and cope with a traumatic loss to suicide may have a counterintuitive effect (Cook, 2013).

Furthermore, highly religious thinking was also associated with cognitive inflexibility (Ellis, 1980), also known as psychological inflexibility in Acceptance and Commitment Therapy (ACT; Hayes et al., 2006). Those who exhibited psychological inflexibility or rigidity had more difficulty developing a wide range of solutions to adverse life experiences and higher rates of suicidality than those who displayed more psychological flexibility in problem solving (Rickelman & Houfek, 1995). This component of psychological inflexibility should be considered when assessing the utility of religion when coping with suicide, especially considering the elevated risk of suicidality among this unique grief-stricken population. This research sought to disconfirm the widely supported assertion across multiple sources that religion is largely beneficial to mental health, specifically bereavement.

### **Purpose of the Study**

The primary objective of this study was to assess the efficacy of religion and the impact of psychological inflexibility on symptoms of grief among individuals who have experienced a loss to suicide. This research also sought to inform the therapeutic approach when treating complicated grief and to examine the efficacy of religion in the unique bereavement process of this population. Furthermore, these results were expected to show that grief outcomes would be most severe in those who exhibited highly rigid (i.e., psychologically inflexible) religious beliefs.

### **Research Questions and Hypotheses**

The current study sought to answer the following research question: Does high religiosity and high psychological inflexibility contribute to worse grief outcomes in the suicide-bereaved?

The following hypotheses were proposed to examine this research question:

Hypothesis 1. High religiosity as a main effect yields worse grief outcomes than low religiosity.

Hypothesis 2. High psychological inflexibility yields worse grief outcomes than psychological inflexibility.

Hypothesis 3. Suicide-bereaved individuals with low psychological inflexibility and low religiosity will experience less severe symptoms of grief than suicide-bereaved individuals who display high psychological inflexibility and high religiosity.

Hypothesis 4. The age of the deceased and duration since the suicide are predictive of grief outcomes.

## CHAPTER 2: REVIEW OF THE LITERATURE

### Conceptualizing Grief and Bereavement

Grief is a normal, healthy psychological reaction to distressing life events, such as the death of a loved one, and it manifests itself in many forms. Grief can affect individuals emotionally, socially, physically, and spiritually (Zisook & Shear, 2009). Grief, however, can also manifest as a diagnosable mental disorder referred to as persistent complex bereavement disorder, as per the *Diagnostic and Statistical Manual of Mental Disorders* (5<sup>th</sup> ed.; *DSM-5*; American Psychiatric Association [APA]; 2013). Symptoms of persistent complex bereavement disorder include a “persistent yearning/longing for the deceased, intense sorrow and emotional pain, preoccupation with the deceased, and/or preoccupation with the circumstances of death” (APA, 2013, p. 789). Additionally, at least six social/identity disruption markers (i.e., desire to die, mistrusting, lack of meaning, identity confusion, loneliness, loss of future interest) and distress markers (i.e., anger, difficulty accepting the death, emotional numbness, guilt or self-blame, avoidance of reminders) must be experienced for a period of 12 months to meet criteria for a diagnosis of persistent complex bereavement disorder (APA, 2013).

Both severity and course of bereavement vary considerably across individuals (Zisook & Shear, 2009). Bereavement may include the intensity of grief, as well as physical and mental health symptoms (Stroebe et al., 2006). In this way, grief may be misattributed to a medical illness because of the immense physical pain that can sometimes be experienced by surviving loved ones (Neimeyer et al., 2011). Symptoms of grief, if severe and prolonged, can impair an individual’s well-being. Diagnostically, grief that rises to the level of causing emotional distress or impairment in social, occupational, or other important areas of functioning is also known as complicated grief, prolonged grief disorder, and traumatic grief (Shear et al., 2011).

Normal symptoms of grief may be further exacerbated by the nature of the loss. For example, those who lost someone suddenly and/or violently experienced worse grief outcomes than those who experienced the death of a loved one from natural circumstances (Fisher et al., 2017; Jordan, 2001). As a result of experiencing a sudden and/or violent loss (i.e., traumatic loss), the suicide-bereaved population is at higher risk to develop more severe and prolonged symptoms of grief compounded by other disorders, such as depression, posttraumatic stress disorder, and/or anxiety (i.e., complicated grief). Suffering a traumatic loss to suicide can also place the surviving loved ones at increased risk of suicidality themselves (Young et al., 2012). In order to improve grief outcomes among this at-risk population, further clarification is needed regarding effective methods of coping, appreciation of psychological traits of the bereaved that are related to grief, and understanding of the multiple frameworks by which loss is understood. First, a focus on a salient variable in the literature on coping with grief, religiosity, will be addressed, followed by a review of psychological inflexibility, a psychological trait that is related to religiosity and has implications for the bereaved.

### **Defining Religion**

Religion is often and prevalently used as a tool to enhance social support and improve overall mental health. Specifically, religion is frequently used as a first-line source of emotional and social support among individuals experiencing physical and mental health issues (National Alliance on Mental Illness, 2020). Religion provides an outlet for socialization, which has been shown to benefit overall mental health (Houben, 2012).

A Gallup survey as cited by Newport (2016) shows that nearly 75% of individuals residing in the United States identified as Christian. Among the world's population, 8 in 10 individuals have identified as belonging to a religious group (Pew Research Center, 2012).

Considering the prevalence and widespread use of religion across the world, the utility of religion and its influence on mental health must be considered.

Religion can be understood as a prevalent, formalized institution that provides individuals with an outward expression of a shared set of beliefs and traditional religious practices (Hodge, 2006). Religion provides followers with a sense of meaning and purpose, as well as a sense of universality and a meaningful connection to others (Koenig, 2008). Religious beliefs have also been incorporated into healing practices (e.g., rituals, incantations, pilgrimages) throughout history to combat psychological and health-related issues (Houben, 2012). Religion expressed through spiritual practices, such as prayer or meditation, can be understood as the “psychology of religion in action” (Spilka & Ladd, 2013, p. 2). Religion appears to provide countless individuals with comfort and a significant framework by which they may better understand their world and relationship with others. In this study, spirituality was defined as a component of religion, such as private practices or an intrinsic expression of religion. Furthermore, the term religiosity was used as a description of the level of intensity of one’s religious expressions and associated beliefs.

Within this perspective, religion can also be understood as a schema or framework by which information can be organized and shaped (Pargament et al., 2005). Religion as a framework assists perception, interpretation, evaluation, and response to positive and negative life experiences (Park, 2007). Religious interpretations can influence physical, cognitive, emotional, and behavioral functioning (Hill & Pargament, 2008). Therefore, in addition to being used as a tool to establish and express meaningful commonalities through shared beliefs, religion has also been utilized throughout history as a coping mechanism to improve psychological well-being and encourage spiritual healing when faced with life stressors.

### **Religious Coping**

Coping occurs as a reaction to psychological, social, or physical stressors that can influence overall well-being (Spika & Ladd, 2012). According to the classical transactional model of stress (Lazarus & Folkman, 1984, as cited in Krumrei & Rosmarin, 2011), coping is defined as alterations in cognition and behavior in response to external and/or internal stressors. Beliefs and rituals involved in religious coping emphasize the supernatural or a higher power in order to alleviate negative emotionality (Park, 2007). Religion as a coping mechanism is aligned with the notion that religion can significantly influence physical, cognitive, emotional, and behavioral functioning (Hill & Pargament, 2008).

Much of the current research supports religion's efficacy as a protective factor when coping with common life stressors and mental health issues. For example, negative emotions, such as depression and hopelessness (unrelated to grief), as well as maladaptive behaviors, such as self-mutilation and suicidality, were regulated by religious involvement (Miller et al., 2012; McCullough & Willoughby, 2009; Rasic et al., 2009). Additionally, religion served as a protective factor when coping with mortality and illness (Stefanek et al., 2005). Nevertheless, the efficacy of religious coping with life stressors can be incongruent at times (Gül Cirhinlioğlu & Özdikmenli-Demir, 2012). Though a belief in God, but not specific religious affiliation, was correlated with lower depression (Rosmarin et al., 2013), research has also revealed a curvilinear relationship between religiosity and depression (Gül-Cirhinlioğlu & Özdikmenli-Demir, 2012). More specifically, stricter adherence to religion and associated beliefs led to more depression. Meanwhile, another meta-analysis failed to identify any relationship between religion and coping with stress (Becker et al., 2007). Much of the research on the efficacy of religion on a variety of outcomes has yielded contradictory results.

Further research by Vahia et al. (2011) found that religion provided individuals with positive social support that promoted overall emotional health and resiliency in response to life stressors. However, contradictory evidence has been found regarding religion's ability to reduce depression when faced with only select life stressors (Strawbridge et al., 1998). Strawbridge et al. (1998) found that religion was determined to be helpful when faced with financial or health stressors, but exacerbated depressive symptoms when managing familial problems, especially when religious beliefs were contrary to societal values (e.g., abuse, marital conflict, caregiving concerns). Mahoney et al. (2001) found a small effect size regarding greater religiosity and decrease of divorce and marital functioning, and a modest relationship was found between Christian conservatism and use of corporal punishment. However, other research found that specific types of religious expression were more effective than others (Hackney & Sanders, 2003). More specifically, Hackney and Sanders (2003) asserted that an emphasis on an intrinsic/personal relationship with God in therapy was most positively associated with overall psychological health while social involvement in religious activities and institutional religious practices was less beneficial in this regard. Salsman et al. (2005) also supported the assertion that intrinsic religiosity (e.g., prayer, spiritual expression) was more positively associated with life satisfaction and adjustment than was extrinsic religiosity (e.g., church attendance, religious traditions). In this regard, spiritual practices or an intrapersonal relationship with a higher power was associated with more psychological well-being.

In addition to the type of religious expression, other demographic variables were considered influential in the research regarding religious coping. Research by Jacobson et al. (1990) found that race may further explain heterogeneity across studies regarding the efficacy of religion on mental health. Jacobson et al. (1990) hypothesized that African American

individuals who practiced the same religion as European American individuals (e.g., Christianity) experienced greater benefits, including a greater sense of community, religious involvement, and more intense religious experiences than their European American counterparts. These results may have been further confounded by other variables related to race, such as nationality, geographical location, socioeconomic status, and health (Hackney & Sanders, 2003). Age and gender also appeared to be important demographic variables when examining the effects of religious coping. More specifically, Koenig et al. (1988) found that religion and a belief in God improved coping processes specifically for older adults. Female individuals were also found to have worse grief outcomes when coping with the loss of a loved one to suicide (Schneider et al., 2011). The effects of religion on grief are not entirely straightforward, as various demographic factors, such as race, gender, age, degree of closeness, relationship to the deceased, and types of religious expression have shown differing influences on grief outcomes. Therefore, the aforementioned variables were included in this study and assessed for their influence on grief outcomes of the suicide-bereaved.

### **Religion and Bereavement**

Religion is widely used as a source of social and emotional support (Spika & Ladd, 2012). Social support offered by religious congregations has been found to mediate the association between adjustment to life stressors and religiosity (Salsman et al., 2005), and also to facilitate the grieving process (Pargament, 2011). Prayer as a spiritual expression of religion is a widely used coping mechanism in the bereavement process (Spika & Ladd, 2012), helping individuals make sense of death through a search for meaning through religious beliefs (Bloom, 2007; Doka & Morgan, 2016).

Religion allows for reframing and reassessment of the loss that can facilitate bereavement

by placing death within a more meaningful context to engender insight and closure (Pargament, 2011). The aforementioned religious coping mechanisms appear to facilitate positive adjustment to the death of a partner or spouse (Neimeyer et al., 2011). More specifically, religious beliefs that a deceased loved one continues to exist in an afterlife can provide surviving spouses with the opportunity to maintain strong emotional ties with the deceased. In this regard, religion provides a framework that can facilitate a more positive interpretation and behavioral reaction to a negative life event, such as death. The utility of religion in this regard, however, is widely debated.

A number of studies suggest a generally positive relationship between religion and adjustment to bereavement, yet results regarding the benefits of religion differ depending on the definition of religion (Wortmann & Park, 2008). Expressions of religion, including regular church attendance, religious activities, religious support, belief in God, and prayer, were all correlated with a reduction in depression (Gül Cirhinlioğlu & Özdikmenli-Demir, 2012). However, the effect of overt expressions of religion are widely debated. Extrinsic expressions of religion have not always been found to provide greater life satisfaction (Salsman et al., 2005). Although the social support acquired through religious congregations may have beneficial effects, research on internal and external expressions of religion yielded more contradictory results. External religious orientations were associated with feelings of depression and increased mental health problems in older adults (Bahrami & Ramezani-Farani, 2005). Similarly, in a bereaved population, church attendance alone, an external or public expression of religion, had no impact on bereavement unless participants also endorsed high levels of spiritual or intrinsic experience (i.e., an internal orientation; Easterling et al., 2000). Overall, externalized expressions of religion or public practice alone had little to no influence on grief and mental

health and even exacerbated mental health problems in the elderly population. In this regard, religion appears to be, at least partially, ineffective in alleviating symptoms of complicated bereavement or assisting in coping with life stressors.

Another potential problem presented by religion involves the externalization of blame in which an individual may engage when confronted with significant loss. Placing blame or anger on a higher power following the loss of a loved one is known as negative religious coping (NRC; Burke et al., 2011). According to Burke et al. (2011), NRC can complicate bereavement when the death of a loved one occurs under traumatic circumstances (e.g., death by homicide or suicide). In addition to the primary loss of a loved one, those who identify as religious may also experience a secondary loss as their confidence in a higher power is challenged (Burke et al., 2011). NRC may also precipitate the onset of psychiatric symptoms, such as depression and trauma-related symptoms (Pirutinsky et al., 2011). Overall, religion may assist individuals' appraisals of the loss and provide them with social support when grieving with loss. However, the type of loss should be considered when determining if religious practice and interpretation are helpful or ineffectual in the bereavement process. Therefore, the question remains as to whether religion serves as a protective or risk factor in terms of grief.

### **Religious and Cultural Influences on Suicide**

According to Cook (2013), across most major faiths, suicide has typically been perceived negatively, leading to insensitive and punitive criticism of those who have died by suicide. Cook (2013) cited Judeo-Christian scriptures, within which murder is condemned, and therefore, murder of self or suicide is forbidden (*21<sup>st</sup> Century King James Version Bible*, 1994, Exodus 20:13). According to Cook (2013), Augustine of Hippo stated that it is better for the Christian to suffer than to take one's own life, which he described as a "monstrous" act (Saint Augustine,

354–430 A.D., *City of God* I.16-27). Suicide is also illegal in some Islamic countries, and in Eastern faiths, such as Hinduism, suicide is viewed as a disrespect of life potentially impacting one's karma (Cook, 2013). In this regard, religion may be a protective factor for those considering suicide; however, it may have the opposite effect for suicide-bereaved individuals. For example, if religion defines suicide as sinful, strongly held religious beliefs may worsen grief outcomes if the suicide of a loved one is understood within this stigmatizing framework (Cook, 2013).

A sense of belongingness protects against suicidality (Joiner, 2005); however, research finds differing evidence regarding the efficacy of religious-group identification of those grieving the loss of a loved one to suicide (Cook, 2013). Frequently, individuals rely upon religious outlets and social supports provided within the religious community to cope with life stressors and grief (National Alliance on Mental Illness, 2020; Vahia et al. 2011). However, religion tends to highly stigmatize and even demonize suicide (Cook, 2013). Among a sample of Christians, Domino and Miller (1992) found that higher religiosity led to negative attitudes toward suicide, including the perception of suicide reflecting mental illness and evil. Furthermore, Domino and Miller (1992) described religious perception of suicide as aggressive and abnormal. A majority of individuals use religion to cope with grief and other life stressors. The negative stigmas perpetuated by major faiths may leave many suicide-bereaved individuals vulnerable seeking emotional comfort and social support within a religious community that propagates stigma, blame, shame, and rejection (Cook, 2013; Stanley et al., 2011; Young et al., 2012).

Stigma was also found to limit support available for the suicide-bereaved (Rusch et al., 2014). More specifically, sanctions against suicide were also implemented by major faiths in an

effort to deter individuals from attempting suicide (Pitman et al., 2016). These sanctions may have contributed to the stigmatization of suicide by most major religions, further contributing to the stigma internalized by surviving loved ones (e.g., self-blame, shame, guilt, feeling that they have failed the deceased). These religious sanctions and stigmas related to suicide may explain why religious individuals seeking support following the suicide of a loved one found the religious clergy as ineffective in this regard (Flarity, 1993; Vandecreek & Mottram, 2009).

Though religion may provide a framework to understand death, a highly rigid religious belief system may exacerbate grief in certain circumstances. Lawrence et al. (2016) found that suicidal ideation was more prevalent among depressed individuals who reported that religion was of significant importance to them and attended services frequently (an extrinsic expression of religion). Furthermore, a higher rate of suicide attempts was found among depressed individuals who identified as being affiliated with a religion (Lawrence et al., 2016).

In addition to the general beliefs religion provides to understand and cognitively process death and loss, specific religious identification has been observed to be influential on suicide rates. Emile Durkheim (1897) hypothesized that type of religion may directly impact suicide prevalence. Durkheim's hypothesis suggested that Catholics were less likely to complete suicide than Protestants. This hypothesis has since been challenged because of unequal representation of other religions and contradictory findings (Simpson & Conklin, 1989). Specifically, low suicide rates were found within Islamic traditions, and Protestants and Catholics had similar suicide rates (Simpson & Conklin, 1989). Previous literature on suicide and Islam, as reviewed by Lester (2006), suggested that low suicide rates (i.e., attempted and completed suicide) have been observed across many Islamic nations possibly because of the felonious nature of suicidal behavior leading to underreporting of suicide. Ineichen (1998) claimed that Islam maintains a

rigid intolerance and disapproval of suicide, viewed as sinful, as opposed to Hinduism and some Christian sects in which suicide was perceived more ambivalently. Additionally, Muslims tended to display more moral opposition to suicide than did Hindus (Lester, 2006). In contrast to prior research, Lester (2006) indicated that suicide rates did not appear to differ between Muslims and non-Muslims. Prior research in this area may have overlooked the influence of ethnic background (i.e., Islamic nations) and various sects within Islam (Lester, 2006).

Furthermore, a 2005 Pew Research Center survey showed that attitudes toward suicide bombings significantly differed across numerous Muslim countries, while favorable attitudes toward suicide bombing were predominantly held by Muslims who maintained the beliefs that Islam must be a global influence and Islam should be protected from serious threats. This research emphasizes the importance of geographical location and social, political, and religious convictions on attitudes toward suicide within Islam and Islamic countries. However, religious identification alone was insufficient in explaining attitudes toward suicide and suicide bombings. Many variables were influential in the perception of suicide across various cultures and countries, further validating the existing intersectionality of various religious, national, and cultural factors on suicide.

Additionally, strong adherence to moral and religious convictions may also influence suicidality. For example, in Japanese culture, suicide may be pursued in an effort to be reunited with the deceased in an afterlife, but suicide can also be perceived as an expression of altruism and honor when faced with severe life problems (Iga, 1966; Yamamoto & Iga, 1975). Suicide has been performed in Japan for many centuries by Samurai known as seppuka (harakiri) as a ritual of honor and as a method of altruistic protest to gain public attention, known as kangen (remonstration; Yamamoto & Iga 1975). Beliefs about death in Japanese culture may also

facilitate suicidal behavior in that when individuals die, they become highly revered and remembered ancestors contributing to the welfare of their families in spirit form (Yamamoto & Iga, 1975). Similar to the altruistic act of suicide in Japan, suicide in Palestinian culture has been interpreted as a form of martyrdom, with the martyr known as Istishhady (Banat & Ajarma, 2017). The Istishhady and their families receive respect, admiration, and appreciation for courageously sacrificing themselves as an act of revenge on behalf of a higher power and their homeland. The religious and political justifications of “martyrdom operations” differentiate between the act of self-sacrifice and suicide committed as the result of an underlying desire to end one’s life (Kafeyan, 2010). Those who act as martyrs or are killed on behalf of Allah are rewarded in Paradise, while the act of suicide to die independent of a political or religious cause remains prohibited and unjustifiable in Islam (Kafeyan, 2010). Nevertheless, cultural beliefs about suicide as admissible and even exalted are held only by a minority of the global population and exist independently from the stigmatizing beliefs about suicide across most major world religions. The aforementioned cultural examples provide evidence of the significant influence of both religious and/or societal schemas, whether positive or negative, on suicidality and suicidal behaviors. The impact of these schemas may be further intensified by the strict adherence or inflexibility of the interpretation of suicide.

Recognizing the influence of religious doctrine and regional culture/values, which vary both within and between various religions and cultures, on the interpretation and perception of suicide may elucidate current suicide rates and their impact on the suicide-bereaved.

Stigmatizing beliefs about suicide as sinful and illegal may act as a protective factor in reducing suicidality in the general population, but they may also precipitate more traumatic grief in the suicide-bereaved (Cook, 2013). Alternatively, more favorable views of suicide may have the

opposite effect. Future research may seek to uncover more specific and global differences between religious sects and cultures on perception and interpretation of suicide; however, for the purpose of this study, research was reviewed on the religious tenets across most major faiths about suicide and did not take into account cultural or demographic differences influencing beliefs about suicide. The aim of the current study was to identify the influence of religious beliefs and psychological inflexibility on grief outcomes of those coping with a loss to suicide.

### **Suicide and Bereavement**

Much of the research on traumatic bereavement shows that coping with a sudden loss to suicide is more likely to yield symptoms of complicated grief, as compared to the grief outcomes of loved ones coping with an expected loss. The cause of death of a loved one was a significant predictor of the severity of negative psychological outcomes among bereaved individuals. This variable appeared to produce an inverse effect on grief among those who identified as religious (Hibberd et al., 2010). In addition to normative grief outcomes, individuals coping with the suicide of a loved one are more likely to develop comorbid psychiatric disorders, in addition to feelings of anger, guilt, rejection, shame, and confusion (Hibberd et al., 2010; Young et al., 2012).

More information has yet to be collected regarding the factors influencing grief outcomes of resilience and growth verses more psychological and functional impairment in response to a traumatic loss to suicide. Research is especially sparse on the influence of religion when grieving a loss to suicide. Furthermore, an inflexible perception of an unexpected, traumatic loss to suicide through a religious framework may have serious implications.

Although religion may be helpful in the grieving process when coping with expected loss or death from natural causes (Pitman et al., 2016), research has revealed that when coping with

the suicide of a loved one, the positive implications of religious social support were less beneficial. More specifically, those who experienced a loss to suicide were vulnerable to diminished social support and potential stigmatization (Flarity, 1993; Vandecreek & Mottram, 2009). Stigma was found to be the most significant differential between normative grief and grief of the suicide-bereaved (Cvinar, 2005). The stigma experienced by the suicide-bereaved complicated grief and was often ascribed to and internalized as blame, failure, and rejection by surviving loved ones (Cvinar, 2005).

The stigmatizing definition of suicide across various major world religions only further exacerbates these poor mental health outcomes when grieving the loss of a loved one to suicide. Those who experience suicide bereavement tend to have more complicated grief outcomes characterized by increased risk of suicidality, as well as other psychiatric illnesses, such as depression, anxiety, and/or trauma-related disorders (Young et al., 2012). Genetic predispositions and environmental contributory causes of suicidality may also include, but are not limited to, a familial history of mental illness, socioeconomic stressors, and social isolation (Iga, 1966). With more than a 30% increase in suicide rates in the United States since 1999, identifying and supporting those who may be at increased risk of suicide is important (National Center for Injury Prevention and Control, 2018). The global rate of suicide has increased 60% within the last 50 years and continues to increase over time (World Health Organization, 2006). Suicide has risen to the status of a major public health concern (Wu et al., 2015).

### **Other Variables Related to Suicide Bereavement**

Other specific variables, such as the passage of time since the loss of a loved one to suicide and the degree of closeness to the deceased, appear to impact grief outcomes (Schneider et al., 2011). Schneider et al. (2011) suggested an inverse relationship between distress or

emotional reaction and amount of time that has passed since the suicide. More specifically, they found that emotional distress decreased as length of time subsequent to the loss increased. The degree of closeness and the nature of the relationship to the deceased also significantly influenced grief outcomes and impacted the experience of depression and guilt (Schneider et al., 2011). First-degree loved ones (i.e., parents, children, spouses, siblings) were found to have worse mental health outcomes and more complicated bereavement than more distant relatives (Mitchell et al., 2009). Adult children were least affected by the loss of a parent to suicide (Cleiren et al., 1994). In terms of grief outcomes, the emotional impact of suicide was most significant if the loss experienced was that of a child (Schneider et al., 2011). A sense of failure and responsibility for the loss of a child to suicide led to the worst grief outcomes for parents, as compared to other suicide survivors (Clark & Goldney, 1995; Mitchell et al., 2009; Reed & Greenwald, 1991).

Further research on these variables related to grief outcomes may be able to inform therapeutic intervention for the suicide-bereaved. Consideration of these factors may help to identify individuals who are more prone to developing symptoms of complicated bereavement. Furthermore, the treatment provider must consider these factors, as well as the presenting problem (i.e., suicide bereavement) when evaluating the appropriateness of discussing a client's faith in therapy, which may unintentionally exacerbate grief and/or other psychological symptoms.

Aguirre and Slater (2010) found that because of the increased risk of suicide among those who have experienced the suicide of a loved one, "postvention" efforts to reduce suicidality should be pursued. Increased research is needed to understand the risks and influential variables associated with high suicide rates among vulnerable populations, such as the suicide-bereaved.

### **Psychological Inflexibility and Religious Coping**

Religious and nonreligious individuals display varying levels of adherence to a religious framework and, consequently, varying levels of adherence to beliefs associated with the religious framework. Psychological inflexibility, a term proposed by Hayes et al. (2006) and a critical variable in the ACT therapeutic approach, has implications with variability in adherence to religious beliefs. This term refers to a psychological framework, such as cognitions or schemas, that can be either flexible or rigid. One's level of psychological inflexibility can be determined by one's ability to adapt to or resist information that is contradictory to one's predetermined set of beliefs or schemas (Hayes et al., 2006).

High religiosity has several overlapping features with psychological inflexibility. For example, strict and literal religious beliefs were associated with less well-being and more distress (Dezutter et al., 2006). A significant correlation was also found between high religiosity and psychological inflexibility, which also contributed to perfectionistic beliefs (Crosby et al., 2011). A relationship was found between strong religious beliefs and a preference for order, structure, and predictability, preferences indicative of high psychological inflexibility (Duriez, 2003). According to Ellis (1980), highly religious thinking was also associated with absolutist thinking, irrationality, and inflexibility. Increased psychological inflexibility displayed within a strong religious framework was even correlated with increased stigma and prejudice against racial minorities (e.g., African American individuals, Middle Eastern individuals), gay men, and atheists (Shen et al., 2013). Research also shows that priming one's religious beliefs can manifest higher levels of psychological inflexibility. For example, activating religious beliefs among Christian participants led to ambiguity intolerance (Sagioglou & Forstmann, 2013). Apparently, individuals desire the structure and sense of belongingness provided by religion;

however, highly structured and rigid religious beliefs may increase stigmatization and worsen mental health outcomes. Therefore, strict adherence versus a more flexible interpretation of religious doctrine can have varying psychological implications.

Differing levels of psychological rigidity have been found to influence both emotional and physical well-being. For example, higher levels of psychological inflexibility led to worse health outcomes and lower life satisfaction among a sample of patients dealing with chronic pain (Wicksell et al., 2010). In contrast, more cognitive flexibility and less negative appraisal of death facilitated adjustment to bereavement in a sample of individuals who experienced the death of a romantic partner (Delespaux et al., 2013). Therefore, religious beliefs characterized by psychological inflexibility may lead to worse mental health outcomes, particularly when an individual is attempting to cope with loss resulting from suicide. Specifically, worse grief outcomes may result from utilizing a religion within which suicide is stigmatized to cope with a loss to suicide.

Psychological inflexibility was found to contribute to increased emotional problems, such as somatization, depression, and anxiety (Masuda et al., 2014), similar to symptoms of complicated grief. Inflexibility in cognition, such as dichotomous or all-or-nothing thinking, has also contributed to suicidality caused by the view of the self as bad and wrong and others as good and right (Rickelman & Houfek, 1995). This type of rigid, faulty thinking is also evident in those with borderline personality disorder, another population with an elevated risk of suicide (APA, 2013). Those who exhibit cognitive inflexibility or rigid problem-solving approaches, in general, have more difficulty developing a wide range of solutions to life stressors, thereby leading to higher rates of suicidality (Rickelman & Houfek, 1995). Psychological inflexibility could then be considered an important factor underlying many psychological issues. Generally,

these affected vulnerable populations who engage in rigid thinking were more likely to be at risk of suicidality and mental illness than those displaying a more flexible psychological framework. Therefore, a religious belief system characterized by rigidity and inflexibility may be associated with more severe grief, especially in the suicide-bereaved population.

Religion appears to provide individuals with a set of shared beliefs to help make meaning of life's ambiguity and to promote a sense of belongingness (e.g., group membership); however, a strict overreliance on religious beliefs to interpret suicide may lead to more severe grief outcomes, especially among those with high psychological inflexibility. In conclusion, individuals with high psychological inflexibility and high religiosity may have more difficulty considering alternative explanations for a loved one's suicide apart from a stigmatizing religious framework, thereby possibly exacerbating the bereavement process. The suicide-bereaved population is at risk of increased suicidality and poorer mental health outcomes than those who experience normative grief; therefore, gaining a better understanding of such variables as psychological inflexibility and religiosity that may influence the severity of the grief of the suicide-bereaved population when coping with a loss to suicide is imperative.

## CHAPTER 3: METHODS

### Participants

This study recruited 468 adults in total. However, 145 participants (31% of original sample) were not included in the final analyses because of missing (i.e., 79 participants began but did not complete the study) or ambiguous data (i.e., 66 participants provided unclear data in qualitative responses crucial to analysis). Such data included participants identifying two suicides, thereby rendering it impossible to know which suicide they were responding to in quantitative surveys, and some participants did not specify days/weeks/months/years since the loss. The final analysis ultimately included a total of 323 participants. The a priori G\*Power calculation suggested a total sample size of 128 participants assuming a medium effect size ( $\eta^2 = 0.25$ ), a significance level of  $p < 0.05$ , and use of an ANCOVA  $F$  test with four groups and two covariates (i.e., age of the deceased and duration since the loss) to achieve at least 80% power ( $1 - \beta = .80$ ). A post hoc analysis on G\*Power was conducted and is reviewed later.

Participants' ages ranged from 18 to 85 years. All participants identified as having lost someone as a result of suicide. Each of the four nonrandomized groups was determined by responses on both measures for each independent variable.

### Inclusion and Exclusion Criteria

Only participants who had experienced a loss to suicide and who were at least 18 years of age were included in the study. Random selection was not used. Participants were categorized into one of the four groups using the Centrality of Religiosity Scale (CRS; Huber & Huber, 2012) and the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). Participants who fell within the high and low religiosity groups, as per the CRS, were placed into the group corresponding with their level of religiosity (high and low), and these individuals were also

compared across high and low dimensions of psychological inflexibility, as measured by the AAQ-II.

Additionally, the CRS was chosen as a measure that was inclusive of followers of various major religions, including those who practiced Abrahamic religions (e.g., Judaism, Christianity, and Islam), as well as Eastern religious practices (e.g., Hinduism, Buddhism, etc.). Items on the CRS were adapted to both Western and Eastern religious practices and beliefs (e.g., “God or something divine,” prayer, and meditation) and were assessed for frequency of religious/spiritual practices to include those who did not partake in these activities or maintain these beliefs. Spirituality was assessed as a religious practice on the CRS. All religious identifications, as well as those who identified as neither religious nor spiritual, were accepted into the study. No exclusion criteria were needed once inclusion criteria were met.

### **Screening and Recruitment**

Participants were recruited online and in person using convenience sampling procedures through <https://www.researchmatch.org>, Facebook support forums/groups, and the Out of the Darkness Walk held on October 6, 2019, in Philadelphia. An explanation of the purpose of the study, inclusion criteria, and compensation were submitted to each Facebook page administrator requesting permission to recruit participants before a flyer including similar information and a link to the study was posted to the group by the undersigned (if public) or by the administrator (if private). A flyer was also submitted to <https://www.researchmatch.org>, where it was then anonymously emailed to potential participants who were registered as at least 18 years of age. A paper flyer was also disseminated to participants at the Out of the Darkness Walk.

### **Measures**

**Religiosity.** The Centrality of Religiosity Scale (CRS) is a 15-item, standardized, self-

report measure that uses Likert scales ranging from 5 to 8 points (8-point Likert scales are recalculated according to a 5-point Likert scale for scoring). Frequency ratings are used to assess the importance of religion as it relates to one's own personality (Huber & Huber, 2012).

Personality psychology theories developed by Allport and Ross (1967) and Kelly (1955) were the basis for this measure assessing the centrality of religiosity on personality/psyche.

This measure assesses five core dimensions of religiosity: intellect, ideology, public practice, private practice, and religious experience. The intellectual dimension refers to one's knowledge held of one's religion and application of knowledge of associated tenets/beliefs. The ideology dimension assesses one's religious convictions or strongly held religious beliefs, such as a belief in God. Public practice refers to an individual's practice of religious traditions within the community (e.g., church attendance). Private practice refers to individualized spiritual practices or expressions of religion (e.g., meditation and prayer). Religious experience refers to one's individual connection to or relationship with a higher power or feeling of spiritual wholeness. The CRS has been widely used in more than 100 studies assessing religiosity in sociology and psychology across 25 countries, totaling more than 100,000 participants (Huber, & Huber, 2012). The CRS can be used with individuals who practice Abrahamic religions (e.g., Judaism, Christianity, Islam), as well as Eastern religious practices (e.g., Hinduism, Buddhism). Items on the CRS were adapted to both Western and Eastern religious practices and beliefs (e.g., "God or something divine," prayer, meditation). Additionally, this measure is available in 19 languages. High reliability (ranging from 0.80 to 0.96) and validity were found when assessing discriminant dimensions (Huber & Huber, 2012).

Item scales vary between 5-point Likert scales ranging from 5 (*Very Often* or *Very Much So*) to 1 (*Never* or *Not at all*) and 8-point scales assessing the frequency of religious experiences

ranging from A (*Several Times a Day*) to H (*Never*). Eight-point Likert scale items were recoded into five different levels (See Table 1).

**Table 1**  
*CRS Recoding of 8-Point Likert Scale Items*

Original coding	Recoded frequencies
Several times a day	
Once a day	5
More than once a week	4
Once a week	
One or three times a month	3
A few times a year	
Less often	2
Never	1

*Note.* CRS = Centrality of Religiosity Scale.

These recategorizations were proposed by the authors of the measure. Overall, high frequency ratings would suggest that one's religion is highly integral to one's personality while low frequency ratings would imply that religion is unimportant or minimally present in one's life.

In order to calculate the total score for the CRS, the average score was obtained across all 15 items. To assist with grouping of participants, a median split was implemented to categorize participants within two levels of the independent variable, high and low religiosity. For the low religiosity group, a sum of scores ranging from 1 to 3 indicated that religion was barely or

minimally present in an individual's life and, therefore, not integral to one's psyche. In contrast, a sum of scores ranging from 3.01 to 5 fell within the group of participants identifying high religiosity, meaning religion was highly relevant to their personalities and psyches.

### **Grief and Bereavement**

Intensity of grief was assessed using the Inventory of Complicated Grief (ICG; Prigerson et al., 1995). The ICG is a 19-item, self-report assessment that measures frequency of grief symptomatology using 5-point Likert rating scales (i.e., 0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Often*, and 4 = *Always*). The total score can range from 0 to 76. The measure's authors suggested a cutoff score of 25 on the ICG. More specifically, the authors determined that respondents who scored above a score of 25 on the ICG experienced more significant impairment in overall social, psychological, and physical functioning associated with more complicated grief than those who scored below this cutoff score. Therefore, higher scores indicated pathological symptomatology related to prolonged or complicated bereavement disorders (APA, 2013). No items related to suicidality are included in this measure.

Significant differences, as measured by the ICG, were found between respondents who were closely related to the deceased and respondents who were distantly related (Boelen & van den Bout, 2008). Additionally, the ICG detected significant differences between those who survived the traumatic loss of a loved one and those who experienced a loss to natural causes (Fisher et al., 2017). More specifically, factor analyses conducted by Simon et al. (2011) found that items on the ICG were grouped within six symptom clusters of traumatic loss and grief (i.e., yearning and preoccupation with the deceased, anger and bitterness, shock and disbelief, estrangement from others, hallucinations of the deceased, and behavior change, such as avoidance or dependency). The ICG showed high internal consistency (Cronbach's  $\alpha = 0.94$ ),

test-retest reliability ( $r = 0.80$ ), and strong concurrent validity with other measures of grief (e.g., Texas Revised Inventory of Grief; Faschingbauer et al., 1987; Fisher et al., 2017).

### **Psychological Inflexibility**

The Acceptance and Action Questionnaire-II (AAQ-II) was developed from the underlying theory of psychological inflexibility included in ACT; Bond et al., 2011). The AAQ-II is a psychometrically sound measure that assesses acceptance and experiential avoidance or psychological inflexibility (Bond et al., 2011).

The AAQ-II includes seven items using a 7-point Likert scale ranging from 1 (*Never True*) to 7 (*Always True*). The AAQ-II also measures negative evaluations of affect (e.g., “I’m afraid of my feelings.”), avoidance of cognitions and affect (e.g., “Emotions cause problems in my life.”), and adjustment or adaptation when faced with challenging thoughts or feelings (e.g., “My painful memories prevent me from having a fulfilling life.”). Higher scores on the AAQ-II indicate higher levels of psychological inflexibility. Total scores range from 7 to 49, and a cutoff score of 24 was proposed to be clinically significant by Bond et al. (2011), with scores above 24 suggesting higher distress related to psychological inflexibility. Therefore, scores ranging from 7 to 24 were categorized as low psychological inflexibility while scores ranging from 25 to 49 fell into the category of high psychological inflexibility. These ranges were used to assist with grouping of participants (high and low) in regard to the independent variable of psychological inflexibility.

Individuals appear to engage in experiential avoidance (i.e., altering the sensitivity of negative thoughts, feelings, and sensations) even if doing so leads to undesirable behavioral outcomes (Hayes et al., 1996). These factors are thought to predict mental health outcomes and life satisfaction (Hayes et al., 2006). Experiential avoidance, as measured by the AAQ-II, has

been found to mediate the effect of coping processes and emotion regulation strategies on anxiety-related distress (Kashdan et al., 2006).

The AAQ-II has been administered on nearly 3,000 participants across six different samples, resulting in satisfactory content, reliability, and validity (e.g., mean  $\mu = .84$ ). The AAQ-II also contains appropriate discriminant validity and has concurrent validity ( $r = .97$ ) with better psychometric properties than the initial version of the test, the AAQ-I (Bond et al., 2011). Responses during psychometric testing were found to not be significantly influenced by social desirability, meaning that participants did not feel that their responses had to reflect cultural or social norms (Bond et al., 2011).

### **Procedure**

The researcher obtained IRB approval prior to the initiation of the study. Participants were recruited using convenience sampling both in person and online via <https://www.researchmatch.org> and both religious and nonreligious Facebook support groups (i.e., Suicide Prevention Awareness, Grief Beyond Belief, Project Semicolon, Suicide Awareness Voices of Education, National Suicide Prevention Lifeline '1-800-273-TALK,' Suicide Awareness/Prevention, SOLOS Survivors of Loved Ones to Suicide, Out of the Darkness Overnight Walk, Out of the Darkness Walks, and American Foundation for Suicide Prevention).

A paper advertisement including the study's purpose, inclusion criteria, and a link to the study (IRB approved) was directly disseminated by research assistants to potential participants at the Out of the Darkness Walk, which occurred on October 6, 2019, in Philadelphia, Pennsylvania.

Using the ResearchMatch website, a national health volunteer registry that was created by several academic institutions and supported by the U.S. National Institutes of Health as part

of the Clinical Translational Science Award (CTSA) program, participants who were subscribed to the website's email list (unavailable to the researcher directly) and met inclusion criteria of age (i.e., older than 18 years) consented to receive an anonymous email from the ResearchMatch organization including the aforementioned advertisement. The other inclusion criterion, requiring the participant to have lost someone to suicide, could not be stipulated on the website but was included within the emailed advertisement.

Regarding recruitment through Facebook, permission was first requested from group administrators using a templated letter created by the researcher. Once permission was received or if groups were public, an electronic version of the flyer was posted to each of the group's main pages by the researcher directly, if allowed, or by the group administrator.

Participants who received the flyer, if interested in participating in the study, were able to visit the link and complete the survey measures using REDCap. The survey was accessible using the following links: [https://is.gd/grief\\_bereaved](https://is.gd/grief_bereaved) or <https://redcap.pcom.edu/surveys/?s=TNN8K94XYY>. The first link was created by the researcher to provide ease of access to the study, as advertised on the flyer. However, the latter link, assigned by REDCap, was shared through ResearchMatch, as required by the website. Both links directed participants to the survey on REDCap.

Participants first completed a demographics information form, including age of participant and the deceased at time of death, race, ethnicity (i.e., Hispanic/Latin/Spanish or non-Hispanic/Latin/Spanish), sex, socioeconomic status, highest level of education, religious identification, relationship to the deceased, self-rated degree of closeness to the deceased individual, duration since the loss, participation in formal mental health treatment since the loss, and self-assessed change in religiosity since the suicide. If the predetermined categories

regarding sex, race, religious identification, and relationship to the deceased were inapplicable to the participants, they were encouraged to identify “Other” along with the option to qualitatively describe an alternative response. To assess change in religiosity, participants were asked to indicate their agreement or disagreement with a statement (i.e., “I have become less religious since the loss”) using a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

The first assessment administered was the ICG (Prigerson et al., 1995). This survey was estimated to take approximately 5 minutes to complete. The CRS; (Huber & Huber, 2012) was then administered, followed by the AAQ-II; (Bond et al., 2011). Both measures in total were estimated to take approximately 15 to 20 minutes to complete and were used to assist with participant group assignment. Individuals were compared across both measures in regard to the outcome variable of grief, as assessed by the ICG. Contact information for the National Suicide Prevention Lifeline was provided to participants who completed the entirety of the survey.

All participants’ responses were submitted anonymously via the REDCap link. A separate link appeared upon submission of participants’ responses to all study measures. Participants elected to follow the link to a raffle to which they could submit their names and emails for an opportunity to win a \$20 Amazon gift card as compensation for their participation in the study. Their personal information submitted as part of the raffle was never associated with their responses to the study measures. A name was randomly selected from the raffle using REDCap on March 26, 2020, and a gift card was sent electronically through Amazon.com on that date to the email address provided by that participant.

## CHAPTER 4: RESULTS

Statistical analyses were computed using the Statistical Package for the Social Sciences (SPSS). A Bonferonni correction was implemented to correct for Type I error, which adjusted the alpha to .025 across analyses.

The purpose of the present study was to examine the impact of religiosity and psychological inflexibility on grief outcomes in a suicide-bereaved sample. The study was a quasi-experimental 2 x 2 design with four nonrandomized groups, each group containing participants who differed in regard to two independent variables (e.g., psychological inflexibility and religiosity). The independent variable of religiosity varied on two levels, low religiosity and high religiosity, as determined using the Centrality of Religiosity Scale (CRS). Another independent variable, psychological inflexibility, as assessed using the Acceptance and Action Questionnaire – II (AAQ-II), differed across two levels (i.e., high and low psychological inflexibility). The CRS and AAQ-II were used to determine group assignment for each participant. Grief was assessed and responses were compared across participants in all four groups to evaluate whether high and low levels of religiosity combined with high and low psychological inflexibility influenced grief outcomes experienced by individuals who experienced a loss to suicide (see Tables 2 and 3).

**Table 2**

*Descriptives Across Four Groups on Grief (ICG Total)*

Four Group Assignments	<i>M</i>	<i>SD</i>	<i>n</i>
High psychological inflexibility x high religiosity	29.96	12.6	68
High psychological inflexibility x low religiosity	29.01	15.95	74
Low psychological inflexibility x high religiosity	16.56	10.24	94
Low psychological inflexibility x low religiosity	13.51	9.43	87

Note. ICG = Inventory of Complicated Grief.

**Table 3**  
*Descriptives Across Four Levels on Grief (ICG Total)*

Levels of Independent Variables	<i>M</i>	<i>SD</i>	<i>n</i>	%
High psychological inflexibility	29.46	14.40	142	43.96
Low psychological inflexibility	15.09	9.95	181	56.04
High religiosity	22.19	13.06	162	50.2
Low religiosity	20.63	14.97	161	49.8

*Note.* ICG = Inventory of Complicated Grief.

Data were analyzed using a between-subjects, two-way analysis of covariance (ANCOVA) statistical procedure; analysis of variance (ANOVA) and *t*-test statistical procedures; and a linear regression analysis.

### Descriptives

A total sample size of 323 participants was included in the analyses. Frequencies for all demographic variables reviewed in the following can be found in Table 4.

A post hoc analysis was conducted on G\*Power to assess the achieved power of the study. Given the sample obtained totaled 323 participants, significantly larger than the original estimate of 128, the actual power increased from 80% to 99% ( $1-\beta = .99$ ).

The participants' ages ranged from 18 to 85 years ( $M = 45.33$ ,  $SD = 15.77$ ). In regard to sex, a large majority of participants identified as female (75.5%) while only 21.7% identified as male. Only nine individuals identified as Other (2.8%; e.g., gender queer, chose to not disclose, fluid, nonbinary, transmale, and unspecified).

Racially, most participants identified as White or Caucasian (87.3%) and as Black or African American (5.9%). Furthermore, six participants identified as Other (1.9%) (i.e.,

“adopted multiple,” multiracial, mixed Caucasian/Iranian/Asian Indian, Hispanic, biracial Hispanic, Jewish, and Caucasian/Hispanic). A separate question was included to determine those who also identified ethnically as Hispanic, Latin, or Spanish, which accounted for only 4.6% of the sample. Overall, the sample was largely White/Caucasian, non-Hispanic.

In regard to level of education, most participants received a bachelor’s degree (27.6%) closely followed by those who possessed a master’s degree or other professional degree (23.8%). Most participants also identified themselves as falling within the middle class (42.7%) regarding socioeconomic status (SES).

In regard to specific religious identifications, a majority of participants identified as Christian (54.2%), Non-religious (22.6%), and Atheist (11.5%). Also, a significant portion of participants (7.7%) identified their religion as “Other,” and therefore, qualitative information that fell within the predetermined category of Christian faiths (i.e., Catholicism, Unitarian Universalism, and Baptist), identified by a few participants as “Other,” were recategorized as Christian. Following recategorization, 4.0% remained categorized under “Other” (i.e., spiritual/nonreligious, Wiccan, Multifaith, Taoism, Agnostic Jehovah’s Witness, nonspiritual/nonreligious, and “Dpirt”).

In terms of identification of relationship with the deceased loved one, the highest percentage of individuals identified the loss of a friend/colleague (47.1%). The category of “Other” was originally representative of 22.6% of responses of this variable. Therefore, four additional categories (i.e., cousin, aunt/uncle, niece/nephew, and grandparent) were created based upon the frequency of these relationships identified by participants qualitatively (not provided in the original predetermined categorizations). The category of “Other” ultimately

represented 6.8% of the relationships to the deceased (i.e., classmate, former spouse or paramour, step-relatives, in-laws, great grandparent, neighbor, student/resident, acquaintance).

**Table 4**  
*Frequencies for Demographic Variables*

Demographic Variables	<i>n</i>	%
<b>Sex</b>		
Male	70	21.7
Female	244	75.5
Other	9	2.8
<b>Race <sup>a</sup></b>		
White/Caucasian	282	87.3
Black/African American	19	5.9
Asian	6	1.9
American Indian or Alaskan Native	5	1.5
Asian Indian	2	0.6
Native Hawaiian or Pacific Islander	2	0.6
Middle Eastern or North African	1	0.3
Other	22	6.8
<b>Religion</b>		
Christianity	175	54.2
Nonreligious	73	22.6
Atheism	37	11.5
Other	13	4
Islam	2	0.6
Buddhism	5	1.5
Judaism	15	4.6
Hinduism	3	0.9
<b>Education</b>		
Did not finish high school	5	1.5
High school/GED	26	8
Some college	65	20.1
Associate's degree	31	9.6
Bachelor's degree	89	27.6
Master's or other professional degree	77	23.8
Doctoral degree	30	9.3

Socioeconomic status (SES)		
Upper	3	0.9
Upper middle	66	20.4
Middle	138	42.7
Lower middle	82	25.4
Low	34	10.5
Relationship to deceased		
Father/mother	34	10.5
Daughter/son	10	3.1
Brother/sister	43	13.3
Spouse/partner	17	5.3
Friend/colleague	152	47.1
Cousin	21	6.5
Aunt/uncle	10	3.1
Niece/nephew	11	3.4
Grandparent	3	0.9
Other	22	6.8

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<sup>a</sup>95.4% ( $n = 308$ ) of the sample identified as non-Hispanic.

Participants were also asked to rate their degree of closeness to the deceased using a 5-point Likert scale. Most participants identified their relationship to the deceased as “About as close as most of my relationships with others” (30.7%), followed by “Closer than most relationships I’ve had with other people” (30%), “Not as close as most of my relationships” (21.7%), “Closer than any relationship I’ve ever had before or since” (9.3%), and “Not very close at all” (8.4%). Additionally, nearly an equal split was found between 168 participants who denied any history of participation in formal mental health treatment subsequent to the loss (52%) and 155 participants who acknowledged having received treatment following the suicide (48%).

To assess any change in religiosity since the loss to suicide, participants were asked to identify their level of agreement or disagreement using a 5-point Likert scale based upon the statement, “I have become less religious since the loss of my loved one to suicide.” In response to this question, a large majority (60.7%) chose either “Strongly Disagree” or “Disagree,” followed by “Neutral” (25.7%), “Agree” (8.7%), and “Strongly Agree” (5.0%).

Another variable, duration of time since the loss to suicide, was identified. This variable requested that participants quantify the amount of time since the loss in days, weeks, months, or years. All responses were then converted into months in order to maintain uniformity in the analysis process. Responses for duration since the loss ranged from 0.11 (i.e., 3 days) to 696 months (i.e., 58 years;  $M = 115.60$  months or 9.63 years,  $SD = 129.05$  months or 10.75 years). The ages of the deceased ranged from 6 to 80 years ( $M = 36.59$  years,  $SD = 15.97$  years).

In regard to the independent variable of religiosity, results from the CRS placed 161 participants (49.8%) in the low religiosity group ( $M = 2.12$ ,  $SD = 0.58$ ) with an average overall sum ranging from 1 to 3 while the remaining 162 participants (50.2%) placed within the high religiosity group ( $M = 3.94$ ,  $SD = 0.56$ ) with average sum scores in the 3.01 to 5 range on items across the CRS. Groups were created based upon a median split of the range of possible scores on the CRS. Participants were also assigned to groups according to differences in scores (i.e., high and low) on the AAQ-II, a measurement of psychological inflexibility. Individuals whose scores fell within the range of 7 to 24 on the AAQ-II were grouped within low psychological inflexibility and those whose scores fell within the range of 25 to 49 were assigned to the high psychological inflexibility group. In total, 181 participants (56.04%) placed in the low psychological inflexibility group ( $M = 14.63$ ,  $SD = 5.18$ ) while 142 participants (43.96%) placed in the high psychological inflexibility group ( $M = 32.84$ ,  $SD = 6.69$ ) based upon the results of the

AAQ-II. Descriptive statistics for each of the four groups were reviewed previously in Tables 2 and 3.

### **Hypotheses Results**

H1: High religiosity as a main effect yields worse grief outcomes than low religiosity.

A two-way ANCOVA was performed to examine the main effect of two categorical independent variables, psychological inflexibility and religiosity, on the continuous dependent variable of grief. Two continuous covariates, duration since the loss and age of the deceased, were evaluated for their influence on grief outcomes.

First, data were examined for outliers, and assumptions of ANCOVA were tested. An ANCOVA assumes a continuous dependent variable, two independent variables consisting of two or more categorical groups, continuous covariates, normal distribution, independence of observations, homogeneity of variances, a linear relationship between covariates and the dependent variable for each group, homoscedasticity, normal distribution of residuals across each group, no significant outliers across groups of independent variables, and homogeneity of regression slopes.

The assumption of normality was tested and confirmed upon visual investigation of a histogram. To ensure independence of observations, each individual was assigned to only one of the four total groups based upon categorizations of high and low across two independent variables.

To evaluate the assumption of homogeneity of variances, a Levene's test was run across four groups, including the two covariates, to assess the effect on grief outcomes. Results suggested heterogeneity of variance in violation of this assumption,  $F(3, 319) = 10.18, p = .000$ . Another Levene's test was conducted without covariates, also revealing heterogeneity of

variance across the two independent variables on grief ( $p = .000$ ). However, Field (2013) suggested that as the sample size increases, this statistic becomes less concerning.

To evaluate the assumption that a linear relationship should occur between covariates and the dependent variable across each of the groups, two grouped scatterplots were created to evaluate the influence of each covariate separately. Upon visual investigation of these graphs, no linear relationship was observed between either covariate on the dependent variable across each level of the independent variables, in violation of this assumption. Additionally, correlations were run to further test this assumption. Specific to the age of the deceased covariate, no statistical significance was found on the outcome of grief across any of the four groups ( $p > 0.05$ ). Ultimately, the lack of statistical significance suggested that this variable was unrelated to the dependent variable at any level of the independent variables. Specifically, regarding the covariate duration since the loss, statistical significance was found supporting this variable's influence on the outcome of grief, albeit across only two groups, the low psychological inflexibility/high religiosity group ( $p = .008$ ) and the high psychological inflexibility/low religiosity group ( $p = .002$ ). On the other hand, no statistical significance was found between the covariate duration since the loss and the dependent variable of grief across the two remaining groups, low psychological inflexibility/low religiosity ( $p = .06$ ) and high psychological inflexibility/high religiosity ( $p = .230$ ).

The assumption of homoscedasticity, or the variance of the error across all combinations of the independent variables and for each covariate, was tested and supported upon visual investigation of regression standardized residual scatterplots and normal P-P plots.

To evaluate the assumption that residuals should be approximately normally distributed across four groups, including the two independent variables, a Shapiro-Wilk Test of Normality

was run, and Q-Q plots were visually investigated. Results from the Shapiro-Wilk Test of Normality and Q-Q plots showed a significant departure from normality across only the low psychological inflexibility and low religiosity group,  $W(87) = .945, p = .001$ , and the low psychological inflexibility and high religiosity group,  $W(94) = .952, p = .002$ . Results for the remaining two groups (i.e., high psychological inflexibility/low religiosity and high psychological inflexibility/high religiosity) showed normality of residuals ( $p > .05$ ). Although nonnormality was evident within two of the four groups, Field (2013) suggested that this violation was less important in larger sample sizes because the sampling distribution will become normal regardless of how the data may appear.

Additionally, upon visual investigation of a histogram, no outliers more than three standard deviations from the mean were observed across all four combinations of the two independent variables. The final assumption of ANCOVA, homogeneity of regression slopes, was analyzed separately for the covariates of duration since the loss and age of the deceased. A test of between-subjects effects was run to assess three-way interaction effects between duration since the loss and high and low religiosity,  $F(1, 315) = 2.407, p = .122$ ; high and low psychological inflexibility,  $F(1, 315) = 2.244, p = .135$ ; and all four groups of both independent variables,  $F(1, 315) = 3.845, p = .051$ . For the variable age of the deceased, another test of between-subjects effects was run to assess three-way interaction effects between this covariate and high and low religiosity,  $F(1, 315) = .291, p = .590$ ; high and low psychological inflexibility,  $F(1, 315) = 2.560, p = .895$ ; and all four groups of both independent variables,  $F(1, 315) = 5.888, p = .842$ . These results support the assumption of homogeneity of regression slopes.

Overall, no statistical significance was found between the main effect of religiosity on grief outcomes including covariates, as determined by a two-way ANCOVA,  $F(1, 317) = 2.18, p$

> .05. The lack of statistical significance of religiosity on grief went unchanged when covariates were removed from the ANCOVA analyses and when one covariate, duration since the loss, was considered alone. A correlational analysis was also run to assess differences between low and high religiosity on grief outcomes, which was not statistically significant,  $r(321) = .01, p > .05$ , meaning no relationship was found between either level of religiosity (i.e., low and high) on grief outcomes.

H2: High psychological inflexibility yields worse grief outcomes than low psychological inflexibility.

A two-way ANCOVA was conducted to test this hypothesis. First, data were examined for outliers, and assumptions of ANCOVA were tested. Results of assumption testing for ANCOVA were previously reviewed and are, therefore, not repeated here.

Two levels of the independent variable of psychological inflexibility (i.e., low and high) were assessed in regard to their influence on the dependent variable of grief. Unlike levels of religiosity, significant differences were found between low psychological inflexibility and high psychological inflexibility on grief outcomes,  $F(1, 317) = 96.93, p < .01, \eta_p^2 = .23$ . Both levels of psychological inflexibility showed a moderate to large effect size in their effect on grief outcomes ( $p < .05$ ). Specifically, high psychological inflexibility led to worse grief outcomes ( $M = 29.46, SD = 14.40$ ) than low psychological inflexibility ( $M = 15.09, SD = 9.95$ ). This hypothesis was therefore supported.

H3: Suicide-bereaved individuals with low psychological inflexibility and low religiosity will experience less severe symptoms of grief than those of suicide-bereaved individuals who display high psychological inflexibility and high religiosity.

To test Hypotheses 3, the interaction between the two levels of religiosity (i.e., low and high religiosity) and the two levels of psychological inflexibility (i.e., low and high psychological inflexibility) was examined as it relates to the outcome variable of grief. Results of assumption testing for an ANCOVA were reviewed previously and are not repeated here.

A 2 x 2 test of between-subjects, two-way ANCOVA was run to examine the interaction of high and low psychological inflexibility and high and low religiosity on grief outcomes when hypothesized covariates were assessed. There was no statistically significant interaction between all four groups on grief outcomes,  $F(1, 317) = 1.11, p > .05$ . Results of the ANCOVA conducted on the first three hypotheses can be found in Table 5.

**Table 5**

*Analyses of Variance for Religiosity and Psychological Inflexibility Groups on Grief*

Groups	$F(1, 317)$	$\eta_p^2$
Religiosity	2.18	.007
Psychological inflexibility	96.93*	.234
Religiosity x psychological inflexibility	1.11	.003

\*  $p < .001$ .

H4: The age of the deceased and duration since the loss of a loved one to suicide are predictive of grief outcomes.

To assess the predictive value of these two continuous independent variables on the dependent variable of grief, a multiple linear regression (MLR) was conducted. MLR assumes a continuous dependent variable, two or more independent variables, normality, no significant outliers, a linear relationship between the dependent variable and each/all independent variables,

independence of observations, no multicollinearity, homoscedasticity, and normal distribution of residuals.

The first two assumptions were justified previously. The assumption of normality of the distribution was tested and supported through visual inspection of a histogram. The assumption of no significant outliers was evaluated through the visual inspection of scatterplots containing a line of best fit for both predictive variables of age of deceased and duration since loss on grief outcomes ( $R^2 = .074$ ). Upon visual investigation of this specific scatterplot, the assumption of no significant outliers was violated, as both independent variables displayed a good deal of variability around the line of best fit. Removal of both independent variables, however, would preclude an analysis; therefore, only one variable, age of the deceased, was removed based on its violation in this assumption of normality and in the violation of the assumption of a linear relationship with the dependent variable, grief.

Correlations were conducted to distinguish linearity between the dependent variable and each independent variable, age of the deceased and duration since the loss, reviewed in Table 6. When considered together, both independent variables explained only 7.7% of the variance in grief outcomes, and 93% of the variance would be better explained by other variables not controlled for in this study. Upon further investigation, the predictive value of duration since loss appears to be driving the significant finding, as it accounted for 7.4% of the total outcome variance.

When variables were assessed separately for their influence on grief, duration since the loss was significantly correlated with the dependent variable ( $p < .001$ ), while age of the deceased was not significantly correlated with grief ( $p = .683$ ), in violation of this assumption. Specifically, an examination of the correlations between these two variables and the dependent

variable revealed a significant and negative relationship between duration since the loss of the loved one and grief outcomes (see Table 6). These results suggested that grief outcomes in the sample appeared to be less severe as more time passed since the loss to suicide. To rectify this assumption violation and the assumption regarding outliers, the predictor variable of age of deceased was removed from the regression.

**Table 6**  
*Correlations of Dependent and Independent Variables*

Variables	Grief	Duration since loss	Age of deceased
Grief	--	-0.273*	-0.023
Duration since loss	-0.273*	--	-0.111*
Age of deceased	-0.023	-0.111*	--

\*Correlation is significant at the  $p < 0.05$  level (2-tailed)

To evaluate the assumption of independence of observations or residuals, a Durbin-Watson statistic was calculated ( $d = 1.595$ ), suggesting a slightly positive autocorrelation. Nevertheless, values within the range of 1.5 to 2.5 are relatively normal while values outside of this range are cause for concern (Field, 2013).

The assumption of homoscedasticity was visually assessed using a scatterplot, which suggested heteroscedasticity, in violation of this assumption. The assumption that residuals were approximately normally distributed was tested through visual investigation of a Normal P-P Plot of Regression Standardized Residual chart. This chart showed slight deviation from the regression line, suggesting kurtosis, again, in violation of this final assumption.

After removal of the hypothesized predictor variable, age of the deceased, a linear regression was conducted to predict grief from duration since the loss of a loved one. The variable of duration since the loss was negatively and only modestly correlated with grief ( $r = -.273$ ) yet was highly significant in its predictive value,  $F(1, 322) = 25.831, p = .000, R^2 = .074$ . Additionally, tolerance and variance inflation factor (VIF) values (Tolerance = 1.000, VIF = 1.000) for duration since the loss suggests the complete absence of collinearity with correlations not exceeding  $-.273$ . This assumption was therefore not violated. Descriptives of predictor variables on grief outcomes are reviewed in Table 7.

**Table 7***Descriptives for Predictor Variables on Grief (n = 323)*

Predictor Variables	<i>M</i>	<i>SD</i>
Duration since loss (in weeks)	115.55	129.05
Age of the deceased	36.59	15.97
ICG total score	21.41	14.04

*Note.* ICG = Inventory of Complicated Grief.

### Exploratory Post Hoc Analyses

A number of exploratory analyses were conducted on categorical variables as they relate to grief outcomes using one-way ANOVA and an independent samples  $t$  test. The following categorical variables were tested for relationships with grief outcomes: sex (not significant),  $F(1, 312) = 0.27, p > .05$ ; religious identification (not significant),  $F(7, 315) = 0.80, p > .05$ ; self-rated degree of closeness to the deceased (significant such that participants who identified their relationship with the deceased as closer than any relationship they have ever had before or since

were more likely than any other degree of closeness response to have more severe grief),  $F(4, 318) = 21.021, p < .01$ ; relationship to the deceased (significant such that the loss of a child [daughter/son] yielded the most severe grief outcomes, followed by the loss of a sibling [brother/sister], a spouse/partner, a parent [father/mother], a friend or colleague, cousin, other, aunt/uncle, niece/nephew, and grandparent),  $F(9, 313) = 4.80, p < .01$ ; change of religiosity over time (significant such that participants who responded that they strongly disagreed or disagreed with the statement, “I have become less religious since the loss of my loved one to suicide” fared better in grief outcomes than those who responded agree or strongly agree to the statement),  $F(4, 318) = 17.41, p < .01$ ; and history of participation in formal mental health treatment since the loss (significant such that participation in mental health treatment led to poorer grief outcomes),  $t(321) = -2.56, p < .025$  (See Table 8). All statistically significant ANOVA post hoc analyses (i.e., degree of closeness, relationship to the deceased, and change in religiosity) produced large effect sizes in regard to their impact on grief outcomes while the  $t$ -test analysis assessing the relationship between participation in formal mental health treatment on grief yielded a small effect size (See Table 8).

**Table 8**  
*Results of ANOVA and t-Test Posthoc Analyses*

Independent variables	$F$	$\eta_p^2$
Sex	0.27	.001
Religious identification	0.80	.015
Degree of closeness	21.021*	.201
Relationship to the deceased	4.80*	.125
Change in religiosity	17.41*	.181
Independent variable	$t(321)$	$d$

Mental health treatment	-2.56*	0.28
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\* $p < .01$ .

Descriptive statistics for each statistically significant analysis reviewed in Table 8 are included in Table 9.

**Table 9**  
*Descriptive Statistics for Statistically Significant Post-Hoc Analyses on Grief Outcomes*

Variables	M	SD	<i>n</i>
<b>Relationship to Deceased</b>			
Father/Mother	25.12	13.01	34
Daughter/Son	34.2	11.98	10
Brother/Sister	28.95	16.02	43
Spouse/Partner	27	17.37	17
Friend/Colleague	19.01	12.56	152
Cousin	18.48	12.81	21
Aunt/Uncle	16.9	15.51	10
Niece/Nephew	13.55	8.27	11
Grandparent	10.00	9.64	3
Other	17.73	12.32	22
<b>Self-Rated Relationship Closeness</b>			
Closer than any relationship I've ever had before or since	37.4	14.52	30
Closer than most relationships I've had with other people	25.22	13.58	97
About as close as most of my relationships with others	18.65	11.87	99
Not as close as most of my relationships	15.9	10.67	70
Not very close at all	14.41	13.51	27
<b>Self-Rated Change in Religiosity Since the Loss</b>			
Strongly Disagree	15.6	10.67	97
Disagree	19.96	12.51	99
Neutral	22.92	13.85	83
Agree	35.07	14.59	28
Strongly Agree	33.94	17.07	16

History of Participation in Mental Health Treatment Since the Loss			
Yes	23.48	13.98	155
No	19.51	13.87	168

Note: M= Mean, SD=Standard Deviation, *n*=number of participants

One should note that assumptions testing was conducted for all post hoc exploratory analyses, and several violations were detected. A review follows of the assumptions violated for only the analyses that were significant. The assumptions of a one-way ANOVA included a continuous dependent variable, two or more categorical/independent groups, normality, independence of observations between groups, no significant outliers, and homogeneity of variance.

All independent variables reviewed as follows are categorical and were analyzed in regard to their relationship to a continuous dependent variable, grief. Upon visual inspection of histograms, normality was assumed across all analyses conducted as previously reviewed. Additionally, for all post hoc analyses reviewed as follows, the assumption of independence of observations between groups was not violated, as each participant could be assigned to only one group. A between-groups study design was used.

Brown-Forsythe tests were conducted to evaluate the assumption of equal variances suggesting asymmetrical distributions of race and religiosity ( $p < .01$ ); self-rated change in religiosity and grief ( $p < .05$ ); self-rated degree of closeness and grief ( $p < .001$ ); and relationship to the deceased and grief ( $p = .000$ ). Otherwise, equal variances were found, as assessed by the Brown-Forsythe test, between religious identification on grief and sex on grief ( $p > .05$ ).

Tests of homogeneity of variances were conducted and violated, suggesting heterogeneity between groups in regard to religious identification and grief,  $F(7, 315) = 0.797, p > .05$ , as well as sex and grief,  $F(1, 312) = 0.272, p > .05$ . The remaining analyses supported homogeneity of variances for race and religiosity,  $F(1, 299) = 8.614, p < .01$ ; self-rated change in religiosity on grief,  $F(4, 318) = 17.410, p < .001$ ; self-rated degree of closeness to the deceased on grief,  $F(4, 318) = 21.021, p < .001$ ; and relationship to the deceased on grief,  $F(9, 313) = 4.804, p < .001$ .

Finally, an independent samples  $t$  test was run to assess the relationship between two levels of treatment history since the loss on grief outcomes. The assumptions of an independent  $t$  test include the use of a continuous dependent variable (i.e., grief), two categorical independent samples (i.e., yes or no treatment history), independence of observations, no significant outliers, normal distribution of the dependent variable across each group of the independent variable, and homogeneity of variances. The first three assumptions were not violated, as previously reviewed. To test for homogeneity of variances, a Levene's test was conducted, suggesting equal variances between groups ( $p > .05$ ).

## **CHAPTER 5: DISCUSSION**

### **Interpretation and Implication**

The primary objective of this study was to assess the influence of religion and psychological inflexibility on grief symptoms in a sample of suicide-bereaved participants. Research has shown that religion can have beneficial effects regarding the interpretation of death and the bereavement process (Pargament, 2011). However, up to this time, minimal research had been conducted on the grief outcomes specific to the suicide-bereaved with strict adherence to religious beliefs in the coping process. When particular types of loss were considered in the literature, robust religious beliefs did not always confer protective benefits (Burke et al., 2011). More specifically, individuals who had experienced a traumatic, unexpected loss tended to have worse grief outcomes and were more likely to develop other psychiatric concerns, such as suicidality and trauma-related disorders than those who experienced an expected loss to natural circumstances (Young et al., 2012). Owing to the stigmatization of suicide across most major faiths, it was hypothesized that the use of religion to cope with a traumatic loss, specifically the suicide of a loved one, would exacerbate grief symptoms and contribute to internalized personal stigmas (e.g., self-blame, shame, guilt, feelings of having failed the deceased; Cook, 2013). Furthermore, it was hypothesized that these grief outcomes would be most severe in those with high psychological inflexibility or strict adherence to stigmatizing religious beliefs.

Psychological inflexibility has been associated with highly religious, absolutist thinking (Ellis, 1980), as well as with increased mental health issues (Masuda et al., 2014). For example, strict and literal religious beliefs were associated with less well-being and more distress (Dezutter et al., 2006). Additionally, higher levels of psychological inflexibility led to worse health outcomes and lower life satisfaction (Wicksell et al., 2010). Further research was

necessary to better understand the coping processes of this vulnerable population who were identified to be at increased risk of complicated grief and suicidality (Young et al., 2012).

Contrary to the expected relationships hypothesized, the results of this study found neither high nor low religiosity influenced grief outcomes. Additionally, no statistically significant interaction was found between high and low religiosity and high and low psychological inflexibility on grief. Nevertheless, when considered alone, both high and low psychological inflexibility were statistically significantly related to grief outcomes. More specifically, those study participants who identified as having high psychological inflexibility had more severe grief outcomes; those with low psychological inflexibility exhibited less severe grief. Overall, these results supported prior research that indicated the potentially harmful impact of psychological inflexibility on mental health outcomes (Masuda et al., 2014). However, the results did not support the hypothesized relationship between high religiosity and poor grief outcomes in a suicide-bereaved sample.

A linear regression analysis with duration of time since the loss predicting grief outcomes was a significant finding in the current study. Specifically, as the amount of time since the loss increased, the severity of grief decreased. Age of the deceased was unrelated to grief outcomes and was therefore removed from the regression analyses.

Furthermore, as part of multiple post hoc exploratory analyses, identified relationship to the deceased showed statistical significance in regard to its relationship on grief outcomes. Moreover, the loss of a child and the closer the participant's self-rated relationship was to the deceased, the more severe the grief outcomes were. These results aligned with research conducted by Boelen and van den Bout (2008), which showed that first degree relatives of the deceased exhibited more severe grief when compared to all others who completed the Inventory

of Complicated Grief (ICG). Results also indicated that participants who had partaken in mental health treatment since the loss of a loved one to suicide had worse grief outcomes than those who did not. This relationship was initially unexpected; however, upon further consideration, these results may suggest that those who sought mental health treatment may have been experiencing more severe grief. Notably, this item did not require participants to specify the time and duration of treatment, making useful interpretation of these results difficult. The participant might have been currently in treatment or recently begun treatment and had not yet seen improvements in grief.

Additionally, participants who identified no significant decrease in religiosity since the loss were more likely to have less severe grief than those who identified a decrease in religiosity. This finding, however, can be the result of a floor effect among the large portion of nonreligious and atheist participants in the sample rather than be indicative of a protective factor of religion. In terms of demographics, a statistically significant relationship was found between race and religiosity in that African Americans/Blacks were more likely than Caucasians/Whites to be highly religious. This relationship was similarly detected in prior research by Jacobson et al. (1990), who determined that race at least partially explained heterogeneity in benefits of religiosity. Nevertheless, the overrepresentation of Caucasians/Whites in the sample should be considered, and therefore this result should be interpreted cautiously.

On the contrary, no such significance was found for the relationship between gender and grief outcomes, as was previously found by Schneider et al. (2011), who indicated that female individuals had worse grief outcomes than male individuals when coping with a loss to suicide. Furthermore, religious identification had no significance in regard to grief outcomes. Religiosity as a whole did not appear to have any effect on grief, as had been hypothesized.

This research sought to better understand the influence between a strict religious interpretation of suicide on the grieving process of the suicide-bereaved. Despite the lack of significant findings on religiosity and grief outcomes in this study, the current results do not corroborate prior studies' findings suggesting predominantly protective benefits of religion on the bereavement process and mental health. Furthermore, participants who endorsed a decrease in religiosity since the loss actually experienced more severe grief when coping with a loss to suicide. Though no statistical significance was found in regard to religiosity's impact on the suicide bereavement process, a post hoc analysis did detect a potential risk of increased grief if participants endorsed a reduction in religiosity subsequent to the loss. Interpretation of this study's results suggests no difference between nonreligious and religious people in their grief (i.e., neither level of religiosity was significant), but religious people may be worse off than nonreligious people in their grief should they experience lessened religiosity after a loss to suicide.

It was anticipated that results from this study could inform therapeutic intervention regarding the appropriateness of incorporating one's faith to interpret the loss and assist with coping with a loss to suicide. Although religion was hypothesized to have a negative impact on the grieving process of the suicide-bereaved, results did not support this hypothesis, and instead, results demonstrated no significant impact of level of religiosity at all on grief outcomes. Nevertheless, rigid, inflexible thinking in the suicide-bereaved sample significantly impacted the severity of grief. As was previously found in research, those who exhibited high inflexibility in their thinking were at greater risk of increased mental health issues (Dezutter et al., 2006; Masuda et al., 2014) and suicidality possibly related to their difficulty with problem solving and openness to other interpretations (Rickelman, & Houfek, 1995).

Other key findings in the current study can help to identify those who may be most at risk of severe, complicated grief outcomes. Those who identified a recent loss, the loss of a close loved one, and the loss of a child were found to have the most severe grief outcomes. Owing to the increased risk of suicide in this population, these results can help to identify individuals who may be at higher risk of more complicated grief than others. Therefore, these results may still be considered useful to inform mental health treatment and risk assessment for this already at-risk population.

### **Limitations**

One limitation of the study is inherent in the nature of a quasi-experimental research design. Namely, groups were not randomized, no control group was used for comparison, and no manipulation of independent variables was performed. For these reasons, the use of a quasi-experimental design minimized the possibility of generalizability of these results to the target population of the suicide-bereaved. The sampling procedures via convenience sampling also did not allow for equally representative distributions of demographic variables, such as age, religion, gender, and race/ethnicity, further limiting the generalizability of these results to the general population. Specifically, Caucasians/Whites and female individuals were overrepresented in the sample. According to the American Foundation for Suicide Prevention (2020), middle-aged white male individuals were most at risk of completing suicide within the general population. However, adult females were 1.5 times more likely than adult males to attempt suicide (American Foundation for Suicide Prevention, 2020). The mean age of participants in this study was 45.33 years, placing most participants within the middle-aged range, who are at higher risk of suicide than younger or older individuals. Therefore, this study's sample, in regard to age, sex, and race, was representative of this overall at-risk population, providing further support for

generalizability of these results. These statistics also relate to the purpose of the study to uncover helpful information to better inform the treatment and identification of those who are at greater risk of suicidality than the general population. Additionally, according to the U.S. Census Bureau Survey (2019), other demographic variables of this sample, including socioeconomic status, education, and treatment history, were an approximate representation of the overall national population. The use of electronic recruitment methods through ResearchMatch allowed the researcher to procure a wider range of participants across many different geographical areas and from various backgrounds who were not specifically associated with suicide, religious, or grief-specific support groups in turn reducing bias in recruitment. Furthermore, equity across group assignments was attempted to the fullest extent possible. The obtained sample size of 323 participants significantly surpassed the original a priori estimate of 128 participants, in turn increasing the statistical power of the current study from an estimated 80% to 99%.

Additionally, the survey used self-report measures that may have been influenced by response biases, such as giving responses perceived to be socially desirable. To account for this limitation, participants submitted their responses privately in any setting chosen by the participant and anonymously through electronic survey completion. Results were also collected during a single point in time requiring participants to rely on retrospective memory at times (e.g., self-reported change in religiosity since the loss), which is vulnerable to bias and inaccuracy.

Further, the loss of more than one loved one to suicide was unaccounted for when the survey was initially created. This oversight effectively reduced the number of usable participant data because of ambiguity and undefined responses across measures. As a result, approximately 50 participants' responses were removed from the final data analysis. The removal of

participants from the study ultimately did not impact the power of the study because the recruitment of 323 participants significantly surpassed the initial estimate of participants required. For future research, participants who identified multiple losses to suicide should be included to assess impact on grief.

Additionally, predetermined demographic categories appeared to be somewhat restrictive. To compensate, an “Other” category was offered across most demographic items. The “Other” category, along with a qualitative explanation, was frequently chosen in regard to religion and relationship to the deceased. Specifically, many individuals who identified as Catholic or Baptist chose not to identify as “Christian.” Nevertheless, they were recategorized as “Christian,” for example, so as to uphold uniformity and to reduce the frequency of “Other” responses. Moreover, the relationship identified did not provide common categories of aunt/uncle, cousin, niece or nephew, or grandparent. Therefore, because of the high frequency of these responses, these categories were added to again reduce the frequency of “Other” responses.

An item regarding change in religiosity on the demographics form was also restricting in its format. Specifically, when asked to rate a change in religiosity since the loss, participants were asked to use a Likert scale to determine level of agreement/disagreement with the statement, “I have become less religious since the loss of my loved one to suicide.” However, this statement assumes that one had initially identified as at least somewhat religious. Therefore, this item was inappropriate for participants who had consistently identified as nonreligious and was inherently flawed in this regard. Nevertheless, participants could identify as nonreligious in regard to religious identification on the demographics form, and the Centrality of Religiosity Scale (CRS) also accounted for those who practiced religion infrequently or never meaning religion was not integral to their psyche. Notably, nonreligious was the second most frequently

occurring religious identification within the sample, seriously calling into question the utility of the change in religiosity item.

Results of a linear regression analysis using duration since the loss showed only minimal predictive significance on grief outcomes, as 92.6% of the variability in grief outcomes for participants were accounted for by other variables that were not controlled for in this study. Some of the items included in the demographics form could not be assessed as covariates because of their categorical format, possibly significantly impacting results. Research showed that a close, first-degree relationship to the deceased (Mitchell et al., 2009), and specifically the loss of a child (Schneider et al., 2011), precipitated the most severe grief outcomes in the suicide-bereaved. Female individuals were also purported to experience more complicated grief than male individuals when coping with a loss to suicide (Schneider et al., 2011). Race was also found to be associated with level of religiosity in that African Americans who practiced the same religion as their Caucasians counterparts were more likely than their counterparts to experience greater benefits associated with their religious practices (Jacobson et al., 1990). Although this study could not assess the influential and predictive value of these categorical variables on grief, post hoc analyses were conducted to assess the relationship, if any, between these independent variables and the outcome of grief. Many of these analyses yielded statistically significant results, as previously reviewed. Therefore, better control of variables in the current study known to have an impact on grief is a limitation that if properly addressed in future work could yield different results.

Prior studies conducted on religion and mental health produced contradictory results as the result of differing definitions and measurements of religion. The current study used a widely normed and reliable assessment, the CRS, to measure level of religiosity. The CRS

encompassed both religious and spiritual practices/beliefs. Therefore, spirituality or intrinsic religious expression was not evaluated as a separate entity within this study. Salsman et al. (2005) found that intrinsic religious expression, or spirituality, was more positively associated with life satisfaction and adjustment than extrinsic religion or public practice. Although both public and private practice were included in the CRS, they were not analyzed separately in regard to grief outcomes. The decision to assess both public and private practices of religion together may have diluted the strength of this study's results. Additionally, the use of a median split using scores obtained on the CRS for religiosity groupings may have weakened results if most participants fell near the median. This research hoped to discover more information regarding the bereavement process of those who identified as being within the extremes of religiosity. These limitations should be considered to improve future research on religion and suicide bereavement.

### **Future Directions**

For future research, the researcher should specify if multiple losses to suicide were experienced. If so, the participant should choose the individual for whom they have had the most difficulty grieving. This specification may reduce ambiguity that precipitated the elimination of many participants' survey responses from the data. Future research may also consider the comparison of grief outcomes across multiple losses to suicide. Additionally, two independent variables showed limited predictive value on grief outcomes (less than 8%). Future research should consider other possible variables that may have not been considered in this study. Statistically significant post hoc analyses may provide guidance for possible influential variables, such as history of participation in formal mental health treatment, change in religiosity since the loss, self-rated degree of closeness, and relationship to the deceased. The use of a qualitative

approach could also yield valuable information regarding other possible influential variables that were not controlled for in this study, as well as provide insights, such as any perceived religious stigma associated with suicide bereavement, the negative religious coping (NRC) process proposed by Burke et al. (2011), and various (extrinsic or intrinsic) components of religion that may assist or exacerbate the suicided bereavement process. Additionally, a longitudinal study can provide information regarding a more accurate assessment of individual changes in religiosity and grief over time instead of relying on retroactive self-reports, which are vulnerable to bias and inaccuracy.

When considering level of religiosity, the use of only quartiles or extreme scores on the CRS may be considered to account for the statistical insignificance of religiosity on grief possibly caused by the use of a median split for religiosity group assignments. Future research may choose to emphasize the impact of only the extremes of religiosity on grief. The statistical significance of psychological inflexibility on grief outcomes of the suicide-bereaved can be replicated and developed upon in future research. Specifically, a focus on the faulty, rigid problem-solving methods of those who displayed high psychological inflexibility may better inform the current research on suicide bereavement and applied therapeutic practice. Based upon these results, the elevated suicide risk of this vulnerable population could also be reduced by increasing psychological flexibility among the suicide-bereaved.

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