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Structured Poetic Expressions for Emerging Adults Experiencing Bereavement

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STRUCTURED POETIC EXPRESSIONS FOR EMERGING ADULTS EXPERIENCING

BEREAVEMENT

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

by
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Bachelor of Science & Bachelor of Arts, Texas Christian University, May 2016

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Acknowledgement

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Abstract

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Major Director: Sandra E. Gramling, Ph.D.

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Previous research has produced heterogeneous findings regarding the effectiveness of expressive writing in reducing grief symptomatology among the bereaved (e.g., Collison, 2016; Lichtenthal & Cruess, 2010; Stroebe et al., 2006). The purpose of this study was to address these mixed results by exploring the effects and linguistic characteristics of a novel writing task (i.e., the acrostic poem) among bereaved undergraduates, using an innovative data analysis technique (i.e., Linguistic Inquiry and Word Count). The current study recruited 68 undergraduates who had lost a loved one. Participants were randomly assigned to write over multiple days using the acrostic poem, emotional disclosure prompt, or a control writing prompt. Consistent with previous research, the results indicated no significant differences in grief between conditions over time; however, there were key group differences in linguistic content. Further, while all participants endorsed improvements in grief one week following the intervention, the participants returned to baseline one month later. Patterns of writing, coping, religiosity/ spirituality, physical symptoms, and grief in bereaved emerging adults were also assessed. The results suggest that while expressive writing might not be an effective intervention for the

bereaved, the content of writing might provide clinicians some insight on psychological and spiritual processes at play in bereaved emerging adults.

Bereavement is a ubiquitous condition and an important area of research. Grief counselors today frequently recommend expressive writing interventions to the bereaved to facilitate healing, yet the empirical evidence regarding the effectiveness of these writing interventions is limited (e.g., Kalantari et al., 2012; Stroebe et al., 2002). Structured poetic expressions might be one avenue for processing loss; namely, the structured nature of the task may facilitate meaning-making and decrease rumination. The present study will analyze the content and the short-term effects of a specific structured writing task, namely, the acrostic poem.

Writing as a Means for Meaning-making

Writing can be very therapeutic. For years, people have used writing as a method for processing life events and decreasing stress. For the bereaved, writing is an important modality for processing loss. In fact, grief counselors today commonly prescribe various writing assignments to their bereaved clients. Robert Neimeyer[1], a prominent grief psychologist, discusses the uses and limitations of a myriad of creative writing techniques for grief counseling. His review includes epitaph writing, daily diaries, dream journaling, poetry, memoir creation, and narrative retelling to name a few types of bereavement writing techniques that have been used in grief counseling (Neimeyer, 1999; Neimeyer, 2002; Neimeyer, 2012).

Perhaps these written approaches are popular because they promote a constructivist approach to ameliorating grief symptoms—that is, a way to reconstruct meaning after experiencing a change in reality following a traumatic event (Neimeyer, Burke, Mackay, & van Dyke Stringer, 2010). Constructivist thought postulates that all people crave meaning and develop self-narratives that serve as an "overarching cognitive-affective-behavioral structure" (Neimeyer, 2004). Confronting death and loss may shake the foundation of the self-narrative, causing one distress if

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[1]   Robert Neimeyer has significantly contributed to the field of bereavement in both his research and service. In terms of research, Neimeyer has published a myriad of journal articles on the topic bereavement and has authored a few notably books utilized frequently in grief counseling, such as *Techniques of Grief Therapy*. Neimeyer has served as both the editor for *Death Studies*, a high impact journal in the field, and as the president of the Association of Death Education and Counseling (ADEC). He is currently a professor at the University of Memphis and serves as the director for the Portland Institute for Loss and Transition, a clinical center that trains clinicians in grief therapy.

the incongruence between the reality of loss and one's self-narrative is not reconciled. This complex phenomenon is similar to the theory of *meaning-making*, or the ongoing process of making sense of the world around you (Park, 2010). Meaning-making involves confronting life's crises directly and answering the "hard" questions (e.g. *why must this person die?*). Further, as a form of cognitive appraisal, meaning-making requires one to address discrepancies between situational events (e.g. losing a loved one) and global beliefs (e.g., the belief that the world is a safe place; Janoff-Bulman, 1992; Park, 2010; Park & Folkman, 1997). In this way, meaning-making is thought to be critical for healing: research has consistently shown that when bereaved individuals have achieved "meaning-made," or the outcome of meaning-making, these individuals display better coping skills and demonstrate improved psychological, physical, and relational adjustment (Davis & Nolen-Hoeksema, 2001; Holland, Currier, & Neimeyer, 2006; Keesee, Currier, & Neimeyer, 2008). Meaning-made may require adapted global beliefs, changed identity, or a reappraisal of the meaning of the stressful event. Conversely, not resolving the discrepancy or shattered self-narrative might prompt the bereaved to question if the world is a safe, fair, or kind place—especially when the loss is unexpected or tragic (Park, 2010; Park & Folkman, 1997). To reduce distress, the bereaved must either assimilate the loss into their current schema or reconstruct their interpretation of the loss in a novel way that reconciles global beliefs about the world and the self. The potential for writing tasks to facilitate meaning reconstruction makes expressive writing an attractive technique in grief counseling. Yet, despite the ubiquity and potential of expressive writing techniques, little research has sought to analyze which techniques are most beneficial among the bereaved and why (e.g., how might they facilitate meaning-making?). Thus, future research might assess *empirically-based* writing interventions so grief counselors may be confident in their recommendations.

Pennebaker Paradigm

One of the few empirically-based writing tasks is the Pennebaker Paradigm (e.g., Pennebaker, 1993; Pennebaker, 1997; Pennebaker & Beall, 1986), which is an emotional disclosure

task. In this well-researched methodology, participants are asked to write freely for 15-30 minutes over the course of multiple days about their "thoughts and feelings" regarding their "deepest, most troubling concern." The only requirement is that the participants write continuously. In fact, the instructions go on encourage participants to include information about their "relationships with others, including parents, lovers, friends, or relatives," in one's "past, present, or future" as these ideas emerge. The writing is confidential; participants are provided little further instruction and no feedback. Participants are encouraged to not worry about grammatical or spelling errors and to simply write continuously for the allotted time. Pennebaker's (1997) seminal design included a control condition, where participants were asked to write about more superficial topics, such as "how they use their time." This type of active control group is important for establishing that the emotional disclosure task is responsible for any observed changes and not merely the act of writing itself.

This method has reliably shown to increase well-being in a myriad of populations when compared to the control condition as evidenced by several meta-analyses. For example, a meta-analysis by Frisina, Borod, & Lepore (2004) revealed this writing method improved both psychological and physical well-being in low (e.g., asthma) and high (e.g., prostate cancer) mortality populations. Healthy individuals also displayed gains in overall functioning from this writing task. Further, a larger meta-analysis, which analyzed 146 randomized studies of experimental written disclosure (i.e., the Pennebaker Paradigm), similarly found a positive and significant effect (Frattaroli, 2006). The practice of emotional disclosure was shown to be beneficial in populations suffering from a variety of issues—from physical health problems to psychological trauma. The practice of disclosing intimate thoughts and feelings related to trauma seems to have a significant and positive psychological effect.

However, there was one major exception identified in the meta-analysis that caveats these pervasive positive findings: studies that analyzed populations that have loss a loved one (i.e., the bereaved) generally failed to observe positive effects in the emotional disclosure condition relative

to the neutral writing (control) condition, such that both the emotional disclosure and control condition show improvements at the same rate over time. Frattaroli (2006) hypothesize several reasons for these null effects, such as measurement problems or moderating variables. Additional studies in bereavement have, likewise, discovered this writing intervention to have little effect on improving grief symptomology in the bereaved when compared to the control writing condition, regardless of factors such as the participant age or the expectancy of the loss (Collison, 2016; Range, Kovac, & Marion, 2000; Stroebe et al., 2002; Stroebe, Schut, & Stroebe, 2006). A study by Collison (2016) compared the emotional disclosure task to control in a sample that self-selected to write about grief as opposed to another traumatic stressor (e.g., rape, divorce, legal problems). Again, all participants displayed improvements in grief symptoms and psychological distress over time regardless of the condition to which they were assigned. Some researchers have postulated that these null effects are due to poor outcome measures of grief (Range et al., 2000), yet others believe that the Pennebaker Paradigm's lack of instructions encourages rumination and thus increases depressive symptoms in the bereaved (Stroebe & Stroebe, 1991; Stroebe et al., 2002). In this hypothesis, rumination, or the passive replaying of events, is an avoidant strategy compared to actual "grief work," where participants actively confront and accept their loss, or an active strategy. Whatever the reason, the failure of the Pennebaker Paradigm to benefit the bereaved despite the large effect and promise of this empirically-based writing technique in other, countless populations is troublesome. Further, the overall lack of evidence to support the Pennebaker Paradigm in bereaved populations prompted Stroebe to conclude that, written emotional disclosure "does not seem to accelerate the grieving process," (Stroebe et al., 2002, p. 177). Moreover, the conclusions of a Mogk and colleagues (2006) meta-analysis boldly stated:

> The results of our review do not allow one to recommend the procedure of expressive writing to individuals having experienced stressful or traumatic experiences to avert negative consequences on their health. The findings, documented in these reviews, either call into question the intervention formats inducing disclosure used so far, or suggest a

revision of the theory of emotional inhibition and disclosure. Books titled "Opening Up: The Power of Healing" and "Writing to Heal: A Guided Journal for Recovering from Trauma and Emotional Upheaval" are qualified to misdirect the public since they induce expectations and hopes not likely to be met (Mogk, 2006, p. 7).

Despite these stark words, a small aggregate of studies has identified some positive changes among the bereaved when using an adapted version of the Pennebaker's Paradigm (e.g., Kalantari et al., 2012; Lichtenthal & Cruess, 2010). For example, Kalantari et al., (2012) found that written emotional disclosure improved grief symptoms in a sample of child and adolescent Afghani refugees who had experienced a traumatic loss. The study used an adapted version of the "Writing for Recovery" intervention developed by the Children and War Foundation (Smith, Dyregrov, & Yule, 1999), which asks participants to write about a variety of topics during six sessions over the course of three consecutive days. The first topic was fairly unstructured in nature: participants were asked to simply write "about their innermost feelings and thoughts about their traumatic event/loss" for 15 minutes (i.e., reminiscent of the Pennebaker Paradigm). Other prompts, however, featured a more directed prompt, such that participants were asked to give "advice" to someone in their current condition. The final prompt, required participants to make sense of the loss by asking them "to imagine that 10 years has passed and from this time point" and "to look back and think what they have learned from their experience." The results revealed that those randomly assigned to the writing intervention group showed greater improvements in their traumatic grief symptoms after completing the writing program as compared to the control condition. The control condition indicated slight improvements, but these gains were not statistically significant. Perhaps the positive results of this writing intervention can be attributed to the increasingly directed nature of the prompts. These adapted prompts might have encouraged the participants to make meaning of their loss over time, unlike the rather undirected Pennebaker Paradigm. Further research is warranted to test this hypothesis.

A second study of bereaved American undergraduates by Lichtenthal and Cruess (2010) found improvements in grief, stress, and depressive symptoms when the original Pennebaker Paradigm instructions were changed to emphasize *sense-making* and *benefit-finding*, which are two constructs under the larger umbrella of meaning-making. The sense-making prompt asked participants to "answer [their] own questions about how and why this loss occurred" and "how the loss fits into [their] beliefs about why things happen" (e.g., *this death was all a part of God's plan*); the benefit-finding prompt asked participants to "focus on any positive life changes that have come about as a result of [their] loss experience" (e.g., *I've become closer to my family*). These two novel conditions were directly compared to the typical emotional disclosure (i.e., Pennebaker Paradigm) and control writing conditions. Results revealed that compared to the control, emotional disclosure, and sense-making writing conditions, the benefit-finding condition showed the most pronounced reductions in grief, depressive, and PTSD symptoms, three months post-intervention. Both the benefit-finding and sense-making prompts exemplified greater reductions in symptoms than the emotional disclosure and control conditions. Further, the participants perceived these two directed writing tasks to be more beneficial and personal. Perhaps it was the explicit, constructivist prompt that led to these positive outcomes, in that identifying benefit is one avenue to make sense of a loss (Holland et al., 2006; Park, 2010). The directed prompt might have also safeguarded participants from simply venting or ruminating about their loss, which does not promote healing during the grief process (Stroebe & Stroebe, 1991). One should note, however, that even the positive results of the Lichtenthal and Cruess (2010) study produced very small effect sizes. Thus, even when the Pennebaker Paradigm instructions are modified, it is still not a strong method for ameliorating grief symptomology. Taken together, these heterogeneous findings regarding the Pennebaker Paradigm and the use of written emotional disclosure suggest that it is not a reliable writing method for improving grief symptoms. Thus, an empirical analysis (rather than the descriptive approach of Neimeyer) of alternate writing tasks with more specific writing prompts, outside the realm of the Pennebaker Paradigm, may advance the field.

The Acrostic Poem

Neimeyer (2012) provides a plethora of writing prompts drawn from the clinical practice of grief therapists (e.g., poetry tasks, narrative construction.) in his book *Techniques of Grief Therapy: Creative Practices for Counseling the Bereaved*. While this anthology is filled with myriad writing prompts said to be effective for treating the bereaved, the efficacy of these interventions is only based on anecdotal experience, meaning that these writing interventions have not been subjected to empirical analysis. Because there is little evidence to suggest that the traditional Pennebaker Paradigm is an effective writing intervention for the bereaved, the current study seeks to analyze a new writing task; specifically, the current study will one of the writing prompts suggested to be effective from anecdotal experience: the acrostic poem. The acrostic poem is a writing task adapted from The Center for Journal Therapy, which provides a variety of expressive writing prompts (Adams, 2009). This task entails participants writing a 26-line poem about their loss, with each line of the poem beginning with a successive letter of the alphabet, continuing in ascending order. The prompt of the acrostic poem encourages participants to be creative and to not worry about being a natural or an experienced poet. In this way, the acrostic poem is an approachable, engaging writing task appropriate for many types of people (see Appendix H for a sample acrostic poem).

While the acrostic poem has not been empirically tested among the bereaved to this date, there is evidence to suggest this is a writing tool worth exploring. First, grief counselors in palliative care settings have found the general use of poetry to be therapeutic in expressing deep concerns and facilitating healing in those who have experienced loss (Robinson, 2004). Further, poetry writing may be more engaging than journaling freely over multiple days. The acrostic poem also has many beneficial characteristics unique to its structure. It offers an explicit beginning (letter A) and ending (letter Z) to the task, which may encourage participants to gradually come to their own conclusions; this is different from the Pennebaker Paradigm, where participants simply write continuously for 15 minutes. With no time constraints, the acrostic poem is more flexible, while also being time and cost effective. Nevertheless, participants report that the acrostic poem only

takes about 15-20 minutes to complete (Gramling & Lord, 2011). Therefore, the acrostic poem would be a feasible method to use in clinical settings.

Further, preliminary qualitative analysis of the acrostic poem in a sample of bereaved undergraduates reveals promise (Gramling & Lord, 2011). This study asked undergraduates to complete an acrostic poem in the context of a "coping with loss and trauma" unit in a stress management course. The participants later completed a questionnaire with 19 Likert-style and open-ended questions that assessed the writing experience. It is important to note that grief and bereavement is a prevalent problem in this population. According to Balk, Walker, & Baker (2010), approximately 40% of American college students have lost a close loved one in the last two years, and 25% have lost a loved one in the last year (Balk, 2001). Thus, bereavement in emerging adults has been deemed the "silent epidemic" on college campuses (Neimeyer, Laurie, Mehta, Hardison, & Currier, 2008).

The results of this preliminary study using the acrostic poem are encouraging in terms of the acrostic poem's likeability and effect. Participants who completed the acrostic poem found it to be helpful, particularly engaging, and beneficial in remembering the "good times" (Gramling & Lord, 2011). Over three-quarters of the participants found that the exercise evoked strong emotions, yet only 9% said the task evoked negative memories. Perhaps the most important finding of this study was that over 70% of participants said this task helped them to gain a better understanding and make meaning of the loss. These results suggest that the acrostic poem might be a beneficial vehicle for facilitating the meaning-making process. Moreover, the acrostic poem fits the needs and interests of the population as 68% of participants reported they were likely to use this exercise again. Nevertheless, this preliminary study lacks sophisticated analysis of the content of the acrostic poems to fully understand the process by which participants may be creating meaning from loss. Additionally, the study lacked a control writing condition.

Linguistic Inquiry and Word Count (LIWC)

Linguistic Inquiry and Word Count (LIWC; Pennebaker, Mayne, & Francis, 1997) is a text analysis program that might help elucidate the cognitive and psychological processes in bereavement writing generally and—in the context of the present study—the acrostic poem specifically. LIWC is a computer-based program used in numerous studies. Pennebaker originally developed this program in 1993 in order to systematically determine the themes and content of the writing (Pennebaker, 1993); he has since used this program to analyze the content of his emotional disclosure prompt (e.g., Rude, Gortner, & Pennebaker, 2004; VandeCreek, Janus, Pennebaker, & Binau, 2002). LIWC is also featured in cutting-edge research that analyzes the content of matters such as political debates (Bond et al., 2017), social media posts (Cheng, Li, Kwok, Zhu, & Yip, 2017), medical consultations (Gemmiti, Hamed, Wildhaber, Pharisa, & Klumb, 2017), psychotherapy (McCarthy, Caputi, & Grenyer, 2017), and jury deliberations (Stevenson, Lytle, Baumholser, & McCracken, 2017).

LIWC analyzes text files by assigning words to broad categories in terms of both their content and function. Content words reflect wide-ranging ideas such as health, death, family, or work; these words serve as the semantics of the sentence. Function words, on the other hand, reflect the role of the word in the sentence (e.g., personal pronoun, adverb, article, etc.). The program-defined dictionary categorizes words into five main classifications: linguistic processes, psychological processes, personal concerns, and spoken categories (for a more in-depth explanation, see the Pennebaker, Boyd, Jordan, & Blackburn 2015 LIWC manual). The program was initially developed to identify the psychological processes (i.e., affective, cognitive, and perceptive words) behind writing (Tausczik & Pennebaker, 2010) and therefore may be a useful addition in studying meaning-making and the writing process among the bereaved.

While the process of meaning-making is often important for those who have experienced loss, there is a paucity of research that has utilized LIWC for analyzing this process. Only a handful of studies have studied LIWC predictors of meaning-making. Some have suggested that the use of cognitive processing words and the text's overall narrative coherence might indicate one's

engagement with making meaning (Pennebaker & Francis, 1996; Sloan & Marx, 2004). Baumeister and Newman (1994) similarly theorize that meaning-making is often achieved through writing *coherent*, personal narratives. Boals and colleagues (2011) advance this line of thinking with a more nuanced approach. In a sample of 64 undergraduates who wrote about a negative experience, Boals et al. (2011) found that the use of cognitive processing words reflected one's ongoing *process* of meaning-making, as measured by the positive reframing subscale of the Brief COPE Scale. This proxy of the meaning-making process (i.e. Brief COPE positive reframing subscale) is used in other seminal studies of meaning-making (Park, Edmondson, Fenster, & Blank, 2008). In a follow up study of 177 undergraduates, Boals et al (2011) analyzed how linguistic qualities are related to *outcomes* of the meaning-making process, or meaning-made (e.g., posttraumatic growth; Park et al., 2008). The results revealed that while cognitive processing words were not related to posttraumatic growth, the overall narrative coherence was indicative of meaning-made. In this way, the ability to tell a coherent story of one's loss comes after one has already searched for meaning. It should be noted that this study also found that the type of writing paradigm influenced the utility of cognitive processing words; those who were assigned to an expressive writing task as opposed to a simple description task engaged in the process of meaning-making more frequently as assessed by the ratings of independent coders.

Moreover, only three studies are known to have utilized LIWC in bereaved populations (Baddeley & Singer, 2008; Collison, 2016, Pennebaker, Mayne, & Francis, 1997). Pennebaker et al. (1997) analyzed cognitive and affectual processing using LIWC-defined categories in a sample of bereaved adult males who had lost a partner to AIDS. The study recorded and transcribed two interviews (i.e., two week and four weeks following the loss) that asked participants open-ended questions about their feelings, thoughts, coping strategies, and challenges surrounding the loss. Analyses using LIWC focused on insight-related words, causal words, positive and negative emotion words, death-related words, past tense words, and unique words. From the first to second interview, participants used more insight-related, positive affect, and unique words. They decreased

in their number of death-related words and past tense verbs. Further, Pennebaker and colleagues (1997) found that these LIWC-defined categories were predictive of psychological functioning and physical health among college students writing in the classic Pennebaker Paradigm, suggesting that this change in linguistics might be related to physical and psychological health outcomes.

In a study by Baddeley and Singer (2008), LIWC was used to understand how personality traits influence bereaved writing. The study asked each participant to write a "bereavement narrative," where participants had unlimited space to write "the story" of their loss "as they might tell it to someone who wants to get to know [them] better.'' The study used these narratives to analyze the relationship between personality and LIWC-defined categories, such as verb tense, pronoun usage, affect words, cognitive processing words (i.e., insight and causal words), and death-related words. The results revealed several individual differences in grief writing. For example, bereaved individuals high in openness and conscientiousness used more death-related words, whereas those high in neuroticism used less death-related words. The traits of agreeableness and conscientiousness were associated with the use of fewer insight words. Finally, those high in conscientiousness wrote the shortest bereavement narratives, using significantly more present tense. The study also identified general patterns across all writing samples. Baddeley and Singer (2008) found that the bereavement narratives exhibited more negative emotion words than positive emotion words. Overall, the findings of this study highlight the ways in which personality can influence writing. Though all participants had lost a loved one, the way in which they wrote about the loss varied substantially across personality characteristics. Nevertheless, this study also points to trends in bereaved writing across all participants, such as the fact that the bereaved participants, on average, wrote with more negative than positive emotion. A further exploration on both the individual and group characteristics that might impact bereaved writing is warranted.

Lastly, in a study testing adapted instructions of the classic Pennebaker Paradigm, Collison (2016) used LIWC to compare an emotional disclosure writing prompt to a controlled writing condition in a sample of emerging adults. The results of this study revealed that, not surprisingly,

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the bereaved used more death-related words compared to other trauma populations. When analyzing the differences between the emotional disclosure condition and the control condition, the emotional disclosure condition revealed an overall greater use of casual and insight words (i.e., cognitive processing words); however, this difference was not related to a change in physical or psychological symptoms as all conditions improved over time on these measures. Again, these null findings might be due to the fact that the Pennebaker paradigm has repeatedly not been shown to be effective for the bereaved (e.g., Stroebe et al., 2002). More research is needed to elucidate the psychological processes involved in writing for this unique population in order to understand why certain writing tasks are effective or ineffective.

Together, these three studies point to unique insights that might be gleaned in using a computer-based text analysis program (e.g., LIWC) to analyze writing samples of the bereaved. The three studies highlight that linguistic content might connect to grief symptomatology, depend on personality characteristics, and vary by writing prompt. Overall, the extant use of LIWC in bereaved writing is very limited with mixed findings. In particular, the field's understanding of the psychological processes—including meaning-making— involved in writing in the bereaved is an unmined line of research. Thus, further research on these processes in the bereaved using LIWC is warranted.

The Current Study

Thus, the present study seeks to address these paucities in the current literature by examining the distinctive properties of the acrostic poem among bereaved young adults in terms of both outcome and process. The unmined data from a previous study (Collison, Gramling, and Lord, 2013) comparing the acrostic poem to Pennebaker's emotional disclosure prompts (i.e., emotional disclosure and control) in bereaved undergraduates will be examined. Previously, Collison et al. (2013) found those who wrote using the acrostic poem reported more growth over time compared to the Pennebaker prompts.

With this, the current study has three exploratory aims. First, the purpose of this study is to 1) compare the short-term impact of the acrostic poem to that of the traditional Pennebaker Paradigm conditions (i.e., written emotional disclosure and control writing) on grief using the Hogan Grief Reaction Checklist. Next, the current study seeks to 2) understand and compare the linguistic content of the three writing prompts in terms of the use of meaning-making words (i.e., cognitive processing words), affective words, death and religious-related words, time oriented words, and writing style. Finally, the current study seeks to 3) conduct an exploratory analysis of the characteristics associated with bereavement and writing in an undergraduate sample using measures of spiritual well-being, image of god, coping, and loss characteristics. This aim is important as little is known about these measures in undergraduate bereaved samples. Further, the results will provide more information on the sample's psychological and spiritual functioning.

Methods

Participants

Participants for this study were a sample of bereaved undergraduates attending a public university ($N = 68$). Participants were recruited using SONA, an online research system used to recruit undergraduate participants who complete studies for course credit. This study was IRB approved. The inclusion requirements of this study were that the participant was at least 18 years of age and had lost a loved one. Participants were mostly female (75.0%) and not in a relationship (83.8%). The mean age of the sample was 19.64 years ($SD = 3.68$). The majority of the participants lost a loved one due to illness (61.8%), but others lost a loved one due to an accident (22.1%), suicide (13.2%), or homicide (1.5%). The majority also indicated that the loss was "expected" or "very expected" (57.3%). Further at the time of the study, 48.5% of participants indicated the loss had occurred within the previous 12 months, with 15.4 as the average number of months since the loss (range: less than a month – 96 months). See Table 1 for more information on the participant loss characteristics.

Table 1
Loss characteristics (N = 68)

Variable	N	Percentage (%)
Circumstances of Loss		
Illness	42	61.8
Other	25	36.8
Expectedness of Loss		
Very Expected	23	38.2
Expected	13	19.1
Unexpected	22	32.4
Very Unexpected	6	8.8
Time Passed		
One Year or Less	33	48.5
Over a Year	34	50.0

Procedure

The data for the current study is derived from a study by Collison and colleagues (2013). Data for this study were collected at five time points: daily for three consecutive days (Day 1, Day 2, Day 3), one week follow-up (Time 4), and one month follow-up (Time 5). On Days 1-3, the participants completed a writing task. Simple randomization instead of block randomization was used to assign participants to conditions resulting in unequal *n*'s across groups.

Participants first completed a consent form and enrolled in the study; at this point, each participant was randomly assigned to one of three of the writing conditions and received one of three corresponding links to complete the rest of the study. The conditions were as follows: the emotional disclosure writing condition (*n* = 29), the acrostic poem writing condition (*n* = 16), and a control writing condition (*n* = 23). Participants then completed demographic questions about their sex, age, relationship status, and other variables concerning the nature of their loss on Day 1. Next, participants completed an array of questionnaires about their grief symptoms, physical symptoms, coping strategies, spiritual well-being, and perceptions of god (pre-intervention, Day 1). After completing these initial questionnaires, the participants wrote about their loss on Days 1-3 using the emotional disclosure prompt, the acrostic poem, or the control writing prompt (See Appendix H). All participants used a word processor and were given a maximum of 30 minutes to complete each writing task. Prior to the writing task on Days 1-3, the participants completed a single questionnaire

on their current affective state (i.e., PANAS). The participants completed the same battery of questionnaires (e.g., grief symptoms, coping, etc.) both a week (Time 4) and a month (Time 5) following Day 1 (Time 1) of the study. For a detailed representation of this procedure, see Appendix I.

Finally, undergraduate research assistants "cleaned" the content of each text before the text was examined using Linguistic Inquiry and Word Count (LIWC). This process of data cleaning included correcting misspelled and informal, abbreviated (e.g., "lol") words to correctly spelled, expanded words (e.g., laugh out loud). Similarly, words such as "xcellent" were changed to "excellent" to ensure that LIWC could accurately examine the text. Grammatical mistakes and punctuation errors were left untouched.

Writing instructions. Participants were randomly assigned to write about their loss using an emotional disclosure prompt (Pennebaker, 1997; $n = 29$), the acrostic poem (adapted from Adams, 2009; $n = 16$), or a control writing prompt ($n = 23$). The emotional disclosure prompt asked participants to write continuously about their loss for no more than 30 minutes and to focus on their "thoughts" and "emotions" surrounding the loss (see Appendix G for full instructions for all three writing condition). The acrostic poem condition asked participants to write a stanza of "poetry" for each letter of the alphabet (see Appendix H for example). Participants using this task were encouraged to use their creativity for challenging letters such as "X" (e.g., participants could write *Xcellent* instead of *excellent*). Lastly, the control writing prompt asked participants to write about what they usually do on a normal day without using any emotion.

Measures

Text Analysis. The content of each text was assessed using Pennebaker, Booth, & Francis's (2015) Linguistic Inquiry and Word Count (LIWC15) program. LIWC is a valid and reliable text analysis program commonly used in expressive writing research (e.g., Collison, 2016, Margola et al., 2010, Pennebaker et al., 1997). LIWC assigns words a specific linguistic category, as defined by the LIWC manual (see Pennebaker et al.'s 2015 for a full description) and reports the

frequency of each category as a percentage of the total words used. The current study analyzed the use of cognitive processing words (e.g., *because*, *think*) as basis for the process of meaning-making as theorized by to Boals et al., (2011). Specifically, the LIWC defined category of cognitive processing is made up of insight (*think*, *know*), causation (*because*, *effect*), discrepancy (*should*, *would*), tentative (*maybe*, *perhaps*), certainty (*always*, *never*), and differentiation (*but*, *else*) related words.

In addition, this study examined affective words (*joy*, *worthlessness*), death-related words (*coffin*, *bury*), religious words (*church*, *pray*), and time oriented words (i.e., past, present, and future). The current study will also consider a recently added LIWC category—summary variables, which reflect one's overall writing style. Specifically, this study will analyze analytical thinking (i.e., "formal, logical, hierarchical thinking") and emotional tone (where higher scores reflect an upbeat style and lower scores reflect greater sadness). These summary variables have not been analyzed in the bereaved. For these two categories, LIWC provides the percentiles "based on a large corpora of texts" for each participant. More information about LIWC can be found in the 2015 Operator's Manual (Pennebaker et al., 2015).

Demographics. Participants completed demographic questions about their gender, age, relationship status, the circumstance of their loss, expectedness of their loss, and amount of time that has passed since their loss (see Appendix A).

Grief. The participants' grief reactions were assessed using the Hogan Grief Reaction Checklist (HGRC; Hogan, Greenfield, & Schmidt, 2001). This 61-item scale assesses six dimensions of grief (i.e., despair, panic, blame/anger, detachment, disorganization, and personal growth), producing six scores in total. The measure is sensitive to changes in affect, and thus appropriate to use for repeated measures (Hogan et al., 2001). The current study created a separate score for five of the six factors (i.e., despair, panic, blame/anger, detachment, and disorganization), as these factors have been combined in previous research to reflect one's *negative* grief reactions (Gamino, Sewell, Easterling, 2000). Sample items include "I feel hopeless" and "I have difficulty

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accepting the permanence of death." Participants indicated for each item how well it describes them using a 5-point Likert scale (1 = *does not describe me at all*, 5 = *describes me very well*). Each of the 49 items that assess negative grief reactions were summed together, where higher scores indicate a greater presentation of negative grief reactions. The remaining 12 items were summed to create a personal growth score. Internal consistency coefficients for each factor range from .79-.90 (Hogan et al., 2001). In the scale's development, Hogan and colleagues (2001) reported the following means and standard deviations for each subscale in a sample of adults ($N = 587$) who had lost an immediate family member: Despair ($M = 32.07$, $SD = 16.63$), Panic ($M = 25.43$, $SD = 19.36$), Blame/ Anger ($M = 12.54$, $SD = 9.88$), Detachment ($M = 13.58$, $SD = 10.19$), Disorganization ($M = 13.60$, $SD = 9.00$), and Personal Growth ($M = 25.22$, $SD = 15.25$).

Coping Strategies. To examine how frequently participants engaged in a specific coping strategy, this study utilized the Brief Cope questionnaire, which is an abbreviated version of the COPE inventory (Carver, 1997). This 28-item scale features 14 unique coping styles (e.g., venting, denial, planning, etc.), where each factor corresponds to two items on the questionnaire. The Brief Cope uses a four-point Likert scale (0 = *I haven't been doing this at all*, 4 = *I have been doing this a lot*), and higher scores indicate a greater use of a particular coping style. Sample items include "'I've been getting emotional support from others," and "I've been learning to live with it." Though each factor only has two items, internal reliability estimates all exceeded .50 (Carver, 1997), which is acceptable according to Nunnally (1978). Further, recent research in caregivers of people with dementia has demonstrated much higher internal consistency estimates (e.g., $\alpha = .72 - .84$) and found that this instrument was sensitive to change after retesting a year later (Cooper, Katona, & Livingston, 2008).

Spiritual Well-Being. To assess the nature and quality of participants' spiritual life, the current study used Paloutzian and Ellison's (1982) Spiritual Well-Being Scale (SWBS). This 20-item measure uses a six-point Likert Scale (0 = *strongly agree*, 5 = *strongly disagree*) and asks participants to agree or disagree with statements such as "I believe that God is concerned about my

problems," and "life doesn't have much meaning." This scale produces three scores: a *religious* well-being score, which assesses one's relationship with a higher power, an *existential* well-being score, which measures the degree to which one believes his or her life has inherent meaning, and a *total* score, where higher scores indicate greater overall spiritual well-being. After nine items were reversed coded, a score for each factor was created by summing the corresponding items for the spiritual and existential factors and summing all items to produce a total score. This measure has demonstrated both sufficient internal consistency (α = .78-.89) and test-retest reliability (.86-.96) for each of the three factors (Ellison, 1983).

Perceptions of God. To assess how each participant perceives a higher power or deity, the current study used the God Image Scale (GIS; Lawrence, 1997). Participants used a four–point Likert scale to indicate the degree to which they agree with statements concerning the nature of god (1 = *strongly agree*, 2 = *strongly disagree*). This 36-item version of the larger God Image Inventory (GII) produces three scores: acceptance, challenge, and presence. *Acceptance* refers to the degree to which the participant believes god unconditionally loves (e.g., "God loves me regardless"), *challenge* refers to the degree to which the participant believes god desires personal growth (e.g., "God keeps asking me to try harder"), and *presence* refers to the degree to which the participant feels that god is immanent and near (e.g., "God feels distant to me"). After some items are reverse coded, scores for each factor are produced by summing the corresponding 12 items for each factor; higher scores for each factor indicate a greater endorsement of that representation of god. The GIS demonstrates high reliability (α = .86-.94) and adequate validity (Lawrence, 1997). Studies have not analyzed if this measure is sensitive to change for use in repeated measures.

Physical symptoms. To assess physical symptoms of grief, the current study used Pennebaker's Inventory of Limpid Languidness (PILL; Pennebaker, 1982). This 54-item self-report questionnaire uses a five-point Likert scale (1 = *never or almost never experienced*; 5 = *more than once a week*) to assess how often participants experience or notice certain physical symptoms, such as watering eyes, racing heart, headaches, back pain, and indigestion. All items are summed to

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create a total score, where higher scores indicate more frequent and more varied experienced physical symptoms. Specifically, a score above 85 suggests that the participant is in the top 25th percentile of experiencing physical symptoms, whereas a score below 22 suggests the participant is the bottom 25th percentile. The measure demonstrates high test-retest reliability (.83 after two months) and strong internal consistency, $\alpha = .91$ (Pennebaker, 1982).

Data Analytic Plan

All analyses used SPSS (Statistical Packages for the Social Sciences) version 24. Prior to analyses, the current study will assess normality, skewness/ kurtosis, and cases of missing data using Little's MCAR test for each of the study variables. Because of the relatively small sample size and proposed analyses, the current study used the expectation maximization approach for missing data (Allison, 2002); specifically, this approach was used for research questions that require repeated measures. Next, preliminary analyses used ANOVA to assess for baseline group differences and to identify any potential covariates for future analyses. Finally, preliminary analyses calculated the descriptive statistics for all study variables. Data analysis occurred in three phases to test the three respective research questions of the current study.

First, the current study sought analyze the short-term effects of three writing condition (i.e. emotional disclosure, acrostic poem, and control condition) on grief (i.e., measured by the HGRC). In order to test the first research question, phase one of the analyses analyzed the mean differences between the three writing conditions on measures of grief (i.e., measured by the HGRC) at one week and one month following the writing intervention (Time 4 and 5), after controlling for the participants' initial presentations of these measures (Day 1; baseline). Thus, these analyses relied upon a between-subjects analysis of covariance (ANCOVA) in order to assess the short-term impact (at one week and one month follow-up) of the three writing prompts. As suggested by Senn (2006), ANCOVA should be used to assess if the post-intervention means differ between the three conditions when adjusting for pre-intervention scores. This study utilized follow-up post-hoc analyses using the Bonferroni correction to compare any significant mean differences in order to

control for the Type I error rate (Abdi, 2007). A power analysis was conducted using G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the achieved power for this statistical test. A post-hoc power analysis revealed that a large effect ($f = .40$), 68 subjects, and alpha = .05 yielded a power estimate of .83.

Further, this study had a second goal of understanding the differences in text content (e.g., cognitive processing, affect words, death/ religious- related words, time oriented words, and overall style) across each writing condition using LIWC. To test the second research question, phase two of the analyses used one-way between subjects ANOVAs to assess if the three writing conditions (i.e., emotional disclosure, acrostic poem, and control) differ on a variety of LIWC-defined content predictors; specifically, phase two assessed if the three writing tasks exhibit mean differences in overall writing style (e.g., analytic thinking, emotional tone) as well as cognitive processing, affect, death/ religious-related words, time oriented words, and overall style. For this question, the current study analyzed the participants' *first*, completed writing sample, meaning that if a participant failed to produce a writing sample on Day 1, the writing sample of Day 2 or Day 3 will be analyzed instead. This decision was made due to sample size, participant dropout, and parsimony concerns. Though the acrostic poem will most likely be shorter than the emotional disclosure and control conditions, word count does not need to be controlled for when using LIWC as LIWC reports a proportion, or the percentage of category-related words to total words. Summary variables, or the overall writing style categories (e.g., analytic thinking, emotional tone), are the only exceptions to this. Here, LIWC reports percentiles (see the LIWC Operator's Manual for a complete description) and therefore, word count was entered as a control variable for these two summary variables. Follow-up tests were conducted by means of post-hoc analyses using the Bonferroni correction. A post-hoc power analysis revealed that a between-subjects, one-way ANOVA with 68 subjects, a large effect ($f = .40$), and alpha = .05 yielded a power estimate of .83.

Finally, the current study sought to analyze the relationship between study variables among all participants using correlation and regression in order to better understand bereavement in an

undergraduate sample. Various questions were explored, such as how does one's level of spiritual well-being impact grief? Further, in accordance with the Baddeley and Singer (2008) study—which found individual differences in bereaved writing—how do measured traits (e.g., image of god) impact the rate of LIWC defined categories in the study's sample? To do this, the study first used correlations to identify the relationships between all of the study variables (e.g., expectancy of loss, Hogan Grief Reaction Scale, Brief Cope, LIWC categories). Then, the current study used simple and multiple linear regression to explore the functional relationships between these variables. The purpose of this research question is to explore the pattern of psychological and spiritual functioning of bereaved undergraduates. The results from this research question will be used to inform future data collection and future analyses.

Results

The current study first analyzed cases of missing data. The percentage of missing data for all variables across the course of the study ranged from 1.5% to 38.2% ($M = 22.00\%$, $SD = 13.42\%$); thus, a listwise deletion would significantly reduce power. More specifically, missing data for study variables at baseline only ranged from 1.5% to 11.8% ($M = 5.24\%$, $SD = 2.12\%$); missing data for the HGRC across all three time points ranged from 1.5% to 41.2% ($M = 21.99\%$, $SD = 13.64\%$). To address these concerns, the current study utilized the expectation maximization technique for missing data, which is a form of multiple imputation that calculates maximum-likelihood estimates based on the observed data (Schafer & Olsen, 1998). Before imputing the data, the current study first tested if the data were missing completely at random using Little's MCAR test. The Little's MCAR test resulted in a chi-squared statistic of $X^2(27848) = 3205.17$, $p = 1.00$, suggesting that the data was in fact missing completely at random. Because this assumption was met, the current study imputed missing data for the HGRC only, as this was the only measure used to analyze between-group differences with significant missing data.

To examine the data for outliers, the current study used standardized z-scores. Only one participant was identified as an outlier with z-scores beyond the +/- 3.29 recommendation for z-

scores (Ghasemi & Zahediasl, 2012) for both subscales of the HGRC (i.e., negative grief reactions and personal growth). According to Cohen et al. (2003), outliers should be kept if they only account for 1-2% of the sample size. Thus, this participant was included in the analyses. Descriptive statistics and correlations for the major study variables can be found in Tables 2-4 and Appendix J respectively.

Table 2
Descriptive Statistics for Study Variables at Time 1

	M *(SD)*
Physical Symptoms (PILL)	17.93 *(9.22)*
God Image (GIS)	
Acceptance	24.10 *(6.80)*
Challenge	24.56 *(8.10)*
Presence	28.49 *(11.27)*
Spiritual Well-Being (SWBS)	
Religious Well-Being	37.36 *(16.64)*
Existential Well-Being	42.20 *(10.36)*
Spiritual Well-Being	78.63 *(23.04)*
Coping	
Self-Distraction	5.33 *(1.52)*
Active Coping	4.89 *(1.64)*
Denial	3.43 *(1.84)*
Substance Use	3.11 *(1.76)*
Emotional Support	4.74 *(1.95)*
Instrumental Support	4.45 *(1.97)*
Behavioral Disengagement	3.14 *(1.42)*
Venting	4.00 *(1.59)*
Positive Reframing	5.00 *(1.72)*
Planning	4.11 *(1.68)*
Humor	2.50 *(1.18)*
Acceptance	5.95 *(1.63)*
Religion	4.14 *(2.14)*
Self-Blame	3.69 *(1.65)*

Next, the current study tested if the three conditions significantly differed on any key loss characteristics (e.g., time since loss, expectedness of loss). Though the current study used random assignment, it is possible that random assignment failed to evenly distribute important variables that characterize loss across the three conditions. Using one-way ANOVA, the results revealed that the amount of time that had passed since the loss was significantly longer in the acrostic poem

condition ($M = 22.73$, $SD = 21.72$) compared to the emotional disclosure ($M = 13.59$, $SD = 10.72$) and control conditions ($M = 12.17$, $SD = 7.28$), $F(2, 64) = 4.00$, $p = .02$. No other loss variables significantly differed between conditions. With this, analyses that assess between-group differences will control for time since loss.

Influence of Writing on Grief

The current study's first set of analyses examined the short-term effects of the three writing conditions (i.e., emotional disclosure, acrostic poem, and control condition) on grief (as measured by the two subscales of the HGRC: personal growth and negative grief reactions) using ANCOVA. The current study used expectation maximization to impute the data for the HGRC. Skewness and kurtosis estimates indicated that all of the subscales of the HGRC followed a normal distribution curve across each of the three time points.

First, the current study analyzed the mean differences between writing conditions in the amount of personal growth at Time 4 (one week follow-up), while controlling for both the participants' initial presentations (Day 1) and the amount of time that had passed since the loss. The results revealed no significant group differences, $F(2, 62) = .53$, $p = .60$. The same was true when assessing the mean differences at Time 5 (i.e., one month following the intervention), $F(2, 62) = .30$, $p = .75$.

Next, the current study compared the mean differences across writing conditions in the amount of negative grief reactions (i.e., the summed HGRC subscales of panic, despair, detachment, blame/ anger, disorganization) at Time 4 (one week follow-up), while controlling for both the participants' initial presentation of negative grief reactions (Day 1) and the amount of time that had passed since the loss. The results revealed no significant group differences, $F(2, 62) = .82$, $p = .45$. The same was true when assessing the mean differences at Time 5, or one month following the intervention, $F(2, 62) = 1.21$, $p = .30$.

Though there were no significant differences across conditions in total negative grief reactions as measured by the HGRC, the current study analyzed if there were any differences across

conditions for the various subscales that make up total negative grief reactions (i.e., panic, despair, blame/ anger, disorganization, and detachment). These exploratory analyses controlled for both time since loss and initial negative grief reactions (Time 1). There were no significant differences across all three groups at both Time 4 and Time 5 for all negative grief subscales except detachment. For this subscale, there was no significant differences between conditions at Time 4 ($F(2, 62) = .67$, $p = .52$), but there was a significant difference in detachment at Time 5, $F(2, 62) = 3.55$, $p = .04$. Specifically, post-hoc analyses using the Bonferroni correction revealed that the emotional disclosure condition demonstrated significantly less ($M = 14.31$, $SD = .77$) detachment than the control condition ($M = 17.57$, $SD = .87$), $p = .03$. No other differences were found.

Finally, as part of the exploratory analyses, the current study collapsed all groups and analyzed grief symptomology in all participants over time using a within-subjects (or repeated measures) ANOVA. Time since loss remained as a covariate in these analyses. Mauchly's Test of Sphericity indicated that the assumption of sphericity had been violated, $\chi^2(2) = 6.03$, $p = .049$. Thus, the following analyses used the Greenhouse-Geiser correction. The results revealed that the there was a significant effect of time for all subjects' negative grief reactions, $F(1.84, 123.24) = 6.06$, $p = .004$. Post-hoc tests using the Bonferroni correction indicated that negative grief reactions were highest at baseline (Time 1) and one month follow-up (Time 5) compared to one week follow-up (Time 4). However, Time 1 and Time 5 were not significantly different from one another. In terms of personal growth, the there was no significant effect of time across all participants, $F(1.13, 75.68) = .44$, $p = .54$. Again, these results used the Greenhouse-Geiser correction as the assumption of sphericity was not met, $\chi^2(2) = 97.19$, $p < .001$. A summary table of the means and standard deviations for the HGRC across time can be found in Table 3.

Table 3
Descriptive Statistics for Subscales of the Hogan Grief Reaction Checklist Across Time

	Time 1	Time 4	Time 5
	M (SD)	M (SD)	M (SD)
Total Negative Grief	103.38 (32.79)	92.56 (35.05)	101.75 (28.98)
Despair	27.26 (9.55)	24.57 (10.33)	25.79 (8.64)
Panic	30.53 (9.58)	27.37 (10.64)	30.63 (9.06)

Blame/ Anger	13.74 *(4.99)*	12.33 *(4473)*	14.09 *(14.09)*
Detachment	16.49 *(7.34)*	14.16 *(6.7)*	15.61 *(5.82)*
Disorganization	15.37 *(5.20)*	14.14 *(7.27)*	15.63 *(6.20)*
Personal Growth	36.20 *(8.93)*	35.82 *(11.46)*	38.04 *(20.93)*

Overall, these analyses of the current study's first aim suggest that there is little effect of writing condition or time on grief, as measured by both negative grief reactions and personal growth. Only participants' endorsement of the detachment subscale of the HGRC was found to be significantly different at Time 5, where those in the emotional disclosure conditions endorsed significantly less detachment than that of the control condition. Additionally, while there was a significant decrease in negative grief reactions from baseline to Time 4 (i.e., one week follow-up), the results revealed that this change was eventually reversed at Time 5 (i.e., one month follow-up). Thus, these results suggest that writing had a minimal effect on bereavement.

Linguistic Content and Writing

The next set of analyses assessed how linguistic content differed across writing conditions. After each text was examined and cleaned for spelling errors, the texts were entered into LIWC15. The current study produced a total of 226 writing samples: 98 from the emotional disclosure condition, 49 from the acrostic poem condition, and 79 from the control condition. Because of the unequal group sizes, the homogeneity of variance assumption was not met for the majority of linguistic indicators according to the Levene's test. Thus, the following one-way ANOVAs used the Welch's ANOVA as an alternative to account for this unmet assumption and to reduce the Type I error rate (Moder, 2007). Welch's ANOVA was reported for all LIWC variables except for causation words, positive emotion words, future focused words, past focused words, analytical thinking, and emotional tone; these categories met the homogeneity of variance assumption accordingly. Post-hoc analyses, when necessary, used the Bonferroni correction.

Before analyses, each LIWC defined category was first checked for normality. Categories that were not normally distributed as indicated by skewness and kurtosis were transformed using the square root, log 10, and inverse square root transformations for mild, moderate, and severe

violations to normality respectively. The following LIWC categories were transformed: tentative, insight, and discrepancy words (three types of cognitive processing words), affective words, including both negative and positive emotion words, and religious words. Each of these variables were positively skewed, meaning few participants wrote using these types of words. Descriptive statistics for each of the LIWC categories can be found in Table 4.

Table 4
Descriptive Statistics for HGRC and LIWC Defined Categories by Group at Time 1

	Acrostic Poem	**Emotional Disclosure**	**Control**	**Total**
	M *(SD)*	M *(SD)*	M *(SD)*	M *(SD)*
Grief (HGRC)				
Total Negative Grief	93.45 *(35.67)*	105.79 *(31.40)*	107.26 *32.52*	103.38 *(32.79)*
Despair	24.24 *(9.85)*	28.36 *(9.39)*	27.96 *(9.51)*	27.26 *(9.55)*
Panic	27.76 *(10.40)*	30.78 *(8.69)*	32.13 *(10.06)*	30.53 *(9.58)*
Blame/ anger	12.44 *(4.77)*	13.86 *(4.93)*	14.48 *(5.26)*	13.74 *(4.99)*
Detachment	15.33 *(7.63)*	16.66 *(7.61)*	17.09 *(7.00)*	16.49 *(7.34)*
Disorganization	13.68 *(5.54)*	16.12 *(5.46)*	15.61 *(4.53)*	15.37 *(5.20)*
Personal Growth	37.87 *(8.29)*	35.34 *(9.60)*	36.13 *(8.69)*	36.20 *(8.93)*
Cognitive Processing Words	16.37 *(4.62)*	15.89 *(3.05)*	4.63 *(2.55)*	12.06 (6.38)
Insight*	4.76 *(3.14)*	3.98 *(1.78)*	0.85 *(0.80)*	3.06 *(2.53)*
Causation	2.02 *(1.27)*	2.12 *(1.18)*	0.96 *(0.90)*	1.69 *(1.23)*
Discrepancy*	2.25 *(1.57)*	2.40 *(1.31)*	0.54 *(0.66)*	1.72 *(1.47)*
Tentative*	2.74 *(1.75)*	2.60 *(1.31)*	1.10 *(1.05)*	2.10 *(1.52)*
Certainty	3.43 *(1.90)*	2.26 *(1.17)*	0.52 *(0.71)*	1.90 *(1.66)*
Differentiation	2.69 *(1.56)*	3.80 *(1.68)*	0.96 *(0.85)*	2.57 *(1.88)*
Affective Words*	10.78 *(9.10)*	6.31 *(1.86)*	1.32 *(0.96)*	5.53 *(5.65)*
Positive emotion*	5.97 *(4.24)*	3.13 *(1.45)*	0.81 *(0.77)*	2.93 *(2.93)*
Negative emotion*	4.67 *(8.36)*	3.01 *(1.39)*	0.50 *(0.61)*	2.49 *(4.29)*
Content-Related Words				
Religion*	0.85 *(1.09)*	0.28 *(0.48)*	0.06 *(0.24)*	0.33 *(0.68)*
Death	0.64 *(0.73)*	0.87 *(0.80)*	0.02 *(0.09)*	0.52 *(0.73)*
Time Orientations				
Past focus	4.90 *(2.97)*	6.92 *(3.07)*	11.54 *(2.76)*	8.10 *(3.95)*
Present focus	10.72 *(5.03)*	12.06 *(4.57)*	4.19 *(2.42)*	9.02 *(5.41)*
Future focus	1.90 *(1.21)*	1.48 *(1.10)*	1.76 *(1.06)*	1.67 *(1.12)*
Summary Language Variables				
Analytical Thinking	39.93 *(25.00)*	20.76 *(14.35)*	68.40 *(17.29)*	41.57 *(27.71)*
Emotional Tone	56.49 *(37.60)*	32.72 *(27.95)*	32.85 *(16.35)*	37.92 *(28.76)*
Word Count	231.27 *(209.20)*	372.4 *(256.78)*	301.39 *(215.72)*	316.98 *(238.58)*

As a manipulation check, the current study first investigated if there was a significant difference in word count across the three conditions. The results revealed that was a significant difference in total word count as expected, Welch's $F(2, 129.94) = 6.38$, $p < .01$, where those in the emotional disclosure condition wrote significantly longer responses than those in the acrostic poem condition. No other significant differences between conditions in word count were found.

Next, the current study examined differences in the use of cognitive processing words across conditions. One-way ANOVA revealed a significant difference in the total amount of cognitive processing words used, Welch's $F(2, 111.07) = 398.55$, $p < .001$. Post-hoc analyses using the Bonferroni correction found that while the emotional disclosure and acrostic poem conditions did not differ in the amount of cognitive processing words used, both of these conditions used significantly more cognitive processing words than that of the control condition. When analyzing the individual categories that make up cognitive processing (i.e., insight, causation, discrepancy, tentative, certainty, and differentiation words), this same pattern of results was found for the LIWC defined categories of insight, causation, discrepancy, and tentative. Namely, those in the acrostic poem and emotional disclosure conditions used significantly more of these types of cognitive processing words than those in the control condition. However, a slightly different pattern of results emerged for words related to certainty and differentiation. While both the emotional disclosure and acrostic poem conditions used more of these words than the control group, the acrostic poem conditions demonstrated the greatest use of certainty words, while the emotional disclosure condition demonstrated the greatest use of differentiation words.

Next, the current study analyzed if there were any group differences in the use of affective words, including both positive and negative emotion words. Regarding the total number of affective words, there was a significant difference between the three conditions, Welch's $F(2, 100.60) = 225.43$, $p < .001$. Post-hoc analyses using the Bonferroni correction found that each of the three conditions significantly differed from one another, in that those who wrote using the acrostic poem

used the most affective words, those in the emotional disclosure condition used the second most affective words, and those in the control condition used the least affective words. Similarly, there was a significant difference in the use of positive emotion words across conditions, $F(2, 123) = 147.36$, $p < .001$, where each of the three conditions differed from one another. Again, the acrostic poem demonstrated the greatest use of positive emotion words while the control condition demonstrated the least amount of positive emotion words. Lastly, one way ANOVA revealed that there was also a significant difference in the use of negative emotion words across conditions, Welch's $F(2, 80.99) = 79.17$, $p < .001$. Here, both the emotional disclosure and acrostic poem conditions demonstrated a greater use of negative affectual words than that of the control condition, but the acrostic poem and emotional disclosure group did not significantly differ in the amount of negative affective words.

In regard to content words (i.e., religious and death-related words), the three conditions demonstrated significant mean differences. First, there was a significant difference in the amount of religious words used in each of the three conditions, Welch's $F(2, 105.20) = 26.03$, $p < .001$. Post-hoc analyses using the Bonferroni correction revealed that all groups significantly differed in the amount of religious words, with the acrostic poem expressing the greatest amount of religious words and the control condition expressing the least. There was also a significant difference across groups in regard to death-related words, Welch's $F(2, 87.55) = 70.11$, $p < .001$. Post-hoc analyses using the Bonferroni correction revealed that the two experimental conditions used significantly more death-related words than the control condition. However, the emotional disclosure and acrostic poem conditions did not differ from one another in the use of death-related words.

The results revealed that there were significant group differences in some but not all tense-related words (i.e., past, present, and future focused words). Specifically, one-way ANOVA revealed that there were significant differences in the use of past $(F(2, 223) = 96.96$, $p < .001)$ and present-focused words (Welch's $F(2, 108.94) = 124.72$, $p < .001)$. However, there was no difference across conditions in the use of future-focused words, $F(2, 223) = 2.73$, $p = .07$. Follow-up tests

using the Bonferroni correction revealed that all three conditions differed in the use of past-focused words, where those in the control condition used the most past tense, those in the emotional disclosure condition used the second most past tense, and those in the acrostic poem condition used the least past tense. In regard to use of present-focused words, those in both the emotional disclosure and acrostic poem conditions used more present tense than those in the control condition; however, the two experimental groups did not differ in their use of present tense words.

The current study then assessed if the three writing conditions significantly differed in the two LIWC summary variables, which were the amount of analytic thinking and degree of emotional tone. These two linguistic categories are reported in LIWC as percentiles instead of proportions, unlike the other LIWC defined categories. Because the three conditions significantly differed in the amount of words used, the current study used ANCOVA to control for word count. When controlling for word count, the results revealed significant differences across conditions in both analytical thinking, $F(2, 222) = 147.89$, $p < .001$, and emotional tone, $F(2, 222) = 12.58$, $p < .001$. Specifically, post-hoc analyses using the Bonferroni correction revealed that all three groups differed from one another in their use of analytics thinking. Those in the control condition used the greatest amount of analytical thinking in their writing, those in the acrostic poem used the second most analytical thinking, and those in the emotional disclosure condition used the least analytical thinking. Furthermore, post-hoc analyses found that those who wrote using the acrostic poem prompt displayed the higher emotional tone compared to the emotional disclosure and control condition, that is, the latter conditions did not differ from one another.

To summarize, both of the experimental writing prompts (i.e., acrostic poem and emotional disclosure) demonstrated a greater use of cognitive processing words, death-related words, negative affective words, and present-focused words than that of the control. However, the two experimental manipulations also demonstrated unique linguistic patterns as well. While both the acrostic poem and emotional disclosure conditions used significantly more cognitive processing words than that of the control, the acrostic poem used more certainty words (e.g., *always*, *never*) whereas the

emotional disclosure condition used more words of differentiation (e.g., *hasn't*, *but*, *else*). Those

who wrote using the acrostic poem also used more affective words overall, including more positive

affective words, compared to those in the emotional disclosure condition. Thus, it is perhaps not

surprising that the acrostic poem demonstrated greater emotional tone. Other key features of the

acrostic poem include the use of more religious words and increased analytical thinking. The

emotional disclosure prompt, on the other hand, displayed a greater use of more past-focused words

compared to the acrostic poem. Overall, these results highlight the key differences in linguistic

content across the three conditions.

Bereavement in Undergraduates

The final set of analyses examined the relationship between study variables across all

participants using correlation and regression. These exploratory analyses were used to better

understand bereavement in an undergraduate sample. All analyses used the questionnaire data

collected at Time 1. A summary table of all regression analyses can be found in Table 5 and a

correlation table can be found in Appendix J.

Table 5
Summary of Regression Analyses

Dependent Variable	Predictors	*b*	*β*	*SE*	*t*	*p*
Physical Symptoms	Despair	-0.40	-0.40	0.20	-1.94	0.20
	Panic	0.43	0.44	0.18	2.43	0.60
	Blame/Anger	0.42	0.23	0.31	1.35	**0.02**
	Detachment	0.70	0.54	0.24	2.97	0.18
	Disorganization	-0.38	-0.21	0.33	-1.17	**0.00**
	Total Negative Grief	0.15	0.51	0.30	4.84	**< 0.001**
	Personal Growth	0.15	0.15	0.13	1.21	0.23
	GIS - Acceptance	-0.65	-0.44	0.29	-2.27	**0.03**
	GIS - Challenge	0.20	0.18	0.26	0.79	0.43
	GIS - Presence	0.09	0.10	0.33	0.26	0.79
	SWBS - Existential	-0.59	-0.67	0.12	-5.36	**< 0.001**
	SWBS -Religious	-0.10	-0.18	0.07	-1.49	0.14
	SWBS - Total	-0.04	-0.07	0.22	-0.19	0.85
	Venting	0.73	0.13	0.78	0.93	0.35
	Self-Blame	2.00	0.36	0.75	2.66	**0.01**
	Use of Religious Words	-3.60	-0.24	1.79	-2.02	**0.05**

Negative Grief Reactions	GIS - Acceptance	0.21	0.04	0.90	0.23	0.82
	GIS - Challenge	-1.13	-0.29	0.81	-1.38	0.17
	GIS - Presence	0.60	0.21	1.05	0.57	0.57
	SWBS - Existential	-2.30	-0.67	0.91	-5.40	**<0.001**
	SWBS -Religious	-0.43	-0.23	0.25	-1.73	0.09
	SWBS - Total	0.19	0.13	0.70	0.27	0.79
	Self-Distraction	3.26	0.16	2.13	1.53	0.13
	Denial	1.96	0.11	2.31	0.85	0.40
	Substance Use	-0.62	-0.03	2.21	-0.28	0.78
	Behavioral Disengagement	8.12	0.37	2.98	2.73	**0.01**
	Venting	-0.34	-0.02	2.96	-0.11	0.91
	Self-Blame	6.01	0.32	2.91	2.06	**0.05**
	Acceptance	-1.52	0.07	2.71	-0.56	0.58
Personal Growth	GIS - Acceptance	-0.76	-0.47	-0.53	-2.02	**0.05**
	GIS - Challenge	-0.10	-0.10	0.35	-0.29	0.77
	GIS - Presence	0.33	0.42	0.53	0.63	0.54
	SWBS - Existential	-0.22	-0.26	0.33	-0.66	0.51
	SWBS -Religious	-0.30	-0.56	0.38	-0.78	0.44
	SWBS - Total	0.26	0.67	0.31	0.85	0.40
	Positive Reframing	1.46	0.27	0.74	1.98	**0.05**
	Acceptance	0.87	0.16	0.68	1.28	0.21
	Religious Coping	0.71	0.16	0.58	1.22	0.23
Use of Religious Words	GIS - Acceptance	0.03	0.37	0.03	1.25	0.22
	GIS - Challenge	-0.03	-0.03	0.02	-0.08	0.94
	GIS - Presence	0.01	0.10	0.03	0.15	0.88
	SWBS - Existential	0.02	0.27	0.02	0.69	0.50
	SWBS -Religious	0.02	0.67	0.02	0.97	0.34
	SWBS - Total	-0.01	-0.18	0.02	-0.24	0.82

Loss characteristics of grief. The current study first investigated the relationship between loss characteristics and other study variables, including negative grief reactions, personal growth, physical symptoms, spiritual well-being, image of god, and coping. A frequency table of key loss characteristics can be found in Table 1.

Using point-biserial correlations, the current study determined if the expectedness of the loss (i.e., expected or unexpected) was associated with any grief outcomes, physical symptoms, religion/ spirituality measures, or coping. The results revealed that there were significant associations between the expectedness of the loss and all subscales of the religion/ spirituality

variables as well as three coping subscales. Specifically, participants endorsed greater religious well-being ($r(66) = .47$, $p < .001$), spiritual well-being ($r(63) = .40$, $p = .001$), use of religious coping ($r(65) = .29$, $p = .02$), denial ($r(65) = .33$, $p = .01$), and emotional support ($r(65) = .25$, $p = .04$) when the loss was more *expected*. On the other hand, when the loss was *unexpected*, the participants indicated a decrease in all three of the GIS subscales: acceptance ($r(62) = -.32$, $p = .01$), challenge ($r(63) = -.38$, $p = .002$), and presence ($r(63) = -.45$, $p < .001$).

Using point-biserial correlations, the current study determined if the circumstance of the loss (i.e., illness versus other) was significantly associated with any grief outcomes, physical symptoms, measures of religion/ spirituality, or coping. The results revealed that the circumstance of loss was not associated to any of these outcomes.

Finally, the current study used bivariate correlations to determine if there were any significant associations between the amount of time that had passed since the loss and the above mentioned outcome variables. The results revealed that the amount of time that had passed since the loss was not significantly associated with any grief outcomes, physical symptoms, religion/ spirituality outcomes, or coping.

Grief and physical symptoms. To determine if different reactions to grief (i.e., despair, panic, disorganization, blame/anger, detachment, and personal growth) predicted physical symptoms (as measured by the PILL), the current study conducted a series of multiple linear regression. The PILL at Time 1 was normally distributed ($M = 17.93$, $SD = 9.22$).

First, the current study determined if one's total negative grief reaction score would significantly predict physical symptoms. The results revealed that total negative grief reactions predicted increased physical symptoms, $F(1, 65) = 23.38$, $\beta = .51$, $p < .001$, $R^2 = .27$

, where an increase in negative grief reactions predicted a higher endorsement of physical symptoms. Next, the current study analyzed the individual components of negative grief as predictors for physical symptoms. When all subscales of the HGRC were entered simultaneously, the overall model was significant, $F(5, 61) = 8.19$, $p < .001$, $R^2 = .40$. Specifically, the results

revealed that the grief reactions of panic (β = .44, $t(61)$ = 2.43, p = .02) and detachment (β = .54, $t(61)$ = 2.97, p = .004) positively predicted an increase in physical symptoms. The reactions of despair, disorganization, and blame/anger were not found to be significant individual predictors of physical symptoms in the overall model.

Secondly, the current study determined if the HGRC subscale of personal growth predicted physical symptoms. The results revealed that personal growth was not a predictor of physical symptoms, $F(1, 65)$ = 1.45, β = .15, p = .23, R^2 = .02.

Religion/ spirituality. Next, the current study determined the predictive power of the study's religiosity assessments (i.e., all three subscales of the SWBS and three subscales of the GIS) in determining grief and the number of physical symptoms. All variables assessing religion/ spirituality were normality distributed. Further, based on a visual inspection, participants endorsed the various subscales of each subscale relatively equally. Descriptive statistics for these study variables can be found in Table 2.

The current study first used multiple linear regression to see if religiosity was a predictor for personal growth (as measured by the HGRC) at Time 1. The results revealed that the overall model was not significant when all religious variables were entered simultaneously, $F(5, 49)$ = 1.94, p = .11, R^2 = .17. When analyzing individual predictors, however, the acceptance subscale of the GIS significantly predicted one's rating of personal growth following loss, β = -.47, $t(54)$ = -2.02, p = .05. Here, a greater endorsement of the GIS acceptance subscale predicted a decrease in personal growth following loss.

The current study then tested the same model using negative grief reactions as the outcome variable, and the overall model was found to be significant, $F(5, 45)$ = 8.05, p < .001, R^2 = .47. Specifically, an increase in existential well-being predicted a decrease in negative grief reactions, β = -.68, $t(50)$ = -5.40, p < .001; no other individual predictors of religion/ spirituality were found to be significant.

Lastly, the current study assessed if measures of religion/ spirituality predicted physical symptoms. The overall model was significant, $F(5, 51) = 6.92$, $p < .001$, $R^2 = .40$. Here, an increase in existential well-being ($\beta = -.67$, $t(58) = -5.36$, $p < .001$) and the GIS acceptance subscale ($\beta = -.44$, $t(58) = -2.27$, $p = .03$) significantly predicted a decrease in physical symptoms.

Coping. Next, the current study determined the nature and effect of coping in a sample of bereaved undergraduates. All 14 subscales of the Brief Cope were normally distributed with the exception of humor, which was positively skewed. Overall, the most used strategy for coping with grief was acceptance ($M = 5.95$, $SD = 1.63$), while humor ($M = 2.50$, $SD = 1.18$) was the least utilized coping strategy in this sample. Descriptive statistics for coping can be found in Table 2.

Bivariate correlations were first used to determine the relationship between coping and physical symptoms. Specifically, the use of venting ($r(65) = .33$, $p < 01$) and self-blame ($r(65) = .43$, $p < 001$) were both positively associated with an increase in physical symptoms. Regression was then used to test if the use of this linguistic category was predictive of physical symptoms. The overall model was predictive of physical symptoms when these two coping strategies were entered into the model simultaneously, $F(2, 62) = 7.73$, $p < .001$, $R^2 = .20$. Specifically, an increase in self-blame was predictive of an increase in physical symptoms, $\beta = .36$, $t(62) = 2.66$, $p = .01$; however, venting was not a significant individual predictor of physical symptoms, $\beta = .13$, $t(62) = .93$, $p = .35$.

Next, the current study analyzed the relationship between negative grief reactions and coping. Using bivariate correlations, the types of coping strategies positively related to negative grief reactions included self-distraction ($r(56) = .27$, $p = .04$), denial ($r(57) = .40$, $p < .01$) substance use ($r(57) = .27$, $p < .04$), behavioral disengagement ($r(57) = .62$, $p < .001$), venting ($r(57) = .44$, $p = .001$), and self-blame ($r(57) = .58$, $p < .001$). On the other hand, the use of acceptance was found to be negatively correlated with negative grief reactions ($r(57) = -.38$, $p < .01$). Using multiple regression, the current study then analyzed if these coping strategies predicated negative grief reactions. The results revealed that while the overall model was significant ($F(7, 48) = 7.32$, p

< .001, R^2 = .52), the only significant individual predictors were behavioral disengagement (β = .37, $t(55) = 2.73$, $p = .01$) and self-blame (β = .32, $t(55) = 2.06$, $p = .05$), where an increase in these two coping strategies lead to an increase in negative grief reactions. Acceptance (β = -.07, $t(55) = -.56$, $p = .58$), self-distraction (β = .16, $t(55) = 1.53$, $p = .13$), denial (β = .11, $t(55) = .85$, $p = .40$), substance use (β = -.03, $t(55) = -.28$, $p = .78$), and venting (β = -.02, $t(55) = -.11$, $p = .91$) were not found to be significant individual predictors in the overall model.

The current study then tested if coping predicted personal growth as measured by the HGRC. In terms of personal growth, the coping strategies found to be significantly correlated were positive reframing ($r(63) = .41$, $p = .001$), acceptance ($r(63) = .29$, $p = .02$), and religious coping ($r(63) = .34$, $p = .01$). The current study then used multiple regression to determine if these identified coping strategies were predictive of personal growth. While the overall model was significant ($F(3, 59) = 5.28$, $p < .01$, $R^2 = .21$), only positive reframing was found to be a significant individual predictor, β = .27, $t(59) = 1.98$, $p = .05$, where an increase in positive reframing was associated with an increase in personal growth. The use of acceptance (β = .16, $t(59) = 1.28$, $p = .21$) and religious coping (β = .16, $t(59) = 1.22$, $p = .23$) were not significant predictors in the model.

Finally, the current study used bivariate correlations to determine the relationship between coping and writing. In terms of linguistic content, the use of religious words was positively related to the use of religious coping ($r(65) = .28$, $p = .02$); the use of planning was positively related to a focus on the future ($r(64) = .29$, $p = .02$); finally, the use of self-blame was positively related to the use of differentiation words (i.e., *hasn't*, *but*, *else*), $r(65) = .25$, $p = .04$, and negatively associated with emotional tone, $r(65) = -.29$, $p = .02$.

Linguistic content. Lastly, the current study used LIWC to determine if there were any linguistic indicators for grief, physical symptoms, or religiosity at Time 1 of the study. No significant correlations were found between the linguistic variables of the current study (i.e., cognitive processing, affective words, religious and death-related words, time oriented words, and

summary variables) and both negative grief reactions and personal growth, as measured by the HGRC. The only linguistic category significantly related to physical symptoms was the use of religious words ($r(67) = -.24$, $p = 05$). Using simple linear regression, the current study found that the participants' use of religious words was predictive of physical symptoms, $F(1, 65) = 4.07$, $p = .05$, $R^2 = .06$, where more religious words predicted fewer physical symptoms, $\beta = -.24$, $t(65) = -2.02$, $p = .03$. Lastly, the only LIWC category correlated to religion/ spirituality variables (as measured by the GIS and SWBS) was the use of religious words. Bivariate correlations revealed that the use of religious words was significantly related to one's endorsement of spiritual well-being ($r(63) = .29$, $p = 02$), religious well-being ($r(66) = .29$, $p = 02$), and the presence subscale of the GIS ($r(63) = -.26$, $p = 04$). However, participants' responses to these religious questionnaires did not significantly predict the use of religious words during the intervention, $F(5, 51) = 1.54$, $p = .19$, $R^2 = .13$.

The aforementioned analyses for our final research question provide information on the participants' psychological and spiritual functioning following loss. Theses analyses also highlight the important associations between study variables. From these results, it appears that grief reactions are influenced both positively and negatively by spirituality and coping. Similarly, participants' endorsement of physical symptoms is related to measures of spirituality, coping, and—indirectly—loss characteristics. For example, participants who experienced expected losses were more likely to report greater religious and spiritual well-being; those high in religious and spiritual well-being, in turn, reported fewer physical symptoms. Grief reactions and physical symptoms were also found to be functionally related to one another, yet the subscale of personal growth was not related. Finally, there seem to be some connection between writing and physical symptoms, coping, and spirituality. The utility of these relationships will be further unpacked in the discussion section.

Discussion

The current study sought to explore the effects and linguistic characteristics of a novel writing task (i.e., the acrostic poem) among bereaved undergraduates. Specifically, the acrostic

poem was compared to a well-established writing task, namely, Pennebaker's written emotional disclosure and control condition. Despite the ubiquitous use of expressive writing in clinical settings (e.g., Neimeyer, 1999; Neimeyer, 2002; Neimeyer, 2012), previous research has produced heterogeneous findings regarding the effectiveness of expressive writing in reducing grief symptomatology in the bereaved (e.g., Collison, 2016; Kalantari et al., 2012; Lichtenthal & Cruess, 2010; Range et al., 2000; Stroebe et al., 2002; Stroebe et al., 2006). Whereas the Pennebaker Paradigm has proved beneficial for many stressful circumstances, it has been less helpful among the bereaved.

The purpose of this study was to address these mixed results by testing a novel writing task and by using an innovative data analysis technique—LIWC—which has only been used in a handful of bereavement studies (Baddeley & Singer, 2008; Collison, 2016, Pennebaker et al., 1997) and thus an unmined line of research. Though the current study was largely exploratory, the current study hoped the acrostic poem would lead to positive results in this sample of bereaved undergraduates due to the inherent structure it provides its writers. This hypothesis was based on studies by Kalantari and colleagues (2012) and Lichtenthal and Cruess (2010), which found that a modified emotional disclosure task produced positive changes in bereaved child/ adolescent Afghani refugees and American undergraduates respectively. Lastly, the current study sought to better understand the relationships between grief, writing, physical symptoms, coping, and religiosity in a sample of emerging adults, as this population is at high risk for losing a loved one and may face unique developmental challenges as it pertains to bereavement (Arnett, 2000; Balk et al., 2010).

Grief Reactions Following Writing

Regarding the first set of analyses, the current study failed to demonstrate a short-term effect of expressive writing (i.e., emotional disclosure and the acrostic poem) on either positive or negative grief reactions one week and one month after the intervention. The only exception was that the control condition indicated greater detachment than the emotional disclosure condition one

month following the intervention. The detachment subscale of the HGRC refers to the sensation of feeling unconnected to others and to one's own identity. This finding might be one way in which the emotional disclosure condition improves grief symptomology relative to the control condition. However, because this is the only identified change in grief in a series of tests, this result might be due to a family wise error instead of actual differences. A lack of an effect would be more consistent with previous research, which has failed to demonstrate an effect of emotional disclosure among the bereaved (e.g., Range et al., 2000; Stroebe et al., 2002; Stroebe et al., 2006). Though Collison et al. (2013) found that the acrostic poem demonstrated greater increases in personal growth compared to the other conditions over time, these effects were not replicated in the current study. Thus, overall, it seems that writing did not directly influence grief symptomology as measured by the HGRC in our sample of bereaved undergraduates following one week and one month after the intervention.

Before concluding that writing is not an effective intervention for the bereaved, there are possible explanations for the results of the current study. First, the current study relied on only one outcome variable (i.e., HGRC). The current study was limited and unable to track other study variables over time, such as physical symptoms. It might be useful to measure outcomes other than grief symptomology, such as life satisfaction, resiliency, or idiographic measures, such as one's subjective feelings about the loss (Cooley, Toray, & Roscoe, 2010). Assessing these positive outcomes over time would grant one a more holistic picture of how writing influences the bereaved. Balk (2008), who studies bereavement in college students, similarly agrees that bereavement research should focus on using more adaptive, positive outcomes instead merely negative grief responses. Further, future research might administer follow-up questionnaires immediately after the writing interventions to determine if the writing intervention only produces transient effects, if any at all. Perhaps effects are already diminished at one week following the intervention. Though the current study hoped that the acrostic poem would have demonstrated a positive impact on grief as compared to the other writing conditions, this finding ultimately aligns with previous research in

bereavement, which suggests that writing does not impact grief symptomology (e.g., Range et al., 2000; Stroebe et al., 2002; Stroebe et al., 2006).

Because the current study did not find a group effect, the analyses collapsed the three conditions and assessed changes in grief over time. Only negative grief reactions differed across the three time points (i.e., Baseline, Time 4, and Time 5). Initially, all participants showed reductions in negative grief reactions at Time 4; however, these changes were later reversed at Time 5, which was not found to be significantly different from Baseline. Further, while there were no significant differences in personal growth across the three time points, a closer examination of the data reveals that participants in both the emotional disclosure and acrostic poem conditions experienced small increases in the personal growth subscale of the HGRC over time, while the control condition did not. Yet the differences between conditions was not significant, suggesting that the writing intervention was not responsible for the change. Overall, there was little change in grief symptomology over time, a finding inconsistent with previous research. The majority of research analyzing writing in the bereaved has found that all writing conditions show improvements in grief symptomology over time (Range et al., 2000; Stroebe et al., 2002; Stroebe et al., 2006). That is, all groups show improvement over time, but the expressive writing condition fails to produce greater improvements relative to control writing. In the current study, however, the participants did not show significantly improved negative grief reactions or personal growth one month following the intervention.

This inconsistency with previous research might be explained in several ways. First, because the current study used only one cohort in the design, there might have been a major historical event that affected the scores for all bereaved participants. For example, the death of a well-known individual could have triggered an increase in negative grief reactions one month following the intervention. Other population-based historical events could explain these findings, such as the stress associated with final exams at the end of the semester. Another possible reason why our sample did not show significant improvements in grief over time regards participants'

baseline scores; comparing the current study's sample to the sample used to develop the HGRC (Hogan et al., 2001), baseline means for the current study were significantly lower for the subscales of despair and personal growth. Thus, it could be that our sample is experiencing less distress following loss, making improvements over time more difficult to detect. Future studies might address these concerns by using multiple cohorts or by collecting more data points, such as immediately following the last writing interventions and two weeks after the intervention.

Linguistic Content

The current study's second set of analyses sought to identify the differences in linguistic content across each of the three writing conditions in order to further elucidate how writing affects the bereaved. The results showed that the two experimental expressive writing tasks, emotional disclosure and acrostic poem, were, as expected, significantly different in linguistic content from the control writing prompt. Additionally, the results highlighted both the similarities and nuances in the emotional disclosure and acrostic poem conditions, suggesting that the acrostic poem might have particular strengths beyond that of the traditional emotional disclosure prompt.

The study's manipulation checks confirmed that the two experimental conditions prompted a different response than the control. The control condition used the most past tense in accordance with the control writing prompt (i.e., recall what you did today); relatedly, the emotional disclosure and acrostic poem conditions used more present tense than the control condition. Both the emotional disclosure and acrostic poem conditions wrote using more death-related, cognitive processing, and negative affective words. This finding is not surprising given that participants in these two conditions were asked to write about their loss. Finally, as expected, the emotional disclosure prompt produced longer responses, perhaps due to the unique instructions of the intervention (i.e., write continuously for 15-20 minutes). An interesting finding, however, is that there were no significant differences in length between the acrostic poem and control conditions.

Beyond these findings, there were key nuances in the linguistic content of the two experimental conditions. First, though both the emotional disclosure and acrostic poem conditions

demonstrated more negative affective words than that of the control condition, the acrostic poem exhibited the greatest use of affective words generally, including a greater use of positive affective words. These participants—though prompted to talk about loss—were still able to write with positive words, such as *happy*, *joy*, and *good*. While the use of these words was not significantly related to the HGRC subscale of personal growth in the current study, this finding suggests that the individuals who wrote using the acrostic poem might be experiencing posttraumatic growth following loss. In fact, previous research suggests the increased use of positive affective words can lead to improvements in psychological functioning and physical health outcomes (Pennebaker et al., 1997). Thus, this distinctive property of the acrostic poem might be a strength relative to the emotional disclosure prompt.

A second interesting finding was that the participants in the acrostic poem condition demonstrated a higher frequency of religious words compared to any other condition. It is unclear why this discrepancy between conditions occurred. Perhaps the poetic form of the acrostic poem condition might have encouraged increased creativity and an exploration of spiritualty. Even from reviewing the example included in Appendix H, one can observe the religious motifs of this form. Shaw (2005) similarly argues that poetry might be a pathway for one to explore spirituality, as demonstrated in the works of great poets such as Dante Alighieri and William Wordsworth. Perhaps, despite random assignment, the participants in this group identified as more religious than participants of the other two conditions. Future follow-up studies of the acrostic poem might control for participant religiosity and reassess differences in the use of religious words to provide more evidence of this finding. Regardless of the reason for this difference, the use of more religious words might have implications for psychological well-being. One study outside of the field of bereavement, for example, demonstrated that the use of religious words in an emotional disclosure task predicted a decrease in depression (Chen & Contrada, 2009). Similar findings were revealed in the current study's analysis of all participants: the use of religious words led to a decrease in physical symptoms. Thus, the use of religious words may be an important indicator for grief in

bereaved writing, and the form of the acrostic poem might better facilitate the bereaved to explore religion in their writing.

Another point of differentiation from the results regards the use of cognitive processing words. The current study hoped that the acrostic poem would demonstrate a greater use of cognitive processing due to the inherent structure of the poem; under this hypothesis, participants would be able to make sense of their loss as they approached the end of the poem, as this writing prompt has an explicit beginning and end point. As demonstrated by Boals et al. (2011), the use of cognitive processing words has been shown to reflect one's ongoing process of meaning-making. The results found no differences between the emotional disclosure and acrostic poem conditions in the use of cognitive processing words—both conditions featured significantly more cognitive processing words than that of the control condition. It is possible that the use of cognitive processing words is not a reliable proxy for meaning-making in this sample, or perhaps a better measure for the current study would be one that suggests meaning-*made*, such as posttraumatic growth (e.g., Tedeschi & Calhoun, 1996).

However, there was a difference between the two experimental manipulations in the use of specific cognitive processing categories. Participants in the acrostic poem wrote with significantly more words of certainty (e.g., *always*, *never*), and the emotional disclosure condition wrote with significantly more words of differentiation (e.g., *hasn't*, *but*, *else*). No previous studies to date have specifically considered these two categories of cognitive processing in bereaved samples. Further, in the current study's analysis of all participants, the use of cognitive processing words was not found to be associated with any grief or physical symptoms, similar to the results of the Collison (2016) study. However, the use of differentiation words was associated with increased self-blame, as measured by the Brief Cope, in the current study. It is possible that the emotional disclosure condition demonstrated more self-blame, but this did not affect grief symptomology. More research is needed to understand the utility of this LIWC category—specifically, if these nuances in cognitive processing translate to any psychological changes among the bereaved.

There was also a notable difference in the use of tense-related words. As expected, the control condition wrote using the most past tense; however, the emotional disclosure condition wrote using significantly more past tense than that of the acrostic poem. Perhaps those in the emotional disclosure condition are writing the story of their loss more so than the acrostic poem. Previous research has found that a decreased use of past tense words predicted improved psychological functioning and physical health (Pennebaker et al., 1997), suggesting that past tense words might be reflective of impaired psychological functioning. If this is true, then the acrostic poem outperformed the emotional disclosure prompt in this regard. The two conditions did not differ in their use of present tense. There were also no significant differences in the use of future-focused words, which provides an area of opportunity for future research. Perhaps future interventions can adjust expressive writing prompts to encourage participants to write about their life without their loved one moving forward, in a way that facilitates posttraumatic growth.

Lastly, the current study explored the differences in the two summary variables—analytical thinking and emotional tone—using LIWC, as no study to date has considered these two linguistic categories in bereavement research. There were notable differences between the conditions in these two summary variables. Specifically, while the control condition used the most analytical thinking, the current study found that those who wrote using the acrostic poem prompt demonstrated a greater dependence on analytical thinking than the emotional disclosure condition. Analytical thinking refers to formal, logical, or hierarchical thinking and often requires one to be critical and skeptical in order to come to a rational conclusion (Frederick, 2005). This process is colder and more calculated and not heavily influenced by emotions. Nevertheless, those who wrote using the acrostic poem produced responses with greatest emotional tone of all three conditions. For this variable, higher scores reflect an upbeat style and lower scores reflect sadness. This finding is congruent with the fact the acrostic poem condition wrote with more positive affective words. Because analytical thinking is inversely related to writing in a "narrative style," it is logical that the control and emotional disclosure conditions were significantly lower in this category, as each of

these conditions tells a "story" of either the participant's day or the participant's loss. While the acrostic poem may not encourage participants to write a story of their loss, it nonetheless encourages a different type of response with a more upbeat tone. The implications of these summary variables are unclear; in the current study, these two summary variables did not predict grief symptomology, physical symptoms, coping, or spirituality. Thus, in accordance with the findings from Collison (2016), it appears that even though the writing styles between the expressive writing conditions differs, these differences do not necessarily translate to psychological changes. Further research on the implications of these summary variables is warranted.

Bereavement in Emerging Adulthood

The last aim of the current study explored the relationships between grief, physical symptoms, coping, spirituality, and writing in bereaved undergraduates. This is particularly an important line of research as one study estimated that approximately 40% of American college students have lost a loved one in the last two years of their life (Balk et al., 2010). Bereaved undergraduates also express unique symptoms of grief, such as deficits in grades as well as increased substance abuse, social isolation, and religious struggles (Lord et al., 2014). Further, this population may be at an increased risk for adjustment issues following a loss because identity formation is critical at this stage (Arnett, 2000) and experiencing a loss can impact one's self-narrative and global beliefs (e.g., Neimeyer, 2004). Nevertheless, few studies have explored bereavement in emerging adulthood. Thus, this study sought to further elucidate the psychological and spiritual functioning of this population following loss.

The current study first revealed that the expectedness of the loss was strongly related to other study variables. Specifically, when the loss was *expected*, participants reported greater religious and spiritual well-being as well as a greater use of religious coping and emotional support. On the other hand, when the loss was *unexpected*, participants were less likely to endorse god as accepting, challenging, or present. It is notable that the expectedness of the loss was associated with religious and spiritual functioning, yet in different ways. Only when the loss was unexpected were

any of the three portrayals of god altered. This findings aligns well with Park's (2005) model of religious meaning-making. Typically, expectedness of loss is related to overall distress (Stroebe et al., 2002), and when distress is high, the bereaved are more likely to engage in the meaning-making process. It is possible that the meaning-making process can result in changes in global meaning, such as changes in the way one perceives god (e.g., Kushner, 2007). These results suggest that the expectedness of loss should be considered when analyzing grief in bereaved emerging adults. Nevertheless, expectedness of loss was associated, unexpectedly, to the use of denial, where those who expected the loss endorsed a greater use of denial. It is important to remember, however, that because the analyses used correlation, the current study is unable to infer that the type of loss caused changes in coping or religious/ spiritual functioning; there could be a third variable explaining these relationships.

The current study also demonstrated that physical symptoms were entangled with grief. Physical symptoms denote common ailments such as headaches, indigestion, and watery eyes; because of the inherent mind-body connection, the bereaved often report feeling ill as a result of their experience with loss (Zisook, Devaul, & Click, 1982). Thus, this is an important outcome to consider when studying the bereaved. The current study found that physical symptoms were tied to negative grief symptomology. Moreover, multiple linear regression found that the two specific subscales of negative grief that were driving this association were the subscales of panic and detachment. Both of these subscales capture physiological experiences, such as feeling "shaky" and "detached" respectively. These findings align with previous research which has found physical symptoms to be significantly related to mental health in bereaved adults (Collison, 2016). Thus, the current study provides further evidence that the loss of a loved one can impact both psychological and physical functioning.

Physical symptoms and grief reactions were also tied to some of the study's assessments of religion and spirituality. For example, the undergraduates in our study reported fewer physical symptoms and—surprisingly—less personal growth when they viewed god as "accepting" as

measured by the God Image Scale. Further, when participants endorsed greater existential well-being—which describes the belief that one's life has inherent meaning—they reported fewer physical symptoms as well as fewer negative grief reactions. This relationship was also exhibited in linguistic content; as the number of religious words used in the writing intervention increased, physical symptoms also increased. While these findings are seemingly contradictory, they nonetheless point to the established connection between religion/ spirituality and health (e.g., Koenig, McCullough, & Larson 2001; Koenig, Pargament, & Nielsen, 1998). A large meta-analysis by Koenig, and colleagues (2001) found incremental improvements in blood pressure, immune functioning, and recovery from illness as a function of religiosity. Religiosity may also have a negative impact on health, however, depending on how religiosity is assessed. For example, negative religious coping, has been found to predict poorer physical health in a sample of older adults (Koenig et al., 1998). Thus, even though it appears that younger generations are becoming less religious (Pew, 2015), it seems that matters of religiosity and spirituality are still potent predictors for physical symptoms in undergraduates experiencing bereavement.

Physical symptoms and grief symptomology were also influenced by the participants' coping style. First, the use of positive reframing as a means to cope with loss was found to predict increased personal growth. This finding is consistent with the previous literature and might be related to the meaning-making process. Park's (2010) meaning-making model postulates that the ability to positively reframe a negative event is the epitome of the meaning-making process. Moreover, previous studies (e.g., Boals et al., 2011; Park, Edmondson, Fenster, & Blank, 2008) have even used the positive reframing subscale of the Brief Cope measure as a proxy for meaning-making. Next, in the current study, negative grief reactions increased as participants endorsed the use of behavioral disengagement and self-blame as means to cope with loss; in turn, self-blame was also found to increase physical symptoms. In previous research, self-blame, as measured by the Tübingen Bereavement Symptoms Questionnaire, was shown to predict high levels of initial grief and a slower rate of decline in a sample of widows (Stroebe et al., 2014). Similarly, a study of

college students reporting traumatic loss found that the use of behavioral disengagement and self-blame together (termed "avoidant coping") was the greatest predictor of complicated grief and PTSD symptoms (Schnider, Elhai, & Gray, 2007). Overall, though Carver (1997) makes no overarching claims of "good" and "bad" coping techniques, previous research appears to reveal a similar pattern of results, suggesting that these identified coping strategies (i.e., positive reframing, behavioral disengagement, and self-blame) might be important indicators of grief following loss.

Lastly, the current study analyzed the relationship between study variables and linguistic indicators across all bereaved participants. Previous research using LIWC suggests that writing may differ based on personality traits (e.g., consciousness, agreeableness; Baddeley & Singer, 2008). While the current study did not assess personality directly, the results revealed that writing did indeed differ based on personal characteristics, such as coping. Specifically, the current study found that those who were planners were more likely to write about the future, those who use religion to cope with loss were more likely to write using religious words, and those who blamed themselves as a result of the loss were more likely to write with a more negative emotional tone. Overall, these results suggest that there are important nuances in writing that can be identified with LIWC, even in a sample that is fairly homogenous in age and experience.

Clinical Implications and Limitations

The current study provides significant contributions to the literature, despite the fact that the acrostic poem failed to demonstrate short-term improvements in grief symptomology one week and one month after the intervention relative to the other writing conditions. There is preliminary evidence to suggest that this expressive writing tool has utility in clinical settings, even if the intervention is not directly affecting grief as measured by the HGRC. Specifically, the results from the analyses using LIWC suggest that the acrostic poem might be affecting a different system than that of the emotional disclosure task. For example, those who wrote using the acrostic poem demonstrated the greatest use of positive affect words and religious words. From the study's analyses of all bereaved undergraduates, the use of religious words was associated with less

physical symptoms and a greater use of religious coping, which in turn, was associated with increased personal growth following loss. On the other hand, those who wrote using the emotional disclosure task wrote using more words of differentiation (e.g., *hasn't*, *but*, *else*); the use of differentiation was found to be related to self-blame in this sample of bereaved undergraduates, which, in turn, was related to both increased negative grief reactions and physical symptoms. Participants using the acrostic poem also wrote about their loss using a more upbeat style, as measured by the emotional tone summary variable. Perhaps the acrostic poem encourages writers to consider the positive changes following loss more so than the emotional disclosure task, which might simply provide space for participants to recount their negative grief reactions. This idea is reminiscent of the assertion made by Stroebe & Stroebe (1991) and Stroebe et al. (2002)— emotional disclosure may lead to rumination about the negative grief experiences. Future studies might include more sensitive measures of bereavement, or other measures that effectively capture the *positive* gains following loss such as posttraumatic growth (e.g., Tedeschi & Calhoun, 1996).) in order to test this hypothesis.

This study might be improved in several ways. First, the study design could be enhanced. Future studies that seek to compare the effects of three writing interventions should use the block randomization method for random assignment; this would produce more equal cell sizes and reduce the threat of making a Type I error. Further, future studies might use strategies to prevent participant dropout, such as providing compensation at each step of the study and reiterating the significance of the study to participants. Doing so would reduce the need for complex missing data techniques. While expectation maximization is an acceptable technique for addressing significant data loss that is missing at random, the use of this method also can lead to an increased risk of making a Type 1 error; this risk is a function of both sample size and the amount of missing data (Niu, Ding, Kreutz, & Lindpaintner, 2005). It is possible that a more complete dataset would have led to a different pattern of results, and thus a replication of the current study's findings is warranted. Further, the analyses of all participants used data from Time 1 only because of the

significant amount of missing data; thus, the ability to make casual inferences is decreased as the current study did not rely on longitudinal data.

Next, future research might consider modifying the instructions of the writing prompt and changing the associated data analytic plan. Because the current study did not find writing to be effective for reducing grief symptomatology over time, future studies might consider modifying the acrostic poem prompt in a way that encourages writers to use more positive affective words and religious words. The benefit-finding prompt developed by Lichtenthal and Cruess (2010) is an example of such prompt that would be easy to implement in future studies. The addition of this prompt would further clarify the field's understanding of what aspect of the intervention is responsible for the results (i.e., construct validity). In this same vein, this line of literature would also greatly benefit from a qualitative analyses. LIWC translates qualitative data into quantitative data for easy interpretation. Consensus coding using grounded theory would allow major themes of each condition to naturally emerge and would allow investigators to unpack what the frequency of each linguistic category means.

Finally, there is preliminary evidence to suggest that grief and writing are innately tied with religiosity in bereaved undergraduates. Measures of religion/ spirituality were correlated with writing, coping, expectedness of the loss, grief symptomology, and physical symptoms. Religiosity/ spirituality was found to both positively (e.g., decreased physical symptoms) and negatively (e.g., decreased personal growth) impact psychological functioning in bereaved undergraduates. Future studies might continue to elucidate the potency of religiosity/ spirituality by utilizing assessments that capture both the positive and negative sides of religiosity, such as Pargament and colleagues (2002) religious coping scale (i.e., RCOPE); the current study's assessment of religious coping depended on only two items (i.e., Brief Cope). Further, based on the current study's findings, future studies might assess if religiosity serves as a mediator between writing and psychological functioning in the bereaved. A further investigation of religiosity might explain why, in some circumstances, writing is and is not effective for those experiencing bereavement.

Summary

Overall, the results of the study shed light on the use of expressive writing in the bereaved. Further, the results provide additional insight on the nature of grief in bereaved undergraduates, a sample that has likely experienced a loss of a loved one (Balk et al., 2010). The current study investigated a novel writing task—the acrostic poem— using innovative methods. Specifically, the current study was one of the few to capitalize on LIWC in the field of bereavement and utilize summary variables such as analytical thinking and emotional tone. While the results of the current study further demonstrate writing does not influence the course of grief following bereavement, the results suggest that writing provides important information about the psychological and spiritual functioning of the bereaved. Clinicians may use the study's findings as they unpack their bereaved clients' expressive writing. Investigators may use the results of this study as a launching pad for testing further hypotheses as it pertains to expressive writing and grief among the bereaved. Perhaps by working together, scientists and practitioners will one day craft an evidenced-based expressive writing intervention for the bereaved that is both efficacious and relevant for clinical settings.

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Appendix A

Demographics Questionnaire
(Developed by Primary Investigator)

1. Age:

2. Gender: (Please choose one)
   - Male
   - Female

3. Marital Status: (Please choose one):
   - Single
   - Married
   - Separated
   - Divorced
   - Widowed
   - Long-term relationship (not married)
   - Living together (not married)

4. Please describe your relationship to the deceased (e.g., if you are a parent of the deceased, type *parent*):

5. On a scale from 1 to 10 please describe how emotionally close you were to the deceased (1 = not at all close, 10 = one of the closest relationships in your life):

6. Your age at the time that the death occurred:

7. How much time has elapsed since your loss occurred? Please record your answer in months:

8. Which of the following best describes the circumstances of your loved ones death?
   - Accident
   - Illness
   - Homicide
   - Suicide
   - Military casualty

9. To what extent was your loved ones death sudden or unexpected; to what extent were you able to "see it coming" ahead of time?
   - Very expected
   - Expected
   - Unexpected
   - Very unexpected

10. How much sense would you say you have made of your loss?
    - No sense
    - Little sense
    - Some sense

- A good deal of sense

11. Despite your loss, have you been able to find any benefit from your experience of the loss?
    - No benefit
    - Little benefit
    - Some benefit
    - Great benefit

12. Do you feel that you are different, or that your sense of identity has changed as a result of this loss?
    - No different
    - A little different
    - Somewhat different
    - Very different

13. Do you feel that the change described in the question above has been positive or negative?
    - Very negative
    - Negative
    - Positive
    - Very positive
    - N/A (not applicable)

14. Please rate how stressful the loss experience was for you *when it occurred*.
    - Not at all stressful
    - Slightly stressful
    - Somewhat stressful
    - Very stressful
    - The most stressful event in my life up to that point

15. Please rate how stressful the loss experience is for you *now*.
    - Not at all stressful
    - Slightly stressful
    - Somewhat stressful
    - Very stressful
    - The most stressful event in my life up to that point

Appendix B

The Pennebaker Inventory of Limbic Languidness (The PILL)

Several common symptoms or bodily sensations are listed below. Most people have experienced most of them at one time or another. We are currently interested in finding out how prevalent each symptom is among various groups of people. On the page below, write how frequently you experience each symptom. For all items, use the following scale:

A	B	C	D	E
Have never or almost never experienced the symptom	Less than 3 or 4 times per year	Every month or so	Every week or so	More than once every week

For example, if your eyes tend to water once every week or two, you would answer "D" next to question #1.

___1. Eyes water
___2. Itchy eyes or skin
___3. Ringing in ears
___4. Temporary deafness or hard of hearing
___5. Lump in throat
___6. Choking sensations
___7. Sneezing spells
___8. Running nose
___9. Congested nose
___10. Bleeding nose
___11. Asthma or wheezing
___12. Coughing
___13. Out of breath
___14. Swollen ankles
___15. Chest pains
___16. Racing heart
___17. Cold hands or feet even in hot weather
___18. Leg cramps
___19. Insomnia or difficulty sleeping
___20. Toothaches
___21. Upset stomach
___22. Indigestion
___23. Heartburn or gas
___24. Abdominal pain
___25. Diarrhea
___26. Constipation
___27. Hemorrhoids

___28. Swollen joints
___29. Stiff or sore muscles
___30. Back pains
___31. Sensitive or tender skin
___32. Face flushes
___33. Tightness in chest
___34. Skin breaks out in rash
___35. Acne or pimples on face
___36. Acne/pimples other than face
___37. Boils
___38. Sweat even in cold weather
___39. Strong reactions to insect bites
___40. Headaches
___41. Feeling pressure in head
___42. Hot flashes
___43. Chills
___44. Dizziness
___45. Feel faint
___46. Numbness or tingling in any part of body
___47. Twitching of eyelid
___48. Twitching other than eyelid
___49. Hands tremble or shake
___50. Stiff joints
___51. Sore muscles
___52. Sore throat
___53. Sunburn
___54. Nausea

Since the beginning of the semester, how many:
_____Visits have you made to the student health center or private physician for illness
_____Days have you been sick
_____Days your activity has been restricted due to illness

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Hogan Grief Reactions Checklist

Hogan, N. S., Greenfield, D. B., & Schmidt, L. A. (2001). Development and validation of the Hogan Grief Reaction Checklist. *Death Studies*, *25*(1), 1-32.

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

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

1. My hopes are shattered 1   2   3   4   5

2. I have learned to cope better with life 1   2   3   4   5

3. I have little control over my sadness 1   2   3   4   5

4. I worry excessively 1   2   3   4   5

5. I frequently feel bitter 1   2   3   4   5

6. I feel like I am in shock 1   2   3   4   5

7. Sometimes my heart beats faster than it normally

    does for no reason 1   2   3   4   5

8. I am resentful 1   2   3   4   5

9. I am preoccupied with feeling worthless 1   2   3   4   5

10. I feel as though I am a better person 1   2   3   4   5

11. I believe I should have died and he or she should

    have lived 1   2   3   4   5

12. I have a better outlook on life 1   2   3   4   5

13. I often have headaches 1   2   3   4   5

14. I feel a heaviness in my heart 1   2   3   4   5

15. I feel revengeful 1   2   3   4   5

16. I have burning in my stomach 1   2   3   4   5

17. I want to die to be with him or her 1   2   3   4   5

18. I frequently have muscle tension 1   2   3   4   5

19. I have more compassion for others 1   2   3   4   5\

20. I forget things easily, e.g. names, telephone

    numbers 1   2   3   4   5

21. I feel shaky 1   2   3   4   5

22. I am confused about who I am 1   2   3   4   5

23. I have lost my confidence 1   2   3   4   5

24. I am stronger because of the grief I have

    experienced. 1   2   3   4   5

25. I don't believe I will ever be happy again 1   2   3   4   5

26. I have difficulty remembering things from the

    past. 1   2   3   4   5

27. I frequently feel frightened 1   2   3   4   5

28. I feel unable to cope 1   2   3   4   5

29. I agonize over his or her death 1   2   3   4   5

30. I am a more forgiving person 1   2   3   4   5

31. I have panic attacks over nothing 1   2   3   4   5

32. I have difficulty concentrating 1   2   3   4   5\

33. I feel like I am walking in my sleep 1   2   3   4   5

34. I have shortness of breath 1   2   3   4   5

35. I avoid tenderness 1   2   3   4   5

36. I am more tolerant of myself 1   2   3   4   5

37. I have hostile feelings .1   2   3   4   5

38. I am experiencing periods of dizziness 1   2   3   4   5

39. I have difficulty learning new things 1   2   3   4   5

40. I have difficulty accepting the permanence of the

    death 1   2   3   4   5

41. I am more tolerant of others 1   2   3   4   5

42. I blame others 1   2   3   4   5

43. I feel like I don't know myself 1   2   3   4   5

44. I am frequently fatigued 1   2   3   4   5

45. I have hope for the future 1   2   3   4   5

46. I have difficulty with abstract thinking 1   2   3   4   5

47. I feel hopeless 1   2   3   4   5

48. I want to harm others 1   2   3   4   5

49. I have difficulty remembering new

    information. 1   2   3   4   5

50. I feel sick more often 1   2   3   4   5

51. I reached a turning point where I began to let go

    of some of my grief 1   2   3   4   5

52. I often have back pain 1   2   3   4   5

53. I am afraid that I will lose control 1   2   3   4   5

54. I feel detached from others 1   2   3   4   5

55. I frequently cry 1   2   3   4   5

56. I startle easily 1   2   3   4   5

57. Tasks seem insurmountable 1   2   3   4   5

58. I get angry often 1   2   3   4   5

59. I ache with loneliness 1   2   3   4   5

60. I am having more good days than bad 1   2   3   4   5

61. I care more deeply for others 1   2   3   4   5

Appendix D

Brief COPE

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation

Spiritual Well-Being Scale
(Bufford, Paloutzian, & Ellison, 1991)

For each of the following statements, circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience.

SA = Strongly Agree   D = Disagree   MA = Moderately Agree

A = Agree   SD = Strongly Disagree   MD = Moderately Disagree

1. I don't find much satisfaction in private prayer with God. SA MA A D MD SD

2. I don't know who I am, where I came from, or where I am going.   SA MA A D MD SD

3. I believe that God loves me and cares about me. SA MA A D MD SD

4. I fee like life is a positive experience.   SA MA A D MD SD

5. I believe that God is impersonal and not in my daily situations.   SA MA A D MD SD

6. I feel unsettled about my future.   SA MA A D MD SD

7. I have a personally meaningful relationship with God. SA MA A D MD SD

8. I feel very fulfilled and satisfied with life.   SA MA A D MD SD

9. I don't get much personal strength and support from my God. SA MA A D MD SD

10. I feel a sense of well-being about the direction my life is headed in.   SA MA A D MD SD

11. I believe that God is concerned about my problems. SA MA A D MD SD

12. I don't enjoy much about life.   SA MA A D MD SD

13. I don't have a personally satisfying relationship with God. SA MA A D MD SD

14. I feel good about my future.   SA MA A D MD SD

15. My relationship with God helps me not feel lonely. SA MA A D MD SD

16. I fee l that life is full of conflict and unhappiness. SA MA A D MD SD

17. I feel most fulfilled when I'm in close communion with God. SA MA A D MD SD

18. Life doesn't have much meaning.   SA MA A D MD SD

19. My relation with God contributes to my sense of well-being. SA MA A D MD SD

20. I believe there is some real purpose for my life.   SA MA A D MD SD

Appendix F

The God Image Scale (from the Image of God Inventory)
(Lawrence, 1997)

Please answer all of the following statements with:

1=STRONGLY AGREE   2=AGREE   3=DISAGREE   4=STRONGLY DISAGREE

_____ 1. I am sometimes anxious about whether God still loves me.
_____ 2. I am confident of God's love for me.
_____ 3. God does not answer when I call.
_____ 4. I know I'm not perfect, but God loves me anyway.
_____ 5. I have sometimes felt that I have committed the unforgivable sin.
_____ 6. God never challenges me.
_____ 7. Thinking too much could endanger my faith.
_____ 8. I can feel God deep inside of me.
_____ 9. God's love for me has no strings attached.
_____ 10. God doesn't feel very personal to me.
_____ 11. Even when I do bad things, I know God still loves me.
_____ 12. I can talk to God on an intimate basis.
_____ 13. God nurtures me.
_____ 14. I get no feeling of closeness to God, even in prayer.
_____ 15. God loves me only when I perform perfectly.
_____ 16. God loves me regardless.
_____ 17. God takes pleasure in my achievements.
_____ 18. God keeps asking me to try harder.
_____ 19. God is always there for me.
_____ 20. Being close to God and being active in the world don't mix.
_____ 21. I often worry about whether God can love me.
_____ 22. God wants me to achieve all I can in life.
_____ 23. God's love for me is unconditional.
_____ 24. God asks me to keep growing as a person.
_____ 25. God doesn't want me to ask too many questions.
_____ 26. I am not good enough for God to love.
_____ 27. I sometimes feel cradled in God's arms.
_____ 28. God has never asked me to do hard things.
_____ 29. God feels distant to me.
_____ 30. I think human achievements are a delight to God.
_____ 31. I rarely feel that God is with me.
_____ 32. I feel warm inside when I pray.
_____ 33. God encourages me to go forward on the journey of life.
_____ 34. God never reaches out to me.
_____ 35. God doesn't mind if I don't grow very much.
_____ 36. I sometimes think that not even God could love me.

Appendix G

Writing Instructions for the Three Writing Conditions

Once you begin the Writing Exercise, you cannot save your work or go back and your time limit of 30 minutes will start. There is no required amount of writing that you must accomplish before the time is up - please just make sure to work on the writing for the entire period of time.

Pennebaker Paradigm Instructions:
During today's writing session, I want you to let go and write about your deepest thoughts and feelings about your loss. In your writing, you might want to write about your emotions and thoughts about your loss, about issues of adjusting to the various aspects of your loss, thoughts about your future in relation to your loss, or even about how your loss impacts your feelings of who you are and what you want to become. Once you begin writing, write continuously. Don't worry about spelling or grammar. The important thing is that you really let go and dig down to your very deepest emotions and thoughts and explore them in your writing.

Acrostic Poem Instructions:
During today's writing session, I want you to let go and write about your deepest thoughts and feelings about your loss. Grief Alpha Poems are an easy and structured way to get started with poetic expression. Write the alphabet, vertically down the side of your page. Then write a poem in which each successive line begins with the next letter on the page. (It's perfectly xceptable to make xceptions for xtra hard letters.) Try this even if you think you're not a poet, or that the process sounds silly. You'll likely be amazed at how easily the poem comes, and how much like a poem it actually sounds. In your poem, you might want to write about your emotions and thoughts about your loss, about issues of adjusting to the various aspects of your loss, or thoughts about your future, or even about your feelings of who you are and what your loss means to what you want to become. The important thing is that you really let go and dig down to your very deepest emotions and thoughts and explore them in your alpha poem.

Control Condition Instructions:
During today's writing session, I want you to describe in detail what you have done since you woke up this morning. It is important that you describe things exactly as they occurred. Do not mention your own emotions, feelings, or opinions. Your description should be as objective as possible.

Appendix H

Sample Acrostic Poem

Although he's gone, I know he's with me
Because I feel he's up above.
Caring and looking after our family
Doesn't know pain any longer, only love.
Even though I can't physically see him
Feelings of him never fade
God is watching over him
Heaven called and he obeyed.
I think of him many times
Jokes we've told and stories shared
Keeps my memory going strong
Let's me know he's always there.
Maybe one day I'll see him again
No one knows for sure
Only time can heal the pain
Pain I can endure.
Quiet times I think the most
R you with me now?
Still I can hear your voice
Thoughts of "do I make you proud?"
U are always in my heart
Very close indeed
When you did reach Heaven, where you
Xcited about your wings?
Y did you have to go? Only God knows why
Zo (so) for now I'll just write you this poem as my way of saying goodbye

Appendix I

Procedure of Data Collection of Collison et al. (2013) Study

Day 1	Day 2	Day 3	1 Week Follow Up (Time 4)	1 Month Follow Up (Time 5)
•Demographics •Battery of Measures* •PANAS •1st Writing	•PANAS •2nd Writing	•PANAS •3rd Writing	•Battery of Measures*	• Battery of Measures*

Battery of Measures denotes the Hogan Grief Reaction Checklist, Brief Cope, Spiritual Well-Being Scale, God Image Scale, and Pennebaker's Inventory of Limpid Languidness.

Appendix J

Correlations of Key Study Variables at Time 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Total Negative Grief Reactions		-.11	.52**	.37**	.11	.18	-.23	-.67**	-.46**	.40**	.12	.62**	-.25	.23	-.11	.58**
2. Personal Growth			.12	-.34**	-.12	-.15	.22	.12	.21	-.11	.22	-.17	.41**	.09	.34**	-.19
3. Physical Symptoms				.17	.21	.20	-.18	-.56**	-.41**	.12	-.06	.23*	-.22	-.01	-.20	.43**
4. GIS - Acceptance					.77**	.78**	.79**	-.56**	-.81**	.05	-.19	.34**	-.36**	-.32*	-.65**	.26*
5. GIS - Challenge						.86**	-.83**	-.41**	-.79**	-.08	-.21	.28*	-.35**	-.20	-.58**	.07
6. GIS - Presence							-.95**	-.41**	-.87**	-.07	-.23	.22	-.34**	-.32*	-.75**	.10
7. Religious Well-Being								.45**	.92**	.12	.20	-.18	.39**	.32*	.77**	-.17
8. Existential Well-Being									.77**	-.11	.22	-.50**	.41**	.08	.41**	-.43**
9. Spiritual Well-Being										.02	.23	-.37**	.45**	.26	.74**	-.31*
10. Denial											.18	.45**	.06	-.08	.00	.27*
11. Emotional Support												.07	.33**	.40**	.33**	.20
12. Behavioral Disengagement													-.02	.15	-.05	.55**
13. Positive Reframing														.28	.53**	-.11
14. Planning															.37**	.10
15. Religion																-.16
16. Self-Blame																

Note: * *p* < .05, ** *p* < .001

Vita

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