# Assessing Posttraumatic Growth, Complicated Grief, and Psychological Distress in Bereaved Atheists and Believers

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## Abstract

The present study examines how meaning and belief in God or god(s) is related to bereavement outcomes. Data from 299 participants residing in the U.S. indicated that the variables of search for meaning, presence of meaning, and belief in God or god(s) were significantly related to posttraumatic growth, complicated grief, and psychological distress. Results from this study can be used to identify appropriate clinical strategies for mental health practitioners working with bereaved clients, and will deepen the breadth of literature on bereavement with atheist populations in the U.S.

# Assessing Posttraumatic Growth, Complicated Grief, and Psychological Distress in Bereaved Atheists and Believers

Roughly 84% of the worldwide population–or 5.8 billion people–consider themselves to be religious (Pew, 2012), and within the United States (U.S.), 89% of adults endorse a belief in God (Pew, 2014). While religion may serve many purposes for believers, one major role may be its utility in helping people cope with loss, particularly grief surrounding death (Wortmann & Park, 2008). For example, belief systems that propose eternal life after death may be comforting for those who have lost a loved one (Baston & Stocks, 2004). Research on coping with loss in the elderly found that the most common methods of religious coping were trust and faith in God (31%), prayer (27%), and help and strength from God (17%) (Koenig, George, & Siegler, 1988). However, religion "can be a source of distress as well as a source of solutions in coping" (Pargament, Smith, Koenig, & Perez, 1998, p. 721). Indeed, prior studies suggest that aspects of belief may be associated with increased distress during bereavement, specifically when individuals believe they are being punished by God, their prayers have not been heard, or they feel anger towards God (Chapple, Swift, & Ziebland, 2011; Exline, Park, Smyth, & Carey, 2011).

The number of atheist people, those who do not believe in God or god(s) (Hunsberger & Altemeyer, 2006), has increased in recent years, with estimates ranging from four to 26 percent of the total U.S. population (Gervais & Najle, 2017; Zuckerman, 2006). Scholars have noted that it is difficult to gather an accurate demographic profile of atheists because a single definition of atheism is not universally accepted, and atheists often avoid labeling themselves as such on surveys due to the social stigma that exists around the term (Goodman & Mueller, 2009). Despite these difficulties, a report by the Pew Research Center indicated that atheists in the U.S. are more

likely to be White, male, highly educated, and identify as democrat or left-leaning politically (Lipka, 2016).

At this time, little is known about how atheists respond to grief. An analysis of peer reviewed social science journals from 2001 to 2012 found that, out of 100 articles about atheists, 13 focused on existential issues, six focused on end of life concerns, and only one focused on death, loss, and bereavement in atheists (Brewster, Robinson, Sandil, Esposito, & Geiger, 2014). Results of this analysis prompted Brewster and colleagues (2014) to wonder "why are researchers not curious about how those *without* a belief in God/gods handle such situations?" (p. 27).

Despite the limited empirical data on atheist grief, some scholars and popular atheist writers have suggested that nonbelievers have the same capacity to cope with loss as anyone else. Atheist blogger and writer Greta Christina suggested that anxieties about a deceased loved one's ultimate fate might not be an issue for atheists who believe there is no life after death (Christina, 2014), eliminating the worry that some have about their loved ones going to hell. Another characteristic that has been found in individuals who cope well after bereavement is the ability to adjust to different situations (Bonanno, 2009). An atheist who loses a loved one to illness or accident might not experience as much stress as someone who believes in God and wonders why their prayers were not answered. Similarly, previous studies found anger at God to be a predictor of deleterious outcomes of bereavement (Exline, et al., 2011). By definition, an atheist has no God to direct their anger towards, whether the anger is in regards to taking a loved one or unanswered prayers. A previous study on end of life preferences for atheists found that the top three themes included the desire to find meaning in life, to maintain a connection with family and friends, and to continue to experience and enjoy the natural world (Smith-Stoner, 2007). In

fact, a naturalistic method of finding meaning (i.e., believing that nothing exists beyond the natural world) was a common theme for atheist populations, along with finding meaning by gaining better self-understanding and through relationships with others (Hwang, 2008).

**Psychological Outcomes of Bereavement**

A variety of outcomes have been examined in individuals experiencing the death of a close friend or family member. One area of research that has received significant attention is posttraumatic growth, which is a theoretical concept that expands on the ideas espoused in many religious and philosophical texts in that there is potential transformative power and benefit from suffering (Tedeschi & Calhoun, 1995). That is, one who experiences loss or another traumatic event might not only be resilient, but might also experience increased psychological gains from the loss. The change in functioning is what separates the concept from similar responses to grief, such as resilience and hardiness, since these concepts explain how one responds to the event while posttraumatic growth explores how one changes from the event (Tedeschi & Calhoun, 2004). Tedeschi and Calhoun (2004) also noted that this is not necessarily a gain of spiritual or religious benefits, but is also experienced by nonbelievers and atheists due to “a greater engagement with fundamental existential questions and that engagement in itself may be experienced as growth” (p. 6). Although many individuals will display resilience after a loss and some will even experience posttraumatic growth, it is important to note that these experiences can, and often do, coexist with unpleasant emotions that accompany grief (Calhoun, Tedeschi, Cann, & Hanks, 2010). Thus, growth will often be found in those who experience sadness, anxiety, and even more long-lasting and debilitating grief responses.

Some individuals may experience complicated grief reactions during bereavement, which has been defined as a reaction that is distinct from bereavement-related depression and anxiety,

and predictive of long-term functional impairments (Prigerson et al., 1995). Symptoms of complicated grief reactions can include “intrusive images, severe pangs of emotion, denial of implications of the loss to the self, and neglect of adaptive activities at work and home” (Horowitz et al., 1997, p. 904). These symptoms result in functional impairments above and beyond what would be typically found during bereavement, and persist for a longer period of time. The development of complicated grief is relatively rare, and previous studies have found a prevalence rate of 6.7% in a sample of individuals experiencing major bereavement (Kersting, Brähler, Glaesmer, & Wagner, 2011). However, those who do experience complicated grief reactions may have an increased risk of developing mental and physical health problems, such as hypertension, heart conditions, suicidal ideation, and depression (Ott, 2003).

**Coping with Bereavement via Meaning Making**

The role of meaning in reaction to loss has been frequently studied by researchers. One method of examining the impact of meaning is by the examination of presence of meaning, defined as one’s current perception of life’s meaningfulness, and search for meaning, defined as the ongoing search for meaning in life (Steger, Frazier, Oishi, & Kaler, 2006). Outcomes for the impact of these two meaning variables has been mixed. Presence of meaning has been found to be positively related to positive outcomes after loss (e.g., life satisfaction, happiness, positive affect, positive change) and negatively related to depression, negative affect, and negative change (Linley & Joseph, 2011; Park, Park, & Peterson, 2010). Search for meaning, while typically thought of as a positive coping method for loss and trauma (e.g., Frankl, 1963) has been found to be associated with negative outcomes after loss, including depression, negative affect, and negative change (Linley & Joseph, 2011; Park et al., 2010). Others have found that positive self-reflection, which is an opposite reaction to neurotic rumination, mediated the relationship

between search for meaning and positive meaning-finding after a loss (Boyraz, Horne, & Sayger, 2010). Additionally, search for meaning has been found to be beneficial when individuals already had high levels of presence of meaning in the life (Park et al., 2010).

**Resilience during Bereavement**

The concept of resilience after loss and trauma has gained widespread attention in recent years, and researchers have noted that many individuals do not develop chronic grief reactions, but will experience mild to moderate initial distress followed by a return to relatively normal functioning (Bonanno, 2004; Bonanno & Kaltman, 2001). This finding is in contrast to what is typically assumed with grief, in that the bereaved must "work through" or emotionally process their reactions to loss prior to achieving a return to mental wellbeing. Indeed, the concept of stages of grief, starting with denial and ending with eventual acceptance, is widely accepted as the norm for grief responses despite any empirical evidence supporting a stage model of grief (Wortman & Silver, 1989).

Taken together, is clear that people experience grief in a variety of different ways. Although atheists clearly have specific methods of coping with grief, and likely experience resilience during bereavement, they have received little to no empirical attention thus far. As most research has focused on the impact of religion or spirituality on death, loss, and bereavement, this study is positioned to make a unique contribution to grief literature, as it is among the first to empirically assess bereavement experiences with atheists. Additionally, this is the first known comparison of posttraumatic growth, complicated grief, and psychological distress for both atheists and believers. Here, we predicted that higher levels of presence of meaning would be positively related to levels of posttraumatic growth, and negatively related to complicated grief and psychological distress, while search for meaning would have the opposite

results. Additionally, we predicted that belief in in God or god(s) would not be related to posttraumatic growth, complicated grief, or psychological distress, suggesting that belief is not a prerequisite for wellbeing during grief, and that believers and atheists have similar outcomes to loss.

## Methods

### Participants

There were 117 participants in the "believer" group, which included participants who endorsed a belief in God on the demographic questionnaire. The "atheist" group consisted of participants who indicated that they did not believe in God or god(s) in the demographic questionnaire, and included 182 participants. Separate demographic data by believer and atheist groups is presented in Table 1, and participant information below is for the total sample ($N$ = 299). Throughout this section, percentages might not total 100% due to small amounts (approximately 1 to 4%) of item-level missing data.

The overall sample ranged in age from 18 to 78 years old ($M$ = 43.49, $SD$ = 12.64, $Mdn$ = 44). Approximately 93% of the sample identified as White and 7% as a race other than White (e.g., Black, Asian-American, Latino/a, etc.). About 84% identified as a woman and 15% as a gender other than a woman (e.g., man, woman of transgender experience, man of transgender experience, etc.). About 79% identified as heterosexual, 8% as bisexual, 7% as mostly heterosexual, 2% as gay/lesbian, less than 1% as mostly gay/lesbian, and 2% as a sexual orientation not listed (e.g., genderqueer). The sample was highly educated, with approximately 27% with some college as their highest level of education attained, 24% with a 4-year college degree, 15% with a 2-year degree, 16% with a postgraduate degree, 10% with some postgraduate education, 8% with a high school diploma, and less than 1% with a high school degree or less.

Approximately 57% lived in a suburban environment, 27% in a rural environment, and 16% in an urban environment. About 86% experienced the death of a family member and 14% of a close friend. About 64% described the death as unanticipated, and 36% as anticipated. In terms of religiosity, 59% indicated they were not religious, 22% identified as religious, and 19% identified as spiritual, but not religious. Of those identifying as religious, 94% identified as Christian, 3% as Jewish, and 3% as Buddhist.

**Measures**

**Belief** was assessed by a single question included as part of the demographic questionnaire. Participants were instructed to choose one of three different options (i.e., yes, no, or unsure) to the question of "Do you believe in God or god(s)?" Individuals checking yes were included in the analysis as believers, those checking no were included as atheists, and those checking unsure were removed from the final analysis.

**Meaning** was measured using the Meaning in Life Questionnaire (MLQ; Steger et al., 2006). The MLQ is a 10-item measure designed to assess attitudes towards one's meaning in life. Participants rated items on a Likert-type scale ranging from 1 (Absolutely True) to 7 (Absolutely Untrue). There are two subscales that make up the MLQ. The first subscale measures *Presence of Meaning*, and is composed of five items (e.g., "I understand my life's meaning"). The second subscale measures *Search for Meaning*, and is also composed of five items (e.g., "I am looking for something that makes my life seem meaningful"). Items are reverse coded as necessary and summed to generate total scores for subscales, with higher scores indicating greater presence of meaning or search for meaning. In terms of validity, the Presence of Meaning and Search for Meaning subscales has been positively associated with other well-being measures, and negatively associated with measures of depression (Steger et al., 2006). While no studies have

used the MLQ specifically with an atheist sample, a study of individuals exposed to a traumatic event reported internal consistency reliabilities for Presence of Meaning items as .85 and .87 across two samples. For Search for Meaning items in the same two samples, Cronbach's alpha levels were considerably lower at .53 and .52 (Triplett et al., 2012). Cronbach's alphas for the believer sample in this study were .88 for Presence of Meaning and .85 for Search for Meaning. For the atheist sample, Cronbach's alpha levels were .90 for Presence of Meaning and .93 for Search for Meaning.

**Posttraumatic growth** was measured with the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). The PTGI is a 21-item scale that measures the degree of positive changes after a significant stressful event or crisis. The PTGI uses a Likert-type scale ranging from 0 (e.g., I did not experience this change as a result of my crisis) to 5 (e.g., I experienced this change to a very great degree as a result of my crisis). No items require reverse coding. Results from the total score were used in this analysis (e.g., 0 = *I did not experience a change as a result of the death* to 5 = *I experience this change to a very great degree as a result of the death*). In assessing validity, the PTGI is positively correlated with optimism, religiosity, and all other major areas of personality except for neuroticism (Tedeschi & Calhoun, 1996). Although there is currently no research utilizing the PTGI with an atheist population, the PTGI items yielded a Cronbach's alpha level of .91 with a religious sample, indicating strong reliability (Proffitt, Cann, Calhoun, & Tedeschi, 2007). For the believer sample in this study, Cronbach's alpha was .90. For the atheist sample, the alpha level was .92.

**Complicated grief** was measured with the Inventory of Complicated Grief (ICG; Prigerson et al., 1995). The ICG is a 19-item scale that measures the level of functional impairments experienced by the bereaved that, in this study, is specific to the death of a close

friend or family member. The ICG uses a Likert-type scale that ranges from 0 (never) to 4 (always). Items are summed to generate a total score, with higher scores indicating higher levels of distress (e.g., “I feel myself longing for the person who died”). No items require reverse coding. The ICG is strongly positively correlated with the Beck Depression Inventory, the Texas Revised Inventory of Grief, and the Grief Measurement Scale, indicating the ICG’s validity as a scale for grief and distress (Prigerson et al., 1995). The ICG has not been used on atheist samples, but has been used frequently with bereaved samples, yielding a Cronbach’s alpha of .92 in a study of widows and widowers (Ott, 2003). Alpha levels for this sample were .90 and .94 for the believer and atheist sample, respectively.

**Psychological distress** was measured with the 25-item version of the Hopkins Symptom Checklist (HSCL-25; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). The HSCL-25 includes 10 items assessing symptoms of anxiety (e.g., “trembling”) and 15 items assessing symptoms of depression (e.g., “feeling blue”). A total score is calculated from an average of all 25 items, and the 25-item total score is frequently used as a measure of overall distress in previous studies (e.g., Sandanger et al., 1999; Veijola et al., 2003). A Likert-type scale is used, ranging from 1 (not at all) to 4 (extremely). No items are reverse scored. The HSCL-25 has been used alongside other methods for assessing psychological distress, such as the Structured Clinical Interview for the DSM-III-R, and has been recommended as a screening tool for psychiatric disorders (Veijola et al., 2003). Consistent with other measures, the HSCL-25 has not been used with atheist samples, but has been used to assess levels of psychological distress in bereaved samples, yielding a Cronbach’s alpha of .96 in a study of bereaved parents (Cacciatore, Lacasse, Lietz, & McPherson, 2014). Alpha levels for this sample were .93 and .96 for the believer and atheist sample, respectively.

**Procedure**

Participants were recruited via social media websites (e.g., Facebook, Twitter, LinkedIn, Grief Beyond Belief, Reddit) and snowball sampling techniques. The study was advertised as an examination of how people cope with the loss of a loved one. After clicking on a link that was provided, participants were directed to an online Qualtrics survey, starting with an informed consent and participant's rights page. Participants were required to confirm that they (a) are age 18 years of age or older, (b) live in the U.S., and (c) have experienced the death of a close friend or family member in the past 2 years.

After confirming that they meet all the eligibility requirements and agreeing to participate, they were allowed to continue to the survey. A total of 928 individuals responded to at least one survey item. A total of 555 participants were removed after missing more than 20% of the questionnaire, excluding the demographics section (Parent, 2013). Each measure included one validity check item (e.g., please select "Agree" for this question) to reduce random responding. Another 20 participants were removed after missing more than one validity check item. Participants were also removed if they indicated that the death was not that of a friend or family member, resulting in 16 removed participants. Finally, groups were composed of believers [those indicating a belief in God(s)] and atheists [those indicating that they did not believe in God(s)]. A total of 38 participants indicated that they were unsure about their belief in God, and were not included in this analysis. These data cleaning procedures resulted in a total of 299 participants (117 believers and 182 atheists). An analysis of Little's Missing Completely at Random was nonsignificant ($p$ = .21), indicating that there are no patterns in the missing data (Li, 2013).

# Results

## Demographic Variables

A multivariate analysis of variance (MANOVA) was used to assess differences in demographic variables between the believer and atheist sample. Researchers have noted that men, older individuals, and individuals with higher levels of education typically respond to grief with higher levels of resilience, and the impact of race is uncertain at this point (Bonanno et al., 2007; Bonanno et al., 2008). As a result, the demographic variables of age, education, race, and gender, along with nature of death (i.e., expected or unexpected), and relationship to the deceased (i.e., friend or family) were used as covariates, while belief in God (i.e., yes or no) was used as the dependent variable. All categorical variables were coded as dichotomous variables for the following analyses (e.g., 0 = anticipated death, 1 = unanticipated death; 0 = gender other than woman, 1 = woman, 0 = atheists, 1 = belief in God(s).

Results of the analysis suggested that there were significant differences in demographic variables between the atheist and believer samples $F(6,290) = 16.75$, $p < .001$; Pillai's Trace = .26; partial $\eta^2 = .26$. Analysis of each individual variable indicated that the groups differed in age, $F(1,295) = 44.25$, $p < .001$, partial $\eta^2 = .13$; education $F(1,295) = 11.62$, $p = .001$, partial $\eta^2 = .04$; gender $F(1,295) = 15.83$, $p < .001$, partial $\eta^2 = .05$; the nature of the death, $F(1,295) = 7.82$, $p = .006$, partial $\eta^2 = .03$; and the relationship to the deceased, $F(1,295) = 17.70$, $p < .001$, partial $\eta^2 = .06$. As a result, these variables were included in the first step of a hierarchical regression analysis as control variables. Correlations between demographic variables and variables of interest can be found in table 2.

**Predictors of Posttraumatic Growth**

Results of the hierarchical regression analysis indicated that demographic variables entered in step one contributed significantly to the regression model, $R^2 = .06$, $F[5, 292] = 3.59$, $p = .004$. The demographic variables of gender and relationship to the deceased were significant, in that identification as a woman and experiencing the death of a family member were more positively related to posttraumatic growth. Belief in God (yes or no) was entered in step two, and was significant in explaining more of the variance in posttraumatic growth beyond step one, $\Delta R^2 = .07$, $F[1, 291]$ of change = 24.48, $p < .001$. Contrary to expectations, belief in God(s) was significantly and positively related to posttraumatic growth. The addition of the predictors in step 3 was also significant in explaining more of the variance in posttraumatic growth, $\Delta R^2 = .07$, $F[2,289]$ of change = 12.82, $p < .001$. As expected, higher levels of presence of meaning was significantly and positively related to posttraumatic growth. Contrary to expectations, search for meaning was also significantly and positively related to posttraumatic growth. Interaction effects added in step four were significant in explaining more of the variance in the model, $\Delta R^2 = .023$ $F[2,287]$ of change = 4.75, $p = .009$ (see Table 3.1). Search for meaning was significantly moderated by belief, suggesting that higher levels of search for meaning was positively related to posttraumatic growth for those who believe in God(s) (see Figure 1).

**Predictors of Complicated Grief**

Results of the hierarchical regression analysis indicated that demographic variables entered in step one contributed significantly to the regression model, $R^2 = .26$, $F[5, 292] = 20.12$, $p < .001$. The demographic variables of gender, nature of death, and relationship to the deceased were found to be significant, with women, those experiencing the death of a family member, and unanticipated death being positively related to complicated grief. Belief was entered in step two,

and was significant in explaining more of the variance in complicated grief beyond step one, $\Delta R^2$ = .11, $F$[1, 291] of change = 52.34, $p$ < .001. Unexpectedly, belief in God(s) was significantly and positively related to complicated grief. The addition of the predictors in step three was also significant in explaining more of the variance in complicated grief, $\Delta R^2$ = .06, $F$[2,289] of change = 13.70, $p$ < .001. As expected, presence of meaning was significantly and negatively related to complicated grief. Contrary to expectations, search for meaning was unrelated to complicated grief. Interaction effects added in step four were not significant in explaining more of the variance in the model, $\Delta R^2$ = .01, $F$[2,287] of change = 1.38, $p$ = .25. No interactions were significant (see Table 3.2).

**Predictors of Psychological Distress**

Results of the hierarchical regression analysis indicated that demographic variables entered in step one contributed significantly to the regression model, $R^2$ = .16, $F$[5, 292] = 10.95, $p$ < .001. The demographic variables of gender, nature of death, and relationship to the deceased were found to be significant, with women, those experiencing the death of a family member, and unanticipated death being positively related to psychological distress. Belief was entered in step two, and was significant in explaining more of the variance in psychological distress beyond step one, $\Delta R^2$ = .05, $F$[1, 291] of change = 18.31, $p$ < .001. Unexpectedly, belief in God(s) was significantly and positively related to psychological distress. The addition of the predictors in step 3 was also significant in explaining more of the variance in psychological distress, $\Delta R^2$ = .15, $F$[2,289] of change = 33.16, $p$ < .001. As expected, presence of meaning was significantly and negatively related to psychological distress. Unexpectedly, search for meaning was also significantly and negatively related to psychological distress. Interaction effects added in step

four were not significant in explaining more of the variance in the model, $\Delta R^2 = .01$, $F[2,287]$ of change = 1.12, $p = .33$. No interactions were significant (see Table 3.3).

## Discussion

The aim of this study was to add to the empirical literature on atheists in the U.S. In order to address the lack of research regarding atheism and bereavement, this study examined the relationship between the presence and search for meaning, and posttraumatic growth, complicated grief, and psychological distress. Additionally, the relationship between belief in God(s) and posttraumatic growth, complicated grief, and psychological distress was examined.

The first hypothesis, which assessed the role of meaning across three grief outcomes (posttraumatic growth, complicated grief, psychological distress), was partially supported. As expected, presence of meaning was positively related to posttraumatic growth and negatively related to complicated grief and psychological distress, which is similar to previous research findings (Davis, Nolen-Hoekesma, & Larson, 1998). Search for meaning had mixed results, which is similar to what has been found in previous research as well (Boyraz et al., 2010; Park et al., 2010). Unexpectedly, search for meaning was positively related to posttraumatic growth. Specifically, belief in God(s) moderated the relationship between search for meaning and posttraumatic growth, as higher levels of search for meaning was positively related to posttraumatic growth in believers but not atheists. Previous research found that atheists typically found meaning in life from maintaining a connection with family and friends, and from experiencing and enjoying the natural world (Smith-Stoner, 2007). As a result, atheists who have experienced the death of a close friend or family member might not have any “searching” to do, and might continue to cope by their connections with family, friends, and the natural world. Alternatively, those who believe in God(s) might rely on these beliefs to continue to search for

answers, especially in cases where the loss is unanticipated. Believers might also benefit from enhanced relationships and support from others if they regularly attend church or other places of worship as part of their belief. These social supports may be a primary factor in perceived positive changes after experiencing a loss that atheists might not have.

The second hypothesis regarding associations between belief in God or god(s) (believer or atheist) and outcomes of bereavement was not supported, and was the most surprising for this study. Research on the impact of religion and belief in God or god(s) on bereavement has been mixed in regards to positive outcomes after loss or another potentially traumatic event (Chapple et al., 2011; Pargament et al., 1998; Thompson & Vardaman, 1997) with no reference to those who were not religious or did not believe in God or god(s). The finding that belief in God or god(s) is positively related to posttraumatic growth indicates that there could be helpful aspects of belief when looking for meaning in loss. A primary benefit of belief could be the presence of social supports found by those who attend church or other places of worship. Indeed, previous studies have found that social support was moderately related to posttraumatic growth (Prati & Pietrantoni, 2009). Believers may be more likely than atheists to have built-in networks of social supports to rely on during bereavement, resulting in greater opportunities to experience social aspects of posttraumatic growth (e.g., enhanced relationships with others).

Furthermore, the finding that belief was significantly and positively associated with complicated grief and psychological distress highlights the mixed outcomes for believers during bereavement. One possible explanation for this is that atheists might avoid deleterious outcomes since they would not experience anger at God or feel that their prayers were unanswered in ways that have been shown to be associated with poor outcomes with believers (Chapple et al., 2011; Exline et al., 2011). Ultimately, this study elicits more questions than answers, and future

research should focus on a variety of moderating and mediating variables impacting grief outcomes for atheists.

**Limitations**

There are several limitations that should be considered when interpreting the findings of this study. One is the use of Internet recruitment and social media (e.g., Facebook, blogs, message boards). Although some researchers have noted that online studies are particularly useful in recruiting atheists who might otherwise be hesitant to disclose this identity (Hammer et al., 2012), this sample was restricted to those who had the use of a computer and Internet connection.

A second limitation of this study is that the participants were predominately White women. While this is consistent with much of the extant bereavement literature, these findings cannot be generalized to men or people of color. Racial and gender diversity was not achieved in this study despite targeted efforts of recruitment at online websites geared towards diverse atheists and religious groups. Despite this, participants in the atheist sample did parallel other studies of atheists in the U.S. (e.g., Bainbridge, 2005; Galen, 2009; Kosmin & Keysar, 2008; Zuckerman, 2006) in terms of education, political ideology, and race. Comparing the demographics of atheists in this study to overall atheist demographics in the U.S. suggests that White women were overrepresented in this sample (Pew, 2016). Additionally, results of this study cannot be generalized outside of the U.S.

A third limitation is that some participants were recruited from websites and blogs that are online communities for individuals who have experienced the death of someone they love. While this should not limit the ability to compare grief reactions between atheists and believers, the sample might be skewed more towards individuals who are experiencing higher levels of

grief and distress compared to the norm, as individuals might seek out grief-related support sites if they are struggling with their grief.

Finally, the cross-sectional nature of this study does not allow for causal interpretations between the predictor and outcome variables. That is, it cannot be said that a belief in God or god(s) causes greater levels of posttraumatic growth, complicated grief, or psychological distress, it can only be said that these outcomes are associated with belief in God or god(s). Researchers have noted the benefits of longitudinal studies of grief that include nonbereaved control groups (as well as their limitations of being time consuming and potentially expensive), which could be employed in future studies to identify cause and effect relationships to a greater degree. Furthermore, the exploratory nature of this study did not allow for many possible variables to be included that are likely associated with bereavement outcomes (e.g., social support, other specific demographic variables, behavioral methods of coping with loss, etc.). As a result, much more research is necessary in this area, and results from this study should not be generalized to other groups not represented in this sample.

**Implications for Practice, Research, and Future Directions**

Results of this study offer several insights in regards to practice and future research directions. First, results of this study suggest that meaning is associated with posttraumatic growth, complicated grief, and psychological distress. Clinicians can assess for these beliefs when working with bereaved clients. This study examined a very small subset of the many variables that would impact a client's response to death or loss, and should be utilized in addition to a thorough intake session

Another important implication for clinicians working with bereaved clients is the effect of belief in God or god(s). Many studies have addressed the benefits or mixed findings regarding

belief in God or god(s), religion, or spirituality and bereavement, without the inclusion of atheists and other nonbelievers. One interpretation that could be made from the prior research finding benefits for belief in God or god(s), religion, or spirituality is that if having any of those beliefs are helpful, not have them are unhelpful. This study highlights the nuance in those findings, and positions atheists in the discussion of adaptive and resilient people. Some clinicians are likely already operating with the assumption that a belief in God or god(s) in not necessary for successful coping with death and loss, as studies have indicated low rates of conventional religious beliefs in mental health professionals (Bergin & Jensen, 1990), and this study provides empirical support to these assumptions. Clinicians should also assess how clients that do believe in God or god(s) react to the death and loss. In addition to previously suggested correlates of distressing reactions during bereavement (e.g., anger at God), clinicians should assess how a client's belief system can be helpful or harmful in their response to grief and loss.

While previous studies have suggested that religion and belief in God or god(s) can be helpful for some and mixed for others in terms of grief outcomes (Pargament et al., 1998), this study positions atheists into the discussion of how belief impacts grief. Furthermore, the finding from this study that the atheist sample had lower levels of complicated grief and psychological distress suggests that atheists respond to loss in resilient ways, and that belief is not necessarily a prerequisite for adaptive responses to grief. While not addressed directly, atheists may indeed experience less anxiety and overall distress during bereavement as a result of the lack of worry that they are being punished by God or that their loved ones are in hell, which would correspond with what researchers and popular atheist writers have suggested (Chapple et al., 2011; Christina, 2014; Exline et al., 2011).

In terms of future directions, this study highlights several aspects of bereavement that have not been examined empirically, but the experiences of both atheists and believers warrants much more exploration. One major area that future studies should address is how demographic variables such as race, gender, and geographic location factor in to how one responds to loss. This is particularly true for studies on atheists in the U.S., where most samples are largely composed of White participants (Brewster et al., 2014). The experiences of people of color remain absent from much of the atheist literature, and the role of belief and religious influence on bereavement for these groups may be different than that of a predominantly White sample. For example, the Black church has been found to provide substantial social support and mental health services to Black Americans in the U.S. (Blank, Mahmood, Fox, & Guterbock, 2011), and individuals utilizing these supports might experience different outcomes than what has been reported in the literature with White individuals.

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Table 1 Demographic Information of Believers and Atheists

| Variable | Believer | Atheist |
|---|---|---|
| Age | *M* = 49.24 | *M* = 39.84 |
| | *SD* = 11.52 | *SD* = 12.15 |
| | *Mdn* = 50.50 | *Mdn* = 39.5 |
| Race | | |
| White | 90% | 94% |
| Latina/o or Hispanic | 3% | 2% |
| Asian-American | 2% | 1% |
| Black or African-American | 1% | 0% |
| Native American | 1% | 1% |
| Multiracial | 1% | 1% |
| Race not listed (e.g., “Middle Eastern”) | 1% | 2% |
| Gender | | |
| Woman | 92% | 79% |
| Man | 6% | 20% |
| Gender nonconforming | 1% | 1% |
| Gender not listed (e.g., “genderqueer”) | 0% | 1% |
| Sexual Orientation | | |
| Heterosexual | 91% | 71% |
| Bisexual | 4% | 12% |
| Mostly heterosexual | 2% | 10% |
| Gay/lesbian | 0% | 4% |
| Mostly gay/lesbian | 0% | 1% |
| Sexual orientation not listed (e.g., “pansexual”) | 0% | 3% |
| Education | | |
| Some college | 26% | 28% |
| 4-year college degree | 25% | 18% |
| 2-year degree | 19% | 12% |
| Postgraduate degree | 10% | 21% |
| Some postgraduate education | 6% | 12% |
| High school diploma or less | 2% | 4% |
| Environment | | |
| Suburban | 56% | 58% |
| Rural | 32% | 23% |
| Urban | 11% | 19% |
| Relation to the Deceased | | |
| Family | 88% | 78% |
| Close friend | 3% | 20% |
| Other (e.g., “like a son”) | 9% | 2% |
| Nature of Death | | |
| Unanticipated | 74% | 58% |
| Anticipated | 26% | 42% |

Table 2
*Bivariate Correlations and Descriptive Statistics of Variables of Interest*

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | – | | | | | | | | | | |
| 2. Gender | .05 | – | | | | | | | | | |
| 3. Education | -.08 | .02 | – | | | | | | | | |
| 4. Relationship | .09 | .18** | -.08 | – | | | | | | | |
| 5. Nature of Death | .09 | .00 | -.05 | -.12 | – | | | | | | |
| 6. Belief in God(s) | .36*** | .23*** | -.19** | .24*** | .17** | – | | | | | |
| 7. Presence of Meaning | -.02 | .02 | .14* | .01 | -.15** | -.08 | – | | | | |
| 8. Search for Meaning | .04 | .12* | .07 | .17** | .34 | .37*** | .11 | – | | | |
| 9. Posttraumatic Growth | .04 | .17** | -.07 | .16** | .08 | .33*** | .18** | .31*** | – | | |
| 10. Complicated Grief | .11 | .25*** | -.08 | .17** | .40*** | .48*** | -.30*** | .22*** | .27*** | – | |
| 11. Psychological Distress | .04 | .19** | -.09 | .13* | .32*** | .33*** | -.43*** | .20** | .17*** | .78*** | – |
| Alpha | | | | | | | .89 | .92 | .82 | .81 | .95 |
| Mean | | | | | | | 4.51 | 4.40 | 3.89 | 1.90 | 2.02 |
| Std. Deviation | | | | | | | 1.39 | 1.24 | .50 | .54 | .64 |
| Range | | | | | | | 1-7 | 1-7 | 1-4 | 1-4 | 1-4 |

*Note*. Gender (0 = Other than Woman, 1 = Woman), Relationship (0 = Close Friend, 1 = Family), Nature of Death (0 = Anticipated, 1 = Unanticipated), Belief in God(s) (0 = No, 1 = Yes). * $p < .05$, ** $p < .01$, ***$p < .001$, $N = 299$.

Table 3.1

*Hierarchical Regression Model Predicting Outcomes of Posttraumatic Growth*

| Step and Variable | *B* | *SE B* | β | *t* | $R^2$ | $\Delta R^2$ | *F* | $\Delta F$ | *df* |
|---|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .06 | .06 | 3.59 | 3.59** | 5,292 |
| Age | .00 | .01 | .01 | .09 | | | | | |
| Gender | .41 | .16 | .15 | 2.58** | | | | | |
| Education | -.03 | .04 | -.05 | -.95 | | | | | |
| Friend or Family | .39 | .17 | .14 | 2.33* | | | | | |
| Nature of Death | .18 | .12 | .09 | 1.53 | | | | | |
| Step 2 | | | | | .13 | .07 | 7.31 | 24.48*** | 1,291 |
| Belief in God | -.64 | .13 | -.31 | 4.95*** | | | | | |
| Step 3 | | | | | .18 | .07 | 9.13 | 12.82*** | 2,289 |
| Presence | .14 | .04 | .19 | 3.56*** | | | | | |
| Search | .15 | .05 | .18 | 3.11** | | | | | |
| Step 4 | | | | | .23 | .03 | 8.45 | 4.75** | 2,287 |
| Belief X Presence | .07 | .08 | .21 | 1.03 | | | | | |
| Belief X Search | .38 | .10 | -.70 | -3.05** | | | | | |

*Note*. *$p < .05$, **$p < .01$, ***$p < .001$, $N = 299$.

Table 3.2

*Hierarchical Regression Model Predicting Outcomes of Complicated Grief*

| Step and Variable | *B* | *SE B* | β | *t* | $R^2$ | $\Delta R^2$ | *F* | $\Delta F$ | *df* |
|---|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .26 | .26 | 20.12 | 20.12*** | 5,292 |
| Age | .00 | .00 | .05 | .93 | | | | | |
| Gender | .53 | .12 | .22 | 4.27*** | | | | | |
| Education | -.27 | .03 | -.05 | -.92 | | | | | |
| Friend or Family | .44 | .13 | .18 | 3.35** | | | | | |
| Nature of Death | .74 | .09 | .41 | 7.99*** | | | | | |
| Step 2 | | | | | .37 | .11 | 28.44 | 52.34*** | 1,291 |
| Belief in God | -.70 | .10 | -.39 | 7.23*** | | | | | |
| Step 3 | | | | | .41 | .04 | 26.62 | 13.70*** | 2,289 |
| Presence | -.15 | .03 | -.24 | -5.21*** | | | | | |
| Search | .04 | .04 | .06 | 1.19 | | | | | |
| Step 4 | | | | | .43 | .02 | 21.62 | 1.38 | 2,287 |
| Belief X Presence | .06 | .06 | .17 | .95 | | | | | |
| Belief X Search | .09 | .08 | .23 | 1.12 | | | | | |

*Note*. *$p < .05$, **$p < .01$, ***$p < .001$, $N = 299$.

Table 3.3

*Hierarchical Regression Model Predicting Outcomes of Psychological Distress*

| Step and Variable | *B* | *SE B* | β | *t* | $R^2$ | $\Delta R^2$ | *F* | $\Delta F$ | *df* |
|---|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .16 | .16 | 10.95 | 10.95*** | 5,292 |
| Age | -.00 | .00 | -.01 | -.21 | | | | | |
| Gender | .29 | .10 | .16 | 2.95*** | | | | | |
| Education | -.03 | .02 | -.07 | -1.30 | | | | | |
| Friend or Family | .26 | .10 | .14 | 2.50* | | | | | |
| Nature of Death | .44 | .07 | .33 | 6.03*** | | | | | |
| Step 2 | | | | | .21 | .05 | 12.72 | 18.31*** | 1,291 |
| Belief in God | -.34 | .08 | -.26 | 4.28*** | | | | | |
| Step 3 | | | | | .36 | .15 | 19.94 | 33.16*** | 2,289 |
| Presence | -.18 | .02 | -.39 | -8.01*** | | | | | |
| Search | .07 | .03 | .13 | 2.49* | | | | | |
| Step 4 | | | | | .36 | .00 | 16.19 | 1.12 | 2,287 |
| Belief X Presence | .00 | .05 | .00 | .02 | | | | | |
| Belief X Search | .09 | .06 | .31 | 1.47 | | | | | |

*Note*. *$p < .05$, **$p < .01$, ***$p < .001$, $N = 299$.

Figure 1 Belief X Search for Meaning Interaction for Posttraumatic Growth