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College of Social and Behavioral Sciences

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Meryle J. Vinje

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Walden University
2021

Abstract

The Relationships Between Personality Characteristics of Hardiness and Resilient Grief Outcomes in an Aging Female Population

by

Meryle J. Vinje

MA, Walden University, 2010

BS, Cardinal Stritch University, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

August 2021

Abstract

There is increasing empirical evidence that bereaved individuals vary considerably in their reactions to loss and that individuals experience varying pathways through the grief process. This quantitative correlational study advanced understanding of Bonanno's pathways to resilient grief theory and contributed to the strengths-based grief and bereavement literature by examining if hardiness commitment, control, and challenge were significantly related to grief resolution and posttraumatic growth (PTG), controlling for participant age, depression, religiosity, and time since the death of a spouse, in a sample of 218 widowed women aged 50 or older. Descriptive findings revealed that study participants were in their mid-60s, and 75% had lost their spouse in the past five to 10 years. The six research questions were addressed by conducting two hierarchical multiple linear regressions (HMLR), one for each of the two criterion variables of grief resolution and PTG. Results from the first HMLR showed that as levels of hardiness commitment increased, so did grief resolution; in addition, higher levels of depression were significantly associated with lower levels of grief resolution. Findings from the second HMLR indicated that higher levels of hardiness commitment and control were significantly linked to PTG. Moreover, a higher number of years since loss and higher levels of religiosity were significantly related to higher levels of PTG. The identification of personal risk (e.g., depression) and protective (e.g., commitment, control, religiosity) factors concerning resilient grief outcomes may help to inform the development of grief and bereavement initiatives that build resilience and enhance the quality of life among older adult widowed women leading to positive social change.

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Dedication

This dissertation is dedicated to my beautiful children and Allan, they provided me with endless love and encouragement. They sacrificed their time and always my biggest supporters, thank you from all my heart. Finally, for my parents who have passed, I know you are watching over me with pride and love. I want to acknowledge God and his endless blessings during this long and difficult journey.

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I would like to thank my chair Dr. Tracy Marsh and 2nd committee member Dr. Delinda Mercer for their kind words of encouragement and direction. This journey would not have been possible without the support of friends. Sue, receiving this degree is in part because of your continual support and love. I remember the long nights I practiced my new knowledge and skills with you. To my friend Laura, God blessed me with your friendship. To Greg Murphy from Senior Advisory, you were always there to help me through this journey, thank you.

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Chapter 1: Introduction to the Study

In 2011, when the oldest Baby Boomers reached the age of 65 (Bouk, 2018), the United States entered a new era: the graying of America (Roberts et al., 2018). The graying of America refers to the increasing percentage of Americans who are age 65 or older, a result of the aging of the Baby Boomer generation born between 1946 and 1965 (Super, 2020). By 2030, all Baby Boomers, the generation of Americans born between 1946 and 1965, will be aged 65 or older and comprise almost a quarter of the American adult population (Super, 2020). A related social phenomenon is the feminization of aging, referencing the disparity between men and women increasing with age (Davidson, 2019; Roberts et al., 2018). Women outlive men by an average of 6 years (Davidson, 2019; Roberts et al., 2018). As of 2017, women comprised 54% of the population of Americans aged 60 or older and 63% of Americans aged 80 or older (Davidson, 2019).

The social phenomena of the graying of America and the feminization of aging have led to new concerns regarding grief and bereavement among older widowed women (Gross, 2018; Infurna, 2020). Concerns regarding the grief response to spousal loss are compounded when considering that older adult women experience more financial burdens than their male peers due to spousal loss (Dabergott, 2021; Infurna, 2020; Kepic, 2020). However, widowed women display higher levels of adaptive functioning in the face of spousal loss than their male peers (Blanchard et al., 2020; Dabergott, 2021; Streeter, 2020). The contradictory findings have prompted an increased examination of spousal bereavement and grief among older adults in general and older adult women specifically (MacCallum et al., 2017; Soulsby & Bennett, 2017).

The grief and bereavement literature has historically taken a deficit-based approach focusing on the pathological consequences from the loss of a loved one (Davies, 2016; Lundorff et al., 2017; Rosner, 2015), and there remains considerable interest in maladaptive grief reactions and complicated or prolonged grief (De Stefano et al., 2020; Mason et al., 2020). However, strength-based theoretical approaches to grief that place importance on human potential and growth in the face of loss has prompted scholars to view grief and bereavement in a new light (Arizmendi & O'Connor, 2015; Bonanno, 2004; Fontes & Neri, 2015; Spahni et al., 2015). The findings from the strength-based grief literature have countered the previously enduring theoretical (e.g., Hardt, 1979; Kübler-Ross, 1969) postulates that grief occurs in predictable stages, inevitably results in distress and dysfunction, and requires therapeutic interventions to resolve it (Bonanno, 2004, 2005; Ong et al., 2009, 2010; Spahni et al., 2015). There is increasing empirical evidence that bereaved individuals vary considerably in their reactions to loss and that individuals experience varying pathways through the grief process (Blanchard et al., 2020; Kepic, 2020; MacCallum et al., 2015).

Strength-based scholars have introduced the concept of resilient grief, defined as a successful adaptation to loss that includes elements of grief resolution and posttraumatic growth (PTG), or positive psychological growth after trauma (Bonanno, 2004; Bonanno et al., 2011, 2012; Maddi, 2012; Ong et al., 2009, 2010). Scholars have also posited that the personality factors or three Cs of hardiness—a commitment or a sense of purpose, control or being in command of one's environment, and challenge or acceptance to change—play essential roles in minimizing post bereavement distress and fostering

positive change and growth from loss (Bonanno, 2004; Bonanno et al., 2007, 2011, 2012; Maddi, 2004, 2006, 2012; Ong & Bergeman, 2004; Ong et al., 2009, 2010). Despite the work by such scholars as Bonanno (2004), Maddie (2004, 2012), and Ong et al. (2009, 2010), there has yet to be an empirical examination of the relationships between the three Cs (i.e., control, commitment, and challenge) of hardiness and resilience operationalized as grief resolution and PTG, as in this study. This study was conducted with older adult widowed women and examined if the hardiness factors of control, commitment, and challenge were significantly associated with grief resolution and PTG, controlling for participant age, time since spousal loss, depression, and religiosity.

This chapter provides a comprehensive overview of the study. The chapter opens with a background section that provides a summary of the literature relevant to this study. The sections that follow present the problem statement, the purpose of the study, and the research questions, each having the associated null and alternative hypotheses. The guiding theory, Bonanno's (2004) pathways to resilient grief (PtRG) model, is the topic of the subsequent section. The chapter continues with sections about the nature of the study and definitions of key terms and constructs. Study assumptions and scope, delimitations, and limitations, and the study significance are the last topics reviewed. The chapter concludes with a summary section.

Background

As women live longer than men by an average of 6 years, it is not surprising that a higher percentage of women as compared to men experience the death of a spouse (Dabergott, 2021). Among adults aged 65 and older, 34% of women have lost a spouse,

compared to 12% of men (Federal Interagency Forum on Aging-Related Statistics, 2019). By age 75, 58% of women as compared to 28% of men have experienced spousal loss (Federal Interagency Forum on Aging-Related Statistics, 2019). The differences in life expectancies have societal implications for older adult women (Dabergott, 2021; Davidson, 2019). Women aged 60 and older face many difficulties and challenges associated with the loss of a spouse (Dabergott, 2021; Gross, 2018; Soulsby & Bennett, 2017). Older widowed women are at an increased risk of experiencing a substantial financial burden and becoming impoverished in comparison to their male peers (Kepic, 2020; Streeter, 2020). Widowhood can exacerbate issues that occur with aging, including physical and mental health declines, changes in identity, reduction of a social network, and loneliness (Holm & Severinsson, 2012; Nseir & Larkey, 2013; Soulsby & Bennett, 2017).

Despite the numerous negative consequences of spousal death, over 50 years of empirical research have shown that women display significantly higher levels of resilience than men in response to spousal death (Blanchard et al., 2020; Holmes & Rahe, 1967; Holm & Severinsson, 2012; King et al., 2019; Koren, 2015; O'Rourke, 2004). Further empirical work has shown that women who have high levels of hardiness, or trait resilience, and related characteristics (e.g., motivation reserve, generativity, psychological well-being and motivation, life satisfaction, spirituality) are more likely to have a resilient response to spousal death (Bennett, 2010; Blanchard et al., 2020; Fontes & Neri, 2015; Kepic, 2020; Soulsby & Bennett, 2017). There is empirical evidence that women with high levels of hardiness have; (a) more rapid recoveries in response to loss,

(b) increases in help-seeking behaviors, (c) lower levels of anxiety and depression, (d) fewer health problems, (e) higher levels of hope and optimism, and (f) higher levels of PTG (Bennett, 2010; Blanchard et al., 2020; Kepic, 2020; Soulsby & Bennett, 2017). This section of the chapter is devoted to a review of the concepts of resilience as a process, hardiness, or trait resilience, and the three Cs of hardiness.

Resilience as a Process

Scholars have differentiated between resilience as a process (Infurna & Luthar, 2016, 2018; Rutter, 1987) and trait resilience, or hardiness (Bartone, 2006; Maddi, 2006, 2012; Ong & Bergeman, 2004; Ong et al., 2009, 2010). Resilience as a process is an adaptive response to a distressful or traumatic event (Infurna & Luthar, 2016, 2018, 2020). It is event-specific; a person may have the resilience to one type of trauma but not another type (McCubbin, 2001; Rutter, 1987). In a seminal work on resilience, McCubbin (2001, p. 3) defined this process as "the ability to bounce back or overcome adversity." Tedeschi and Calhoun (2004) offered a definition of resilience as PTG, or growth and thriving in response to a traumatic event. PTG and resilience share the qualities of; (a) insight and strength, (b) the ability to find new meaning in life, (c) an appreciation for life and hopefulness, (d) emotional availability, and (e) spiritual growth (Tedeschi & Calhoun, 1996, 2004). There has come to be substantial empirical support for PTG as a valid construct associated with resilience (Feder et al., 2008; Tedeschi, 2011; Tsai et al., 2015).

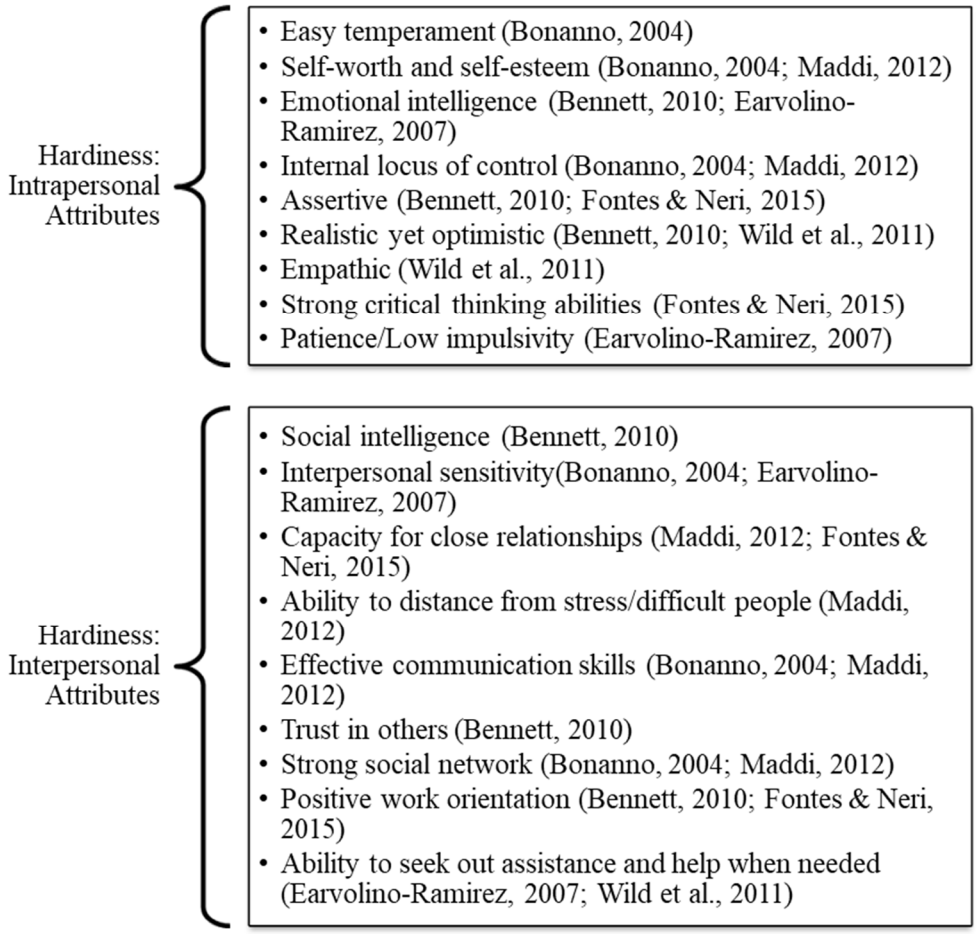
Resilience as a Trait: Hardiness

In contrast to resilience as a process, resilience as hardiness is a personality trait, an attribute that is constant and unchanging (Bartone, 2006; Maddi, 2012; McCubbin, 2001). McCubbin (2001) identified hardiness as an "internal protective factor" (p. 32), while Maddi (2012) described hardiness as "existential courage" and the ability to "make meaning out of tragedy" (p. 8). Both Bonanno (2004) and Maddi (2012) defined hardiness as a personality trait that allows the individual to experience psychological growth from a personal tragedy, a definition accepted by contemporary scholars (Everly & Lating, 2019; Foster et al., 2019).

Scholars have identified specific intrapersonal and interpersonal attributes of hardy individuals (Allred & Smith, 1989; Bonanno, 2004; Maddi, 2012; McCubbin, 2001; Ong & Bergeman, 2004; Ong et al., 2009, 2010), including older adults (Fontes & Neri, 2015; Wild et al., 2011; Windle et al., 2008), as noted in Figure 1. The intrapersonal attributes are similar but distinct from hardiness and include high self-esteem, assertiveness, optimism, and adaptability or flexibility (Bennett, 2010; Bonanno, 2004; Maddi, 2012; Ong et al., 2009, 2010). The combination of these personality and psychological traits likely contribute to the interpersonal strengths often present in hardy individuals (Earvolino-Ramirez, 2007; Fontes & Neri, 2015; Maddi, 2012; Wild et al., 2011). Hardy individuals tend to have a high degree of social and emotional intelligence, interpersonal sensitivity, warmth, and openness (Bonanno, 2004; Maddi, 2012).

Figure 1

Attributes of Hardiness



The Three Cs of Hardiness

Maddi and Kobasa (Kobasa, Maddi, & Kahn, 1982; Maddi, 1999, 2002, 2006, 2007; Maddi & Kobasa, 1984) were the first theorists to suggest that hardiness comprised three distinct elements: commitment, control, and challenge. These scholars argued that the three personality traits activated specific positive cognitive appraisals and involved certain adaptive cognitive, emotional, and behavioral responses (e.g., using active problem-solving skills, remaining calm, seeking support; Kobasa, 1979; Maddi, 2004,

2006; Maddi & Kobasa, 1984). Commitment, control, and challenge collectively provide "the pathway to resilience" as a process or outcome (Maddi, 2012, p. 7).

The three Cs of hardiness share some conceptual overlap but are considered distinct concepts (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). A person high in commitment has a purposeful life; they strive to improve themselves and others (Maddi, 2012). Commitment has commonalities with perseverance, resoluteness, and steadfastness; a person high in commitment is loyal and honors their obligations (Maddi & Kobasa, 1984). A person high in control is in command of their environment but also has the capacity to recognize what they can influence and change (Maddi, 2004, 2006). Control is very similar to an internal locus of control and self-efficacy. Control is similar to grit (Maddi, 2004, 2006). A person high in the challenge has the cognitive ability to reinterpret a traumatic event as an opportunity for learning and growth (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Challenge is acceptance of change; a person high in the challenge has a pioneering spirit, a forward-thinking attitude, and faces problems directly and courageously (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). The degree of hardiness is said to be dependent upon the levels of commitment, control, and challenge within each person (Kobasa, 1979; Maddi, 2004, 2006, 2012; Maddi & Kobasa, 1984).

Trait Hardiness and Grief Outcomes

This study utilized Bonanno's (2004) PtRG theoretical model. The PtRG model puts forth a premise that has two primary parts. The first is that there are four common pathways to grief (Bonanno, 2004). Two of the pathways, considered maladaptive and

associated with higher levels of psychological distress and dysfunction in the two years post-loss, are chronic and delayed grief (Bonanno, 2004). The other two grief pathways are adaptive, and they are associated with lower levels of dysfunction in the two years post-loss (Bonanno, 2004). This study did not test this premise of the PtRG model, as it has received substantial empirical support in the research literature (Bonanno et al., 2007; Galatzer-Levy & Bonanno, 2012; Lotterman, Bonanno, & Glatzer-Levy, 2014; Maddi, 2004, 2006, 2012; MacCallum et al., 2015; Mancini & Bonanno, 2006; Ong et al., 2009, 2010; Spahni et al., 2015). In this study, the researcher focused on the second premise of the PtRG model that the three Cs of hardiness are associated with resilience grief (Bonanno, 2004), a theoretical argument that has received minimal empirical examination (Infurna, 2020; Infurna & Luthar, 2018; Maddi, 2012; Spahni et al., 2015).

Despite the proliferation of empirical work by Bonanno and colleagues (Bonanno, 2004; Bonanno et al., 2007, 2011, 2012; Galatzer-Levy & Bonanno, 2012; Lotterman et al., 2014; Mancini & Bonanno, 2006), the authors have yet to test the hypothesis that the three Cs of hardiness are significantly linked to resilience grief outcomes. Bonanno and colleagues have utilized various measures of psychological adjustment, but not hardiness per se, to examine differences between individuals experiencing specific grief patterns. Bonanno et al.'s (2005) findings revealed that, in comparison to individuals with chronic grief, those experiencing resilient grief had significantly lower levels of depression, anxiety, and psychological and somatic distress, and significantly higher levels of psychological and social functioning, as reported by the participants and friends. Mancini et al. (2015) found significant differences in "maladaptive dependency traits" and

positive thinking between participants displaying resilient as compared to chronic prolonged grief 6 months postloss (p. 1245).

Very few studies have empirically tested the PtRG argument that there is a link between hardiness constructs of commitment, control, and challenge and resilient grief outcomes. The studies that do exist have utilized different operational definitions of grief. Using a sample of 232 widowed older women (*M* age = 61 years), O'Rourke (2004) examined whether commitment, control, and challenge were significantly associated with two grief outcomes, operationalized as life satisfaction and life distress, controlling for pertinent variables. Results showed that commitment and control were significantly related to life satisfaction; however, only commitment was significantly associated with life distress after controlling for covariates (O'Rourke, 2004). O'Rourke et al. (2011) examined the longitudinal relationships between the three Cs of hardiness and grief, operationalized as depression, in a sample of 105 (68% female, *M* age = 72 years) adults who lost a spouse to Alzheimer's disease. O'Rourke et al.'s (2011) findings showed that hardiness control and challenge, but not commitment, significantly predicted depression levels one year later (O'Rourke et al., 2011). These disparate findings suggest that the effect of the three Cs of hardiness on grief outcomes depends on the operationalization of grief, and they also suggest differential effects of the three Cs of hardiness.

There has been some empirical examination of the effects of the three Cs on grief as defined as PTG. Bonanno's (2004) concept of resilient grief is similar to PTG; both resilient grief and PTG incorporate aspects of acceptance and "appreciation of life," and both are related to intrapersonal, spiritual, and relational growth (Calhoun et al., 2010, p.

128). Ogiňska-Bulik (2014) and Ogiňska-Bulik and Koblyarczyk (2015) conducted studies with older adults who lost a close friend, family member, or spouse in the past five years. Their findings revealed that only challenge was significantly related to PTG (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015). However, no study has examined the relationships between the three Cs of hardiness and the two resilient grief outcomes of grief resolution and PTG in samples of widowed older adult women.

Problem Statement

It is not known whether, and if so, to what degree, the three Cs of hardiness (i.e., commitment, control, and challenge) are significantly associated with two resilient grief outcomes, grief resolution, and PTG. Few studies have tested the theoretical premise posited by Bonanno (2004) that the three Cs of hardiness collectively predict resilient grief. Findings from O'Rourke, (2004), O'Rourke et al. (2011), Ogiňska-Bulik (2014), and Ogiňska-Bulik and Koblyarczyk (2015) suggested that there are significant relationships between the three Cs of hardiness and resilient grief outcomes, providing support for Bonanno's (2004) PtRG theory, but they may differ depending on the individual hardiness constructs and the measurement of resilient grief. This study contributed to the understanding of Bonanno's (2004) PtRG model and advanced the scholarly literature about hardiness and resilient grief outcomes by examining if, and if so, to what degree, the three Cs of hardiness (i.e., commitment, control, and challenge) were significantly associated with two resilient grief outcomes, grief resolution, and PTG, after controlling for the covariates of participant age, years since spousal loss, depression,

and religiosity. The focus on both hardiness, or resilience as a trait, and resilience as a process added clarity to the grief and bereavement as well as the resilience literature.

This study contributed to addressing additional gaps in the grief and bereavement literature concerning the measurement of resilient grief and the relationships among pertinent grief and bereavement variables (e.g., depression, religiosity). This study helped clarify the conceptualization of resilient grief and provided information on the relationship between grief resolution and PTG, which had yet to be assessed in the grief and bereavement literature. The inclusion of participant age, years since loss, depression, and religiosity not only allowed for a more statistically precise assessment of relationships among variables, but it added to the existing grief and bereavement literature. It was critical that depression be included as a control variable as the empirical literature has consistently operationalized resilient grief as reduced depression (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018). Moreover, religiosity has been recognized as one of the "key positive characteristics" associated with resilient grief (MacLeod et al., 2016, p. 268). This advanced the empirical work on resilient grief and the roles that the three Cs of hardiness, participant age, time since loss, depression, and religiosity play on resilient grief outcomes.

Purpose of Study

The purpose of this quantitative correlational study was to examine whether there were significant relationships between the three hardiness personality factors of commitment, control, and challenge and the grief-related outcomes of grief resolution and PTG in a national sample of women. The three Cs of hardiness, commitment, control,

and challenge, the predictor variables, were measured using the respective subscales on the 15-item Dispositional Resilience Scale (DRS15; Bartone, 1995). The criterion variable of grief resolution was measured by the Grief Resolution Index (GRI; Remondet & Hansson, 1987), and the criterion variable of PTG was assessed using the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). The study included the covariates of participant age, time since the death of a spouse (in years), depression, and religiosity.

Research Questions and Null and Alternative Hypotheses

RQ1: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the Grief Resolution Inventory (GRI; Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$1: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a1: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995) and grief resolution, measured using the GRI (Remondet & Hansson,

1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ2: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$2: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a2: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among recently widowed women aged 50 or older.

RQ3: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$3: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a3: There is a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ4: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$4: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a4: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone,

1995) and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ5: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$5: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a5: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ6: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant

age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$6: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a6: There is a significant relationship between the hardiness personality factor of challenge, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

Theoretical Perspective

The theoretical framework that informed the study was Bonanno's (2004) PtRG model. The PtRG theoretical model countered the prevailing grief theories (Bowlby, 1917; Freud, 1917; Kübler-Ross, 1969; Lindemann, 1944) and their "pathological" postulates that grief occurred in predictable stages, was always distressing, and required psychological intervention (Bonanno et al., 2011, p. 512). In the PtRG model, Bonanno (2004) made two fundamental propositions: (a) there may be more than one grief pathway, including those that are resilient based; and (b) certain individual attributes, including hardiness, can contribute to resilient grief. Bonanno (2004) tested the PtRG theory by identifying different pathways to grief in his longitudinal study with older

adults. As the participants lost a spouse during the study's duration, Bonanno (2004) was able to capture and utilize depression data on the participants' pre-and-post bereavement. By assessing changes in depression, distress, and dysfunction over time, Bonanno (2004) identified four grief patterns or pathways.

The differences across the four patterns of grief were reflective of the level of participants' distress and dysfunction at the point of loss and two years post-loss (Bonanno, 2004). Bonanno (2004) identified two grief patterns as maladaptive: chronic and delayed grief. Chronic grief occurred in 5% to 30% of participants. Participants who had chronic grief displayed the highest levels of depression, distress, and dysfunction at the time of loss, and these increased in the two years post bereavement. Five percent to 15% of participants experienced delayed grief. Participants with delayed grief had moderate to high levels of distress and dysfunction at the time of loss, and their distress and dysfunction increased in the two years post bereavement. These participants had the second-highest levels of dysfunction two years post bereavement (Bonanno, 2004).

The two more adaptive grief pathways are recovered and resilience, as experienced by a large percentage of individuals (Bonanno, 2004). Fifteen percent to 35% had recovered grief, characterized by moderately high distress and dysfunction at the time of loss. Indeed, recovered individuals experienced higher levels of distress and dysfunction at the time of loss as compared to individuals with delayed grief. Recovered individuals were able, however, to adapt to the loss and reach healthy levels of adjustment in the two years that followed the loss. The last pattern was the resilient grief pathway, experienced by 35% to 50% of participants. Resilient individuals displayed

elevated levels of distress and dysfunction at the time of the loss, but these levels were mild and the lowest of all four groups. Distress and dysfunction levels declined for the first-month post-loss, rose slightly at 3-4 months post-loss, and then leveled out at the end of the year post-loss. Resilient individuals reported higher levels of functioning and adjustment throughout the grief process (Bonanno, 2004).

Bonanno (2004) focused on the resilient grief pattern in his PtRG theoretical framework. Central to the PtRG model were the specific attributes of the individuals who displayed resilient grief. One attribute was hardiness, also known as trait resilience. The unique aspect of Bonanno's (2004) PtRG model is that it incorporates both personality (trait) and process/outcome resilience into a grief model but differentiates between the two. Bonanno (2004), in his PtRG model, made very clear the distinctions between resilience as an outcome and trait resilience, or hardiness. The resilience pattern to grief is an outcome of loss, and Bonanno (2004) defined this type of resilience as a person's ability, in the face of such loss, to not only display "healthy levels of psychological and physical functioning" but to also have the ability to experience growth and "positive emotions" (p. 20). Bonanno (2004) further proposed that hardiness (or trait resilience), or more specifically, the three Cs of hardiness, commitment, control, and challenge, provided a pathway to resilience as an adaptation to and growth from spousal loss.

Maddi (2004, 2006, 2012) and Ong and colleagues (Ong & Bergeman, 2004; Ong et al., 2009, 2010) provided further explications of the three Cs of hardiness within the context of grief. Maddi (2004, 2006, 2012) posited that hardiness involved the expression of positive emotions, adaptive coping mechanisms, and a positive attitude toward life.

Ong and colleagues (Ong et al., 2009, 2010; Ong & Bergeman, 2004) examined how hardiness traits were specifically linked to positive outcomes post spousal loss among the older adult population. Their empirical work showed that individuals with high levels of hardiness also reported high levels of positive affect, hope, and low levels of neuroticism (Ong & Bergeman, 2004; Ong et al., 2010). The PtRG literature has documented those hardy individuals are emotionally stable, optimistic, and hopeful, utilize effective coping mechanisms, and often have high levels of social support, all of which contribute to resilience outcomes (Bennett, 2010; Bonanno et al., 2011, 2012; Galatzer-Levy & Bonanno, 2012; Maddi, 2012; Ong & Bergeman, 2004; Ong et al., 2010).

Nature of the Study

This study was quantitative and employed a correlational design. Researchers employ the correlational design to determine the significance, direction, and strength of the relationship between the independent variable, which is called the predictor variable, and the dependent variable, which is called the criterion variable (Curtis et al., 2016; Morgan & Carcioppolo, 2014). As the goal of a correlational study is to examine the direction and strength of the relationships between the predictor and criterion variables, both variables are usually interval or ratio-coded, but they can be categorical or ordinal (Giles, 2013). The statistics used in correlational research studies are those that examine relationships; these include different types of linear (i.e., multiple, hierarchical) and logistic (i.e., binary, multinomial) regression, path analysis, and structural equation modeling (Giles, 2013).

This study met the requirements for a quantitative nonexperimental correlational study. This study was quantitative as the researcher used the scientific method. As this study did not employ a random selection of participants, did not entail the manipulation of the independent variables, and did not have conditions, such as intervention or control groups, it was best defined as a nonexperimental study. The study was correlational in design, as the intent of the study was to examine the significance, direction, and strength of the relationships between the hardiness personality factors of commitment, control, and challenge, the study's predictor variables, and grief resolution and PTG, the study's criterion variables, controlling for pertinent covariates. The researcher recruited study participants by utilizing Qualtrics research panel recruitment services, and the data collection occurred online. The type of statistic used to test study hypotheses was hierarchical multiple linear regression (HMLR), commonly used in correlational studies (Giles, 2013). An HMLR is conducted to examine the statistical effects of one or more predictor variables on one criterion variable, with predictor variables entered on more than one regression model/step (Keith, 2014). In this study, hypothesis testing entailed the computation of two HMLRs, with one examining the effects of the three Cs of hardiness (controlling for covariates) on grief resolution and the second examining the effects of the three Cs of hardiness (controlling for covariates) on PTG.

Definitions

Bereavement: The term bereavement refers to a state of sadness and mourning in response to the loss of someone close (Miller, 2012)

Challenge (component of hardiness): Challenge, one of the three Cs of hardiness, is defined as having the ability to positively reframe and reinterpret a traumatic event (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Sheard and Golby (2007) stated that challenge was an individual perspective that life was unpredictable, and changes were inevitable, which provided an opportunity to progress out of stressful events rather than appraising change as threatening.

Chronic patterns of grief: Chronic patterns of grief are defined by an elevation in symptoms and impairment in mental and physical functioning that may be present for years after the traumatic event (Bonanno et al., 2011).

Commitment (component of hardiness): Commitment, one of the three Cs of hardiness, is defined as having a sense of resoluteness, steadfastness, and responsibility (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Commitment entails being involved in one's surroundings, activities, and daily life (Maddi & Kobasa, 1984; Sheard & Golby, 2007). It is the opposite of alienation (Sheard & Golby, 2007).

Control (component of hardiness): Control, one of the three Cs of hardiness, is feeling empowered and in command of one's life and its circumstances and challenges (Kobasa, 1979; Maddi & Kobasa, 1984; Sheard & Golby, 2007). Control shares conceptual overlap with an internal locus of control and grit (Maddi, 2004, 2006). It is the opposite of feeling helpless and incapable (Sheard & Golby, 2007).

Delayed patterns of grief: Delayed patterns of grief are defined by moderate to significantly elevated symptomology, soon after the traumatic event, which continues to elevate or worsen with time (Bonanno et al., 2011).

Grief: Grief is the psychobiological response or physical and emotional response to the loss, such as somatic responses, (mental and physical responses) confusion, anxiety, and shock, and emotional response to grief can include yearning, sadness, ruminating, memories, images of the deceased, and the continued feeling of loneliness (Holm & Severinsson, 2012; Perng & Renz, 2017).

Grief resolution: Remondet and Hansson (1987) defined grief resolution as "psychological and physiological reactions" to a loss that leads to "social reintegration" and "eventual adjustment" (p. 30).

Hardiness: Hardiness is trait resilience, a personality characteristic that promotes cognitive, emotional, and physical well-being, especially during times of stress (Bonanno, 2004; Maddi, 2004, 2006; Ong & Bergeman, 2004). The hardy personality is exemplified by cognitive reframing abilities (i.e., seeing the 'good in the bad'), optimism, hope, and associated skills that allow the individual to overcome stressful life circumstances (Bartone, 2006; Maddi, 2007). Maddi (2012, p. 8) described hardiness as "existential courage," the ability to "make meaning out of tragedy." Scholars (Bonanno, 2004; Kobasa, 1979; Maddi, 2004, 2006; Ong & Bergeman, 2004) have posited that hardiness is comprised of three components: commitment, control, and challenge.

Posttraumatic growth: PTG is defined as growth in the face of challenge Tedeschi & Calhoun, 1996). PTG involves cognitive restructuring and psychological reframing when faced with traumatic challenges, including the loss of a loved one (Calhoun et al., 2010; Tedeschi & Calhoun, 1996). PTG is synonymous with stress-related growth and psychological thriving (Tedeschi & Calhoun, 1996).

Recovery pattern of grief: The recovery pattern of grief is characterized as elevated psychological symptoms and some dysfunctional impairments following a traumatic event, returning to normal levels of functioning (Bonanno et al., 2011).

Resilience as a process: Resilience as a process involves working through traumatic events with minimal dysfunction that results in stable mental and physical functioning soon after the event (Bonanno et al., 2011). Resilience is the ability to adapt to trauma and challenges that occur in one's life (Cohen, 2018). An individual who is resilient can not only handle stress resulting from challenges but grow from them (Cohen, 2018).

Resilient pattern of grief: The resilient pattern of grief involves minimal psychological distress or impairment to the loss of a loved one (Bonanno, 2004). The resilient griever may have some distress at the time of loss, but this distress is resolved quickly, within days or weeks, and the person experiences no delayed distress (Bonanno, 2004).

Assumptions

All quantitative studies have methodological assumptions, often pertaining to the guiding theory, variables, instruments, study participants, and statistical analyses (Nardi, 2018). A theoretical assumption was that the PtRG grief theory proposed by Bonanno (2004) was relevant, meaningful, and applicable to the study topics of hardiness, grief resolution, and PTG. In alignment, there was an assumption was that the research questions and hypotheses aligned with the PtRG grief model and allowed for the appropriate testing of this theory. There was an instrument assumption that the constructs

of grief resolution and PTG adequately captured aspects of resilient grief, based on prior empirical work (Bonanno et al., 2002, 2008; deRoon-Cassini et al., 2010; Deshields et al., 2016; Lamet et al., 2015). A related assumption was that the study instruments were valid and reliable measures of the study constructs. As the instruments were selected based on their psychometric strengths (Bartone, 1995, 2007; Bartone et al., 2016; Linley et al., 1987; Tedeschi & Calhoun, 1996; Tedeschi et al., 2017; Tomita & Kitamura, 2002), this assumption was met.

Many of the assumptions concerned the study sample. There was an assumption that the study participants represented the population of widowed American women aged 50 or older. The researcher also assumed that participants' survey responses were based on valid representations of their life events. Moreover, there were assumptions that the study participants understood their role in the study (i.e., to complete a survey) and provided honest responses to the study questions. Certain methodological practices were employed to enhance the likelihood that these assumptions were met: (a) the consent forms and instruments were written at a 9th-grade reading level; (b) participants were required to provide informed consent; and (c) responses were provided in an online format, and as such, the participants were anonymous to the researcher.

The remaining assumptions pertained to the statistical analysis, HMLR, conducted for hypothesis testing. The researcher took the assumption that HMLR was the appropriate analysis to test study hypotheses. There was an assumption that the HMLR findings were accurate and reflected the responses of the participants. To ensure that this assumption was met, the statistical assumptions specific to linear regression (e.g.,

normality, linearity, homoscedasticity, and lack of multicollinearity between the predictor variable and covariates) were tested; results from the testing showed that the data met all assumptions for HMLR. The last statistical analysis assumption was that the testing of covariates was conducted correctly; as the testing was conducted in accordance with statistical recommendations (Field, 2013; Harrell, 2015), this assumption was met.

Scope and Delimitations

This study had a defined scope, which set the parameters of the study, and delimitations, or aspects of the study that resulted from the study parameters (Simon & Goes, 2013). The study was specific to the examination of the relationships between the hardiness personality factors of commitment, control, and challenge, and the outcomes of grief resolution and PTG. Moreover, the researcher utilized specific instruments to measure these constructs: the DRS15 for the hardiness factors, the GRI for grief resolution and the PTGI for PTG. The study was delimited to a sample of bereaved women, aged 50 or older. The study included and tested four covariates (i.e., participant age, years since the loss of a spouse, depression, and religiosity) shown to be significantly associated with grief outcomes, both positive and negative, in previous empirical work (Bonanno et al., 2005, 2007; Bonanno & Kaltman, 1999; Holmes & Rahe, 1967; Holm & Severinsson, 2012; Nseir & Larkey, 2013; Stroebe et al., 2014). There were additional covariates that could have been included (e.g., social support, length of the marriage, income level, quality of marriage); however, it would have been a daunting task to evaluate all factors associated with grief outcomes. Although for this study, the researcher utilized a national sample of widowed women, a random selection

of participants was not employed in the study, and as such, it could not be stated that there was a causal relationship among variables. Moreover, the use of a nonrandom convenience sample of participants limited the generalizability, or applicability (see Nardi, 2018), of study findings to the general population of American widowed women, aged 50 or older. Findings also could not be generalized to demographic groups (e.g., widowed women under the age of 50, widowed men, widowed lesbians) were not the focus of this study.

Limitations

All empirical studies have imitations, aspects of the study that the researcher cannot control, that affect the internal and external validity of the survey (Drost, 2011; Nardi, 2018). Internal validity refers to the degree to which extraneous study factors are controlled to ensure that any significant findings that emerge are, in fact, true and did not occur by error (Drost, 2011; Nardi, 2018). The lack of obtaining a truly random sample of participants decreased the internal validity of this study and precluded the ability to determine cause-and-effect.

The use of nonrandom convenience sampling and a correlational design can introduce certain biases that can reduce the internal validity of the study (Drost, 2011; Nardi, 2018). One is the self-selection bias, in which individuals who choose to participate in a study qualitatively differ from those who do not participate (Drost, 2011; Nardi, 2018). It may have been that the women who opted to take part in this study differed from nonparticipants (e.g., they were more/less hardy, had higher/lower levels of depression or religiosity, and/or had more/fewer positive marital experiences). A second

bias is the social desirability bias, which is common to correlational studies using self-report instruments (Drost, 2011; Nardi, 2018). Social desirability refers to the tendency to minimize attributes perceived to be socially unacceptable while exaggerating attributes perceived to be socially acceptable (Drost, 2011; Nardi, 2018). It may have been, for example, that the women under-reported their depression symptoms or exaggerated their levels of hardiness. The requirement of informed consent coupled with the online format of the study, in which participants were anonymous to me, may have helped to reduce the likelihood of the self-selection and/or social desirability biases.

There are theory, instrument, and sample factors in a quantitative study that influences its external validity, that is, the ability to generalize study findings (Drost, 2011; Nardi, 2018). Results from this study can only be discussed in relation to the PtRG grief theory (Bonanno, 2004); other grief and bereavement theories were not applicable to study findings. In this study, the operational definitions of hardiness, grief resolution, and PTG were specific to the instruments used in this study (i.e., the DRS15 for the hardiness factors, the GRI for grief resolution, and the PtGI for PTG). As such, it cannot be assumed that the results that emerged in this study would be the same as those found in studies that use different instruments to assess the study constructs. There were sample limitations based on the study participant criteria, that is, bereaved heterosexual women, aged 50 or older. Findings may have differed had this study utilized participants who had recently lost a spouse; moreover, findings cannot be generalized to other samples of bereaved women, such as lesbian women who lost a spouse and women younger than 50, or to bereaved men.

Significance of the Study

This study addressed gaps in the grief and bereavement literature concerning hardiness and resilient grief among older widowed women. Much of the research on bereavement conducted with widows has taken a deficit approach, focusing on maladaptive outcomes of grief such as complicated/prolonged grief, maladaptive coping strategies, social isolation, posttraumatic stress disorder (PTSD), and depression/anxiety (Bonanno & Kaltman, 1999; Holm & Severinsson, 2012; Nseir & Larkey, 2013; Stroebe et al., 2014). Few studies have focused on personality-based strengths, such as hardiness, that may help ameliorate grief. This study was the first to test Bonanno's (2004) PtRG theoretical premise that the three Cs of hardiness contribute to resilient grief outcomes. This study further added to the minimal body of research examining the links between the three Cs of hardiness and resilient grief outcomes (Ogiňska-Bulik, 2014, O'Rourke, 2004; Ogiňska-Bulik & Kobylarczyk, 2015; O'Rourke et al., 2011).

This study had applied significance, including applications for positive social change. Findings from this study may be used to inform grief treatment and interventions for older women who are part of the Baby Boomer generation. Findings may be used to help practitioners to identify women at risk for significant mental and physical health concerns resulting from loss, such as those with depression; alternatively, findings can be used to help practitioners to build on existing strengths, such as hardiness commitment and religiosity. In alignment, the information obtained from this study may be used to develop gender and age-congruent grief, and bereavement interventions and treatments. The researcher hope that this study will increase awareness of the psychological needs of

older women experiencing spousal loss and will contribute to positive social change that enhances the quality of life for the largest population in United States history, female Baby Boomers (see Davidson, 2019).

Summary

As the Baby Boomer generation has aged and become one of the largest demographic groups in America, there has been increased empirical attention given to the grief and bereavement processes of older adults (Arizmendi & O'Connor, 2015; Spahni et al., 2015; Streeter, 2020; Super, 2020). The feminization of aging has prompted the need to examine spousal bereavement in older adult women specifically (Soulsby & Bennett, 2017). While much of the grief and bereavement literature continues to take a deficits approach, focusing on complicated grief and related constructs, there has been an emergence of strength-based grief studies, including research on resilient grief, defined as a successful adaptation to loss (Bonanno et al., 2007, 2011; Maddi, 2004, 2012; Ong & Bergeman, 2004; Ong et al., 2009, 2010). Strengths-based grief and bereavement scholars have posited that the personality factor of hardiness can play an important role in minimizing post bereavement distress and fostering positive change and growth after loss (Bonanno et al., 2007, 2011; Maddi, 2004, 2006, 2007, 2012; Ong & Bergeman, 2004; Ong et al., 2009, 2010). However, despite the extensive theoretical work on hardiness and resilient grief by such scholars as Bonanno (2004), Ong et al. (2009, 2010), and Maddi (2002, 2004, 2006, 2007, 2012), there has yet to be an empirical examination as to whether the three Cs of hardiness, control, commitment, and challenge are significantly related to resilience grief outcomes, such as grief resolution and PTG. The purpose of this

quantitative correlational study, guided by Bonanno's (2004) PtRG model, was to examine if there were significant relationships between the three Cs of hardiness (i.e., commitment, control, and challenge) and resilient grief, operationalized in this study as grief resolution and PTG, controlling for pertinent variables, in a sample of women aged 50 and older, who lost a spouse.

This concludes the first chapter of the dissertation, which provided a comprehensive summary of the planned study. After an introduction of the study topics, this chapter moved to the background section, which discussed the theoretical and empirical literature relevant to this study. The background provided the rationale for the problem statement and purpose of the study, which were discussed. The chapter continued with a presentation of the six research questions, each having associated null and alternative hypotheses. After a discussion of the guiding theoretical framework, Bonanno's (2004) PtRG, the nature of the study was summarized, and definitions of key terms were presented. The last sections concerned the study assumptions, scope, delimitations, and limitations.

Chapter 2: Literature Review

Introduction

Bereavement, or the loss of a loved one, is an inevitable experience, part of the cycle of life. However, decades of theoretical and empirical work on bereavement and grief have shown that, as stated by Patoine (2018, p. 1), "how people grieve, and for how long, is anything but universal." Bereaved individuals vary considerably in their reaction to loss; grief is a multifaceted process, influenced by various contextual, social, interpersonal, and intrapersonal factors (Soulsby & Bennett, 2017). The grief process may be especially challenging for the older female population due to the unique social (e.g., loss of social support), cognitive (e.g., cognitive decline), physical (e.g., health and illness), and financial (e.g., loss of income) factors (Holm & Severinsson, 2012; Nseir & Larkey, 2013). However, over 50 years of empirical research has shown that not only are most bereaved individuals resilient (Stroebe et al., 2007), women tend to have higher levels of resilient grief when compared to older men in response to spousal loss (King et al., 2019).

Resilient grief is a theoretical construct developed by Bonanno (2004) in the PtRG theory, developed within the context of spousal bereavement. According to the PtRG theory, there are multiple grief pathways, some that are maladaptive and some, like resilient grief, which denote successful adaptation to loss (Bonanno, 2004). Bonanno's (2004) concept of resilient grief shares similarities to Tedeschi and Calhoun's (1996) construct of PTG. Both resilient grief and PTG incorporate aspects of acceptance and loss, and both are related to intrapersonal, spiritual, and relational growth (Calhoun et al.,

2010). The unique aspect of Bonanno's (2004) PtRG model is that it incorporates both personality (trait) resilience and process/outcome resilience into a grief model but differentiates between the two. Bonanno (2004) proposed that hardiness (or trait resilience), or more specifically, the three components of hardiness, commitment, control, and challenge, provided a pathway to resilience as an adaptation to and growth from spousal loss.

While there has been extensive empirical examination and validation of Bonanno's (2004) postulate of four grief pathways (Ong et al., 2009, 2010; Spahni et al., 2015), few studies have tested Bonanno's (2004) postulate that the three Cs of hardiness (commitment, control, and challenge) contribute to adaptive grief outcomes. There is considerable evidence that hardiness, when operationalized as a single construct, is linked to resilient grief outcomes (Albuquerque et al., 2018; Bennett et al., 2019; King et al., 2018; Rossi et al., 2007; Spahni et al., 2015; Zhang et al., 2016). There are fewer studies specific to the examination of the three Cs of hardiness and resilient grief outcomes.

O'Rourke (2004) found that commitment and control were significantly associated with life satisfaction, while only commitment was significantly linked to life distress. When grief was measured as depression, control and challenge were significant predictors in O'Rourke et al.'s (2011) study. In the studies by Ogiňska-Bulik (2014) Ogiňska-Bulik and Koblyarczyk (2015), the challenge was the only significant hardiness construct associated with PTG. To date, there has not been an empirical examination of the relationships between the three Cs (i.e., control, commitment, and challenge) of hardiness and resilience grief, operationalized as grief resolution and PTG.

It is not known whether, and if so, to what degree, the three Cs of hardiness (i.e., commitment, control, and challenge) are significantly associated with two resilient grief outcomes, grief resolution and PTG. Few studies have tested the theoretical premise posited by Bonanno (2004) that the three Cs of hardiness collectively predict resilient grief. This study contributed to the understanding of Bonanno's (2004) PtRG model and advanced the scholarly literature about hardiness and resilient grief outcomes by examining if, and if so, to what degree, the three Cs of hardiness (i.e., commitment, control, and challenge) are significantly associated with two resilient grief outcomes, grief resolution and PTG, after controlling for pertinent demographic, personal, and contextual factors.

The purpose of the second chapter of this dissertation is to provide a comprehensive review of the relevant literature, both theoretical and empirical. The chapter opens with a section on the literature search strategy. The researcher then gives substantial attention to the guiding theory of the study, Bonanno's (2004) PtRG theory. As Bonanno (2004) utilized grief and bereavement, resilience, and hardiness theoretical perspectives to develop his PtRG theory, a discussion of these theories precedes the review of Bonanno's (2004) PtRG theory. The empirical evidence regarding the four grief pathways posited in the PtRG theory literature is also included in the theoretical section. The chapter then turns to a comprehensive review of the empirical literature (both qualitative and quantitative) pertinent to the study. The literature review includes summaries of studies on: (a) differences in psychological functioning between bereaved individuals; (b) hardiness, inclusive of the three Cs of commitment, control, and

challenge, and resilient grief outcomes, including adaptive outcomes, grief resolution, and PTG; (c) gender differences regarding resilient grief; and (f) additional predictors of resilient grief outcomes. The chapter concludes with a summary section.

Literature Search Strategy

The objective of the literature search strategy was to retrieve, review, and critically evaluate empirical literature pertinent to the study topics. The primary EbscoHost databases utilized for the search were PsycARTICLES, PsycINFO, SocINDEX, and ERIC. Additional peer-reviewed journal articles were procured using the Google Scholar search engine. The literature search focused on the retrieval of scholarly work published in peer-reviewed journals since 2014 in the fields of clinical psychology, counseling psychology, and gerontology, and to a lesser extent, personality psychology, nursing, and social work. Emphasis was placed on empirical work on: (a) spousal loss and bereavement; (b) adaptive functioning and resilient outcomes of spousal loss; (c) resilient grief and PTG within the context of spousal loss; and (d) hardiness, or dispositional resilience, inclusive of the three Cs (i.e., commitment, control, and challenge). The key search terms, used singly and in combination, including *older adults*, *older women*, *Baby Boomers*, *graying of America*, *feminization of aging, widow*/*widowhood*, *spousal loss*, *spousal death*, *bereavement*, *grief*, *trauma, stress, challenge*, *resilience*, *resilient*, *strengths-based*, *resistance*, *resolution*, *recovery*, *adaptive*, *coping*, *psychological functioning*, *hope*, *wellbeing*, *positive growth*, *posttraumatic growth* (*PTG*); *hardiness*, *dispositional resilience*, *trait resilience*, *commitment*, *challenge*, and *control.*

The search, which commenced in the winter of 2016 and ended in the summer of 2020, yielded over 200 articles. The majority (> 75%) of studies selected for inclusion were empirical in nature, with most being quantitative (although the review does include a few qualitative studies). The search lasted over many years, and as a result, some empirical work became obsolete. For example, studies published in 2011 that were relevant in 2016 were dated by 2019. As such, time was spent on reviewing and eliminating any older studies that were more comprehensively addressed and elaborated upon in later research. The review also included seminal works, most of which address the theoretical constructs of: (a) resilience (e.g., McCubbin, 2001); (b) PTG (e.g., Tedeschi & Calhoun, 1996); (c) hardiness and the three Cs of commitment, control, and challenge (e.g., Kobasa, 1979; Maddi & Kobasa, 1984); and (d) Bonanno's (2004) PtRG theory and its validation (e.g., Maddi, 2006, 2007; Ong & Bergeman, 2004; Ong et al., 2010). While most of the empirical studies reviewed were published within the past 5 years, the numerous gaps in the hardiness and bereavement literature necessitated the inclusion of pertinent empirical works (e.g., Herth, 1990; Mathew & Servaty-Seib, 2007; O'Rourke, 2004; Rossi et al., 2007) published prior to 2014. Other types of academic literature included in this chapter are theoretical papers and systematic reviews of the literature published in peer-reviewed journals. Augmenting the empirical literature was information from other academic sources, such as books, book chapters, and web resources.

Theoretical Perspectives

The guiding theoretical framework for this study is Bonanno's (2004) PtRG theory, a grief and bereavement theory that incorporates the concepts of resilience and hardiness, or dispositional resilience. A discussion of the historical grief and bereavement theoretical work, including the theoretical work on PTG, within the context of loss (Tedeschi & Calhoun, 1996), is first needed to provide a context for Bonanno's (2004) PtRG theory. Theoretical perspectives on resilience and hardiness are then presented. The section continues with a comprehensive overview of Bonanno's (2004) PtRG theory, which included a critical analysis of the contemporary empirical literature testing elements of the guiding theory.

Historical Theories of Grief and Bereavement

Freud: Mourning and Melancholia

The study of grief has cycled through many theoretical concepts over the last 100 years. The universal experience of a loss of a loved one has held the interest of theorists and researchers, starting with Freud's (1917) seminal work on mourning and melancholia. The theory behind Freud's (1917) seminal work on mourning and melancholia involved confronting your feelings and thoughts about the deceased in an attempt to move on with life and put the past behind. Freud inferred that bereavement was a search for the object of attachment and the state of mourning was a form of detachment. Freud theorized that a healthy recovery required a detachment from the deceased (Freud, 1917). Thus, if the bereaved cannot free the bonds of attachment from the deceased, a pathological condition called melancholia may develop (Freud, 1917).

Freud described melancholia as an internal "violent" struggle to absolve all links to the deceased and establish autonomy. Melancholia can only end if the mourner cuts all ties to the deceased (Clewell, 2004). However, in 1923, Freud continued his writing that included melancholia as a necessary element within the normal process of mourning (Clewell, 2004). Freud's classic psychoanalytic model regarding mourning and melancholia are unknown beyond his theory of "violent" melancholia and acknowledged that within the normal grieving process, melancholia does end when the individual has "worked through" the loss from their attachment to the deceased (Boerner et al., 2016).

Bowlby: Attachment, Loss, and Grief

Another early theorist was Bowlby (1973), who pioneered the theory of attachment. Bowlby applied his psychodynamic theory from the work of Young on children's response to separation from primary care providers (Boerner et al., 2016). Bowlby theorized that the primary attachment or separation reflected subsequent interrelationships (Boerner et al., 2016). Bowlby concluded that attachment was a pattern of survival for the children who struggle to form a bond with the primary care provider (Bowlby, 1973), and when the bonds are threatened, the behavior was seen as crying and anger (Boerner et al., 2016). Bowlby applied his attachment and separation theory to grief, stating that grief was a normal reaction to permanent loss from the primary care provider and that separation resulted in grief. Bowlby further argued for the case of permanent loss, postulating that the bereaved was biologically dysfunctional in an attempt to seek closeness to the deceased (Boerner et al., 2016). Bowlby argued that the bereaved struggled with searching for the deceased while facing the reality of the loss

(Boerner et al., 2016). Bowlby was the first theorist to connect searching and anger to grief and the strong relationship within the attachment theory (Boerner et al., 2016). Bowlby's grief theory continues to be salient in the understanding of grief and the attachment bond that helped to define the multifaceted study of grief and loss (Boerner et al., 2016).

Bowlby continued his grief theory with Parks and adapted the grief theory into four stages of grief: "shock and numbness," "yearning and searching," "despair and disorganization," and "re-organization and recovery" (Terranova, 2018, para. 6-10). The first phase was described as denial, along with psychosomatic symptoms. The second phase involved an awareness of lost hopes, dreams, and rumination, along with searching for the deceased. The third phase involved the bereaved preoccupied with holding on to memories of the deceased. The final phase of grief involved a resolute to the loss, restoring personal goals, and moving on with life. The theory concluded that individuals must move through each consecutive stage to avoid emotional anguish, anger, depression, and continually longing (Terranova, 2018). Following the footsteps of Bowlby and Parks was Elisabeth Kübler-Ross.

Kübler-Ross: Five Stages of Grief

Perhaps the best-known and widely accepted bereavement model is Kübler-Ross' five stages of grief theory (1973). Kübler-Ross (1973) created a model that identified the stages of grief, which provided the first tool for individuals and practitioners to identify the process and stages of grief, which included "denial," "anger," "bargaining," "depression," and "acceptance" (Kessler, 2018, p. 15-17). The first stage of grief was

denial, defined as shock and numbness. This stage protected individuals from the overwhelming emotional response attached to the loss, this protective barrier allowed only the initial feeling of loss (Kessler, 2018). After the initial processing of the loss, individuals started the process of moving through the loss, feelings of resentment and anger, which led to blaming self, deceased, friends, and God. The next stage of grief was bargaining, due to feelings of guilt, individuals began the process of bargaining with God, while praying or hoping it was all a façade or bad dream. Within the next stage, Kübler-Ross conjectured that situational depression was an essential part of healing from grief, that depression was an appropriate emotion to a significant loss. The final stage of grief was acceptance, which involved finding solace within the loss, and adjusting to a new life without the deceased. Kübler-Ross opened doors and provided insight into the grieving process, which allowed individuals and practitioners a guidance of understanding the process of grief (Kessler, 2018). Many individuals and practitioners continue to utilize Küber-Ross's five stages of grief as a measure of gauging an individual's grief process.

Worden: Four Tasks of Mourning

Worden (2008) found that individuals osculate between the stages described by Kübler-Ross (denial, anger, bargaining, depression, and acceptance; Kessler, 2018, p. 15-17). Worden argued that grief was not linear stages, but a process with four main tasks (Counselling Tutor, 2013). Worden reiterated that individuals fluctuate between each stage until the completion of the grief process, with individuals experiencing each process several times (Counselling Tutor, 2013). Worden (2008) summarized his theory into practical applications for family members, friends, and practitioners. In phase one,

Worden suggested that to assist individuals in this task; support systems enhance the individual "intellectually and emotionally" with the "fact the deceased was dead and will not return" (e.g., funerals and seeing the body; Counselling Tutor, 2013, para. 9). In phase two, Worden recommended that social support systems validate and provide opportunities for the bereaved to release the emotional pain. Within phase three, Worden postulated that friends, family, and practitioners support the bereaved by helping them adjust to the reality that the deceased was permanently gone, resulting in the bereaved moving on with life. In phase four, Worden hypothesized that support systems help the bereaved find new methods of connecting with the deceased and assimilate with new memories, thoughts, and feelings for their new life (Counselling Tutor, 2013). Worden (2008) concluded that bereaved individuals do not finish the grieving response since many triggers emerge throughout their lifetime.

Stroebe and Schut: Dual Process Model (DPM) of Coping with Bereavement

Stroebe and Schut (2001) integrated elements of prior grief theories, which was process and outcome based, as well as stress, trauma, and coping theories in their Dual Process Model (DPM) of coping with bereavement. Stroebe and Schut (2001) theorized that coping with bereavement involved the stressor (i.e., the event), appraisal (i.e., a perspective of the event), coping (i.e., methods of coping), and outcome (psych-emotional and physical outcomes). Loss-oriented stressors reflected directly on the death (appraisal process) and the loss itself. The mental appraisement and processing regarding plans, the physical absence, and lack of social support from the deceased, which was seen as ruminating and searching for the deceased and defined as "grief work" (Stroebe &

Schut, 2001). Restoration-oriented stressors are the consequences of the death (outcome process), such as learning new household chores, reorganization of finances, changes within the social status of friends and family, and searching for a new and changed lifestyle (Stroebe & Schut, 2001). Loss-oriented coping focused on aspects of the loss, remembering the deceased by visiting the grave and photographs, while restoration-oriented coping involved coping with real problems, such as financial issues of banking, selling home, and budgets (Stroebe & Schut, 2001). DPM was an emotional theory of regulation that engaged confrontation to the loss versus avoidance to the loss (Stroebe & Schut, 2010). Loss-oriented stressors and restoration-oriented stressors are both applied in coping with emotionality and problem-focused stressors, such as dealing with duties of single parenting after the loss of the other parent (Stroebe & Schut, 2010). This type of circumstance engaged emotional stressors (loss-oriented) and problem-solving solutions (restoration-oriented). Both orientations are emotional and problem-focused, and both are sources of stress that are directly related to outcomes (Stroebe & Schut, 2010). What was different and unique from previous grief theories was the process of oscillating. DPM theorized that individuals oscillated between positive and negative affect and negative affect was essential to fortify the grief work (Stroebe & Schut, 2010). DPM model also concluded that positive affect was crucial to intensify the coping process, however, if an individual only experienced positive affect the grieving process was abandoned (Stroebe & Schut, 2010). The DPM theory postulated that people move between confronting the loss and avoidance of the loss. Stroebe and Schut (2010) concluded that oscillating

between confrontation and avoidance was necessary for successful adaption, coping with the loss, and to facilitate personal growth.

The DPM is similar to the phase model of Bowlby (1973) and the task model of Worden (2008) that idealized the theory of working through the grief, or grief work (Stroebe & Schut, 2010). The underline ideation of all these theories followed the writings of Freud's (1917) attachment theory, which hypothesized that people must work through their grief (Stroebe & Schut, 2010). Grief work was understood as cognitively working through the loss, the death, the events, the memories, and working toward detachment from the deceased, and to achieve detachment from the deceased, the bereaved individual must confront all realities of the death (Stroebe & Schut, 2010). Without confronting the reality of the events surrounding the death and the death itself, the individual would not find acceptance of the death, resulting in significant mental and physical consequences (Stroebe & Schut, 2010).

Stroebe and Schut (1999) conceptualized the DPM to fill the void regarding adaptive methods of coping with loss. A decade later, Stroebe and Schut (2010) acknowledged that not all grief and grief work, and confronting grief were universal or maladaptive. They noted that previous grief theories appeared methodical and did not acknowledge the challenges individuals faced when dealing with loss. They pointed out that previous theories did not examine how denial protected the individual during the initial phase of bereavement, while previous theories argued that reality and detachment were essential for completing the grief process. Another point within the previous grief theories, was the likelihood that grief was a complex and diverse process, influenced by

various contextual, social, interpersonal, and intrapersonal factors (Soulsby & Bennett, 2017; Stroebe & Shut, 2010).

Stroebe and Schut (2001) were among the first grief theorists to question the universal application of grief theories to both males and females, arguing that grief may differ between genders. Bereaved women tend to cope with loss-oriented stressors, while men are more apt to deal with restoration-oriented stressors (Schut et al., 1997). Stroebe and Schut (1999) compared bereavement to health outcomes, applying the DPM model. The theory postulated that bereaved women tend to express emotions (loss-oriented), while men are more practice-solution focus to grief (restoration-oriented; Schut et al., 1997; Stroebe & Schut, 1999). However, Stroebe and Schut (1999) postulated that how one spouse copes with loss directly affected the other spouse. Stroebe and Schut (2010) described DPM as an intrapersonal coping model that addressed differences in spouse response to loss. An example given by Stroebe and Schut (2010) stated that a mother might represent a more loss-oriented model, after a child's death, while the father may display a restoration-oriented model, the mother may perceive the father as not grieving, which may result in a destructive impact within the relationship. However, the father was defined as just grieving differently than the mother (Stroebe & Schut, 2010).

Resilience Theory

Much of the literature about resilience has focused on resilience as a process, an adaptive response to a distressful or traumatic event (Earvolino-Ramirez, 2007; Infurna & Luthar, 2016, 2018, 2020). Trauma and adversity are the factors that distinguish between process resilience from the personality traits of resiliency (Luthar et al., 2000). One must

experience traumatic adversity to 'activate' a resilient response (Luthar et al., 2000). In her seminal work on resilience, McCubbin (2001) defined process resilience as cognitive stability and healthy psychological functioning despite the adversity that may lead to PTG or thriving. Moreover, process resilience is event-specific; a person may be resilient to one type of trauma but not another type (Earvolino-Ramirez, 2007; McCubbin, 2001; Rutter, 1987).

Resnick et al. (2018) operationalized resilience as a "developmental process" that enhances thoughts, feelings, and behaviors that lead to serenity through the "physical," "emotional," and "spiritual framework" that enriches the coping processes within adversity (p. 2). Resnick et al. (2018) further advanced the understanding of resilience that involved the covariates of resilience. Resnick and colleagues postulated that resilience is simply a level of competence within a specific adverse condition (p. 2). One such variable within resilience that differed within an individual's competence or skill level was protective-stabilizing characteristics. Resnick and colleague's defined protective stabilizing as a skill or competence level that acquired new methods of dealing with adversity to maintain a status quo of wellbeing. Another resilience variable identified by Resnick and colleagues was protective-enhancing characteristics. The protective-enhancing attribute of resilience was the ability of individuals to function with competence during traumatic adversity. An individual's level of competence is moderate, but still greater than individuals who do not utilize the resilience processes. Resnick et al. (2018) postulated that positive outcomes included, protection, growth, and resilience. Resnick and her colleagues went even further and defined resilience as, physiological

resilience. Physiological resilience was the ability to maintain the highest level of functioning or adapting with increasing limitations, such as aging (e.g., dementia, chronic illness, and physical limitations).

Another influence Resnick et al. (2018) found as a variable to resilience was societal factors, specifically socioeconomic privilege. They hypothesized that privilege encouraged resistance to physical illness, due to a higher standard of living that included medical services, better nutrition, and safe environments and neighborhoods. As opposed to less privileged members of society that faced measured health concerns (e.g., high blood pressure, heart disease, cholesterol, decreased immune system, and lack of sleep) that led to chronic conditions. Another variable was the parental and environmental stressors within the family unit. Resnick et al. (2018) found that if children are appropriately supported in learning resolutions to "confrontation," "stressors," and "challenges," with positive coping and health practice, the residual effect is learned resilience (p. 6). They also found that social support greatly impacted resilience, especially with aging. Loneliness influenced health behaviors, stress exposure, stress response, and physiological responses, as a restorative process that protected against future stress (Resnick et al., 2018, p. 6).

Interestingly, Resnick et al. (2018) used Folkman's (1997) model to explain how ongoing adverse events led to a complexity of outcomes. An individual may perceive a challenge as a negative appraisal which may result in a positive resolution, thus leading to positive emotions, while negative resolution led to emotional distress, thus the coping process is continually repeated. Folkman (1997) enhanced the stress process model by

adding the "meaning-based coping" process (Resnick et al., 2018, p. 7). The meaning-based coping process was distinctive from other coping processes, utilizing positive emotions over-regulation of distress. The ability to command positive emotions was seen as a mediator between adversity and negative emotions. The example given illustrates this point. Lazarus and Folkman's (1984) concluded in their study on caregivers to relatives with AIDS (no resolution event) engaged in meaning-based coping or positive emotions to a negative- no resolution event (cited by Resnick et al., 2018). In other words, the care providers to the AIDS relative understood that a positive resolution to their desire to have their relative life was not possible, so they chose to have a positive attitude amidst the adversity. Another variable Resnick and colleagues identified in their search for positive outcomes in the adversity of resilience was a religious or spiritual process. Resnick et al. (2018) cited the work of Koenig (1998), who found that older adults and other participants identified religion as their major form of adapting a positive process to a negative event. The outcome to religious resilience was a "positive or peaceful emotional outcome" (p. 29).

Pargament et al. (2000) and Smith et al. (1998) found that religious coping measures are a "stronger predictor" of a positive outcome "even when controlled for sociodemographic variable, global religious measures, and nonreligious coping measures" (cited by Resnick et al., 2018, p. 9). Earvolino-Ramirez (2007) found in her conceptual analysis that children have some type of aptitude or endurance to overcome extreme adversity, thus began the new theory on "resilience" (Earvolino-Ramirez, 2007,

p. 73). In its origin form, resilience was conceptualized as a personality trait, but over the next two decades it evolved to become resilience as a process (Luthar et al., 2000).

Resilience as a process was the belief that a theoretical process would allow for empirical research to assess outcome-based interventions (Earvolino-Ramirez, 2007). In Earvolino-Ramirez (2007) conceptual analysis, she cited a landmark longitudinal study that followed 505 individuals from birth to the age of 40. On this small Hawaiian island, all the children were exposed to similar socioeconomic disadvantages (Luthar et al., 2000) and faced the adversity of poverty, parental divorce, alcoholism, (Earvolino-Ramirez, 2007), parental mental illness (Masten & Coatsworth, 1995, 1998), maltreatment (Beeghly & Cicchetti, 1994; Cicchetti & Rogosch, 1997; Moran & Eckenrode, 1992), urban poverty and community violence (Luthar, 1999; Richters & Martinez, 1993), chronic illness (Wells & Schwebel, 1987), and catastrophic life events (Luthar et al., 2000). This 40-year study found that approximately two-thirds of the adult children developed a significant complication, while the other one-third was described as "competent" and "caring adults" (Luthar et al., 2000, p. 75). Over the years, the factors within the one-third of the adult children who overcame extreme adversity became known as "protective factors" (Johnson & Wiechelt, 2004). The protective factors were defined as a necessitated event for the resilience process to occur (Earvolino-Ramirez, 2007).

Rutter (1987) proposed that it is not the "predictors of resilience" that are as important as the "protective processes" to enhance resilience and "prevent negative outcomes" (Earvolino-Ramirez, 2007, p. 76). Johnson and Wiechelt (2004) argued that

the "protective factors are contextual, situational, and individual" that "lead to varying outcomes" (Earvolino-Ramirez, 2007, p. 78). The protective factors are not the same for everyone, what is beneficial for one individual, may not be beneficial for another individual (Earvolino-Ramirez, 2007). However, without measured theories, this necessitates more descriptive constructs to outline what constitutes protective factors. Walker and Avant (2005) defined the attributes for resilience utilizing two sets of data from top resilience researchers within the field and from resilience researchers who did not acknowledge resilience as a "protective factor" (Earvolino-Ramirez, 2007). The complied data found that rebounding/reintegration was present in resilience. Rebounding was defined as a "positive direction or response," while reintegration was described as the process after adversity or to "get back to normal" (Earvolino-Ramirez, 2007, p. 76). High expectancy/self-determination was seen as a "sense of purpose" in life (Benard, 1991), while self-determination was a feeling of overcoming adversity and persevere (Benson, 1997; Garmezy, 1991; Masten, 1994; Rutter, 1987; Ryan & Deci, 2000; Werner & Smith, 1982). Earvolino-Ramirez (2007) postulated in their research those positive social relationships with at least one significant person were necessary for resiliency. Within the literature review of Earvolino-Ramirez (2007) conceptualization, she found that flexibility appeared in numerous studies, as she cited the work of Blechman and Culhane (1993), Garmezy (1991), Luthar et al. (2000), Masten (1994), Richardson (2002), Rutter (1987), and Werner and Smith (1982). Flexibility was the ability to accept change. Another protective factor found within resilience studies included a good sense of humor (Anthony, 1974; Benard, 1991; Garmezy, 1991; Masten, 1994; Richardson,

2002; Rutter, 1987; Werner & Smith, 1982; Wolin & Wolin, 1993). The last protective factor was self-esteem and self-efficacy. The researchers (Anthony, 1974; Benson, 1997; Flach, 1997; Garmezy, 1991; Luthar et al., 2000; Masten, 1994; Richardson, 2002; Rutter, 1987; Werner & Smith, 1982) postulated that self-esteem and self-efficacy were instinctive and learned experiences (Earvolino-Ramirez, 2007). Within the stage of resolution, the outcome of resilience was seen as "effective coping, mastery, and positive adaptation" (Earvolino-Ramirez, 2007, p. 78).

Rutter (2006, 2012) hypothesized resilience from a scientific point of view and argued that resilience is not "social competence or positive mental health," but a collaborative theory within a combination of adversity with positive outcomes, despite the adversity (p. 2). Rutter (2006, 2012) supported this theory citing research that indicated that different people responded vastly dissimilar to all types of adversity. Rutter (2006) questioned the methods of research that measured the variables of adversity. One such appraisal was the diversity within the scientific methodology of variables. Rutter (2006) further explained that measures of effective variables could not only include "environmental risk" (p. 2). Another appraisal Rutter argued was that the scope or range of outcomes was misleading within the scientific study of resilience. Rutter also postulated that resilience might be enhanced later in life to the same or similar adversity, which he called a "steeling" effect (Rutter, 2006, p. 2). Examples given by Rutter cited research on rodents exposed to stress, which lead to later resilience. Another example was exposure to infection lead to resistance to the same infection. Rutter looked at the California studies of the Great Depression and the effects of poverty on older children.

This study found that poverty for older children led to "greater psychological strengths" later in life (p. 2).

Rutter (2006, 2012) postulated the "steeling" effect was a combination of "successful coping" to adversity, which involved "physiological adaptation, psychological habituation," "self-efficacy," and acquired coping strategies, and cognitive reframing of the event (p. 2). Rutter (2012) postulated that positive life experiences in adulthood could adversely reduce the effects of childhood adversity, however, the individual must "cut off" the past and find new direction and opportunities in adulthood (p. 340). Rutter (2012) cited several studies that looked at maladaptive adolescents to adulthood and found that "good jobs," marrying into functional families, religion, and a high level of education enhanced resilience (p. 340). Rutter (2012) argued that studies on resilience must include positive personality characteristics, the family environment, and external support systems (p. 335). Rutter (2012) contended that resilience was a process and not a trait since individuals may be resilient to one adversity but not to all risk. Rutter (2012) concluded that trait resilience could not be scientifically measured directly, and that resilience involved the collaborative risk that can be measured, resulting in practical interventions. Rutter (2012) continued to argue that "statistical risk effects" must measure environmental and contributors that influenced resilience (p. 337). Another example given by Rutter who cited research that reported causation of antisocial behavior and depression and found they were directly linked to "broken homes" or divorce, but after controlling for each variable, the research found that "family discord" was a significant

risk factor for antisocial behavior, while depression was found to be directly linked to "poor parenting" (p. 337).

Posttraumatic Growth Theory

McCubbin (2001) offered a definition of resilience as PTG, a concept originally developed by Tedeschi and Calhoun (1996). According to Tedeschi and Calhoun (1996), PTG is a form of resilience that emerges in response to a traumatic event and indicates the presence of positive change and growth. PTG encompasses elements of resilience, including: (a) insight and strength; (b) the ability to find new meaning in life; (c) an appreciation for life and hopefulness; (d) emotional availability; and (e) spiritual growth (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun, 1996, 2004). There is substantial empirical support for PTG as a valid construct associated with resilience (Feder et al., 2008; Tedeschi, 2011; Tsai et al., 2015).

There has been a great deal of research on the phenomenon of growth from traumatic events, using a variety of constructs and subject matter. Diverse research studies on PTG indicated positive growth from traumatic events, that included such studies as natural disasters (Cryder et al., 2006; Garcia et al., 2014; Leykin et al., 2013; Saccinto et al., 2013), rheumatoid arthritis (Dirik & Karanci, 2008), HIV (Milam, 2006; Sherr et al., 2011), cancer (Cordova et al., 2001; Koutrouli et al., 2012; Stanton et al., 2006), bone marrow transplantation (Tallman et al., 2010; Widows et al., 2005), heart attacks (Devine et al., 2010; Leung et al., 2012), being taken hostage (Allodi, 1994), and bereavement (Bray, 2011; Cadell et al., 2003; Calhoun & Tedeschi, 2006; Calhoun et al., 2010).

Aflakseir et al. (2016) stated that “cancer is the third leading cause of death in Iran” (p. 1). Aflakseir et al. (2016) studied 120 women with breast cancer that examined PTG on psychological hardiness (personality traits of hardiness-control, commitment, and challenge) and marital satisfaction. Aflakseir et al. (2016) found that breast cancer survivors experienced greater PTG, appreciation of life, and spiritual change. Optimism, hope, strong social resources, and positive reframing were all positively correlated with PTG. The study found that most of the women reported moderate to a high levels of PTG. The researchers concluded that a high level of PTG might be impacted by the level of stress and sociodemographic outcome, such as the participants were all female with an average age of 50.80, indicating that women experienced higher levels of PTG compared to men. Marital satisfaction and psychological hardiness were also significantly associated with PTG. Another finding from the study concluded that adverse events could significantly change an individual's “behavior, values, and priorities,” thus “restructuring their lives” (p. 3). Conclusions to their study found that PTG increased with time during prolonged illness (Aflakseir et al., 2016).

Bereavement and Posttraumatic Growth

There has been considerable attention given to the relationship between the state of bereavement and PTG, as indicated in Michael and Cooper’s (2013) comprehensive review of the literature of 15 empirical studies published between 1998 and 2012. There was variety in the approach taken in the studies, with seven being qualitative in nature, four quantitative studies (two of which were longitudinal in design), one meta-analysis, and one systematic review. All, however, focused on spousal loss as the precipitating

adverse life event and PTG as an outcome. Michael and Cooper (2013) reviewed the findings from the 15 studies to arrive at specific themes that emerged from the data. Three themes were found across all 15 studies. The first theme found PTG manifested as positive personal transformation resulting from spousal loss. Most participants across the 15 studies stated that, as a result of the death of their spouse, they were "more thoughtful, decisive, independent, and appreciative" (Michael & Cooper, 2013, p. 26). The second theme found that PTG included reappraisal of life priorities and relationships with other. A consistent result across all studies found that participants reported "being wiser and more accepting of life's paradoxes" (Michael & Cooper, 2013, p. 26). The third and final theme concerned the inverse relationship between PTG and psychological impairment. As PTG increased, emotional distress, depression, anxiety, aggression, alcohol and drug use decreased. The authors further identified significant covariates associated with higher levels of PTG. These were: (a) female gender; (b) younger age; (c) length of time since loss; (d) social support; and (e) religiosity (Michael & Cooper, 2013).

Hardiness Theory

In contrast to resilience as a process, defined as one's ability to face trauma and loss in an adaptive and healthy way, and to grow from the traumatic event, (Bonanno, 2004), resilience as hardiness is a personality trait that is constant and unchanging (Bartone, 2006; Maddi, 2004, 2006, 2012; McCubbin, 2001). McCubbin (2001, p. 32) identified hardiness as an "internal protective factor" while Maddi (2012, p. 8) described hardiness as "existential courage," the ability to "make meaning out of tragedy."

In a prospective correlational study of 388 randomly selected housewives and working women of Tehran; Entesar, Salehi, and Babakhani (2015) assessed the relationship of personality traits with resilience and happiness. The prospective correlational study applied the Revised NEO Personality Inventory, Oxford Happiness Questionnaire, and the Connor-Davidson Resilience Scale to assess personality traits, happiness, and resilience, utilizing the Pearson's correlation coefficient test. The results concluded that happiness was directly related to neuroticism, extraversion, flexibility, agreeableness, and conscientiousness, while personality traits were significant associated with self-concept, and psychological alertness. Personality traits and resilience indicated that neuroticism was negatively associated, while extraversion, flexibility, and conscientiousness were positively associated with resilience. The researchers found that personality traits directly affected aspects of happiness and resilience in women, concluding that "women with a stabilized personality are happy and resilient" (Entesar et al., 2015, p. 116).

The Three Cs of Hardiness: Commitment, Control, and Challenge

Maddi and Kobasa (Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Maddi, 1999, 2002, 2006, 2007; Maddi & Kobasa, 1984) were the first theorists to suggest that hardiness was comprised of three distinct elements: commitment, control, and challenge. These scholars argued that the three personality traits activated specific positive cognitive appraisals and involved certain adaptive cognitive, emotional, and behavioral responses (e.g., using active problem-solving skills, remaining calm, seeking support; Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Commitment, control, and challenge

collectively provide “the pathway to resilience” as a process or outcome (Maddi, 2012, p. 7).

Parameswari and Kadhiravan (2014) postulated that quality determined the growth within an organization and is an essential element for the development of employees. The researchers hypothesized that personality traits of hardiness; control, commitment, and challenge enhance employee’s personal life and add higher quality of work and growth. The study examined the relationship between quality of work life and hardiness in 141 schoolteachers, utilizing stratified random sampling. Sirgy et al. (2001) identified key factors to quality of work life; “job requirements, work environment, supervisory behavior, ancillary programs, and organizational commitment” (Parameswari & Kadhiravan, 2014, p. 457). The data collection utilized the Quality-of-Life scale and a 12-item Hardiness scale of control, commitment, and challenge. The results indicated that male teachers are significantly higher in control within the workplace, compared to female teachers. Having control represented the autonomy involved with decision making and expressing ideas (Parameswari & Kadhiravan, 2014).

Within the Native American culture, women and female children are considered a sub-culture with little to no voice or decision-making ability, thus influencing the perceived level of control at the workplace (Parameswari & Kadhiravan, 2014). The study also found that female teachers were more content with the working conditions. Working conditions included resources, salary, hours, tools, equipment, and safety. Parameswari and Kadhiravan (2014) concluded that male teachers might not be satisfied with the pay when compared to other careers and a teaching career may be considered

repetitive and boring. The results also indicated that male teachers significantly correlated with hardiness, control, and quality of work life compared to female teachers. Female teachers were significantly higher in commitment than male teachers. Male teachers also scored higher on the challenge dimension. Within the Native American culture challenge was seen as a male role and characteristic trait. Female teachers scored higher than male teachers on total hardiness (Parameswari & Kadhiravan, 2014).

Parameswari and Kadhiravan (2014) postulated that although female teachers feel less control within their work environment, "the emotional outburst make them strong enough to withstand stressful situations without affecting their psychological health, but males acquire many physical illnesses" (p. 459). How teachers perceived their ability to control their work-home interrelationship was significantly correlated with control and challenge, while job and career correlated positively with control. Workplace condition was significantly associated with positive control and negatively linked to challenge. Parameswari and Kadhiravan (2014) concluded that if workplace conditions are amiable and friendly, an employee may perceive the ability to influence change and not challenge the establishment. Stress within the workplace was positively correlated to commitment, challenge, and total hardiness, indicating that hardy individuals consider stress as a positive motivator. Total quality of work life was positively associated with control disposition of hardiness. Individuals who have control tend to have a good balance between work and personal life. The study concluded that gender differences in control, working conditions, and hardiness were significant. The study also concluded a

significant positive relationship between some factors in the quality of work life and hardiness dispositions (Parameswari & Kadhiravan, 2014).

Bonanno's Pathways to Resilient Grief Theory

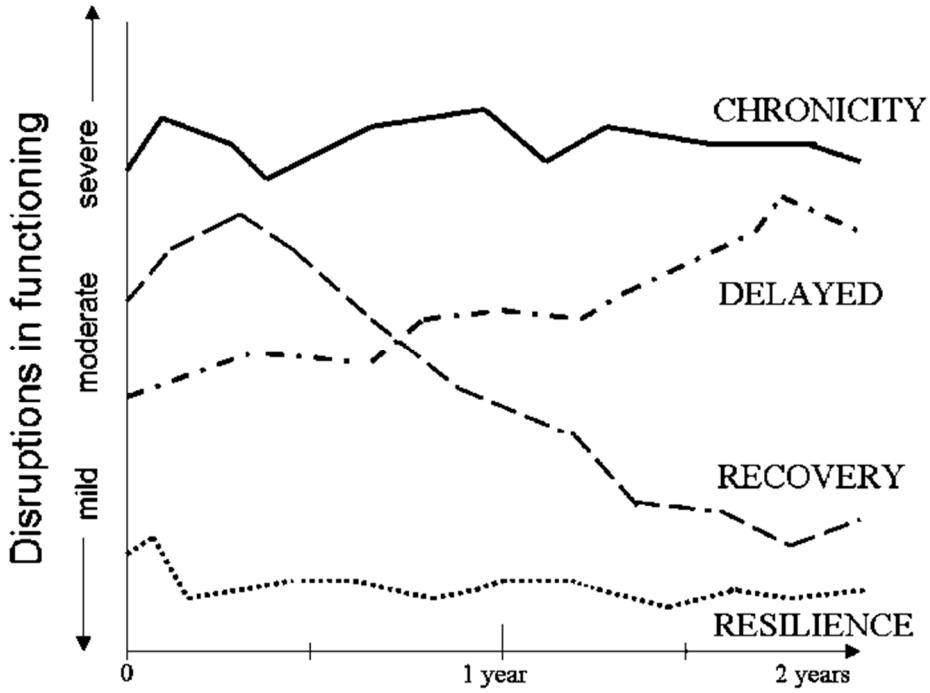
Bonanno (2004) was among the first theorists to propose a grief theory that countered the prevailing "pathological" (Bonanno et al., 2011, p. 512) approaches to grief dominated in the empirical and clinical work on grief and bereavement prior to Bonanno's (2004) work. Bonanno (2004) questioned the enduring and dominant assumption held by mental health practitioners that grief occurs in predictable stages or processes and that individuals experience high levels of grief and distress in response to the death of a loved one and need therapeutic assistance to work through and resolve their grief. Bonanno's (2004) PtRG model was a seminal contribution to grief theory due to its postulate that in many ways countered prevailing grief theories. In contrast to the common theoretical assumption that grief causes severe distress and impairs the psychological and physical functioning of individuals. Bonanno (2004) examined grief within the context of resilience and PTG; his PtRG emphasizes the resilient grief pathway, which is the most common type of grief experienced by bereaved individuals (Bonanno, 2004; Bonanno et al., 2011, 2012). A significant contribution to the grief literature was Bonanno's (2004) identification of four grief pathways, two of which were maladaptive (i.e., chronic and delayed) and two of which were positive (i.e., resilience and recovered).

Bonanno's (2004) methodological approach to identifying the four grief pathways was structured and systematic, requiring the use of a longitudinal design. The four grief

pathways were classified according to the changes in the psychological profiles of the bereaved individuals over time. Bonanno's (2004) first validity study utilized the Center for Epidemiologic Studies Depression (CES-D), depression was measured as the primary assessment of psychological functioning. Identification of the four grief pathways was determined by trajectory changes of depression at a minimum of 3 time-points: (a) at the time of the loss; (b) at least 6 months postloss; and (c) at least 12 months postloss (Bonanno, 2004). The work by Bonanno (2004) typically entailed the collection of data more than three times, with the study lasting at least two years. Each of the four grief pathways, two considered maladaptive and two regarded as adaptive, had a unique depression trajectory profile, as presented in Figure 2.

Figure 2

Bonanno's Grief Pathways



In accordance with Bonanno's (2004) PtRG theory, the two maladaptive grief pathways were *chronic* and *delayed* grief, which were relatively uncommon grief patterns, with chronic grief affecting approximately 12-25% of individuals and delayed grief occurring in approximately 5-15% persons (Bonanno, 2004, Bonanno et al., 2011, 2012). Individuals with chronic grief had the highest depression scores on the CES-D in comparison to those displaying the other types of grief. Indeed, the CES-D mean scores for the chronic grief group averaged 16 points, which was indicative of clinical depression (Bonanno, 2004, Bonanno et al., 2011, 2012). The trajectory of depression varied to some degree over two years, with depression scores slightly increasing at the two-month and 1-year time points. The second maladaptive grief pathway was delayed grief, identified by its pattern of increasing levels of depression from time of loss to (at least) two- years post-loss. Participants with delayed grief were second only to those with chronic grief regarding depression scores (Bonanno, 2004).

Bonanno (2004) identified two adaptive grief pathways: recovered and resilient. The two adaptive grief patterns were experienced by a large percentage of individuals. Between 10-20% of persons had recovered grief, while most individuals displayed resilient grief. The depression levels of individuals with recovered grief were moderately high at the time of loss, second only to the chronic griever. Depression scores for the recovered grief pattern increased until approximately 6 months post-loss, when they began to decline and continued to decrease over the next 18 months. The fourth grief pathway was resilient grief, characterized by low levels of depression throughout the grief process. Depression for those with resilient grief was highest in the short period

following the loss, but it decreased at approximately three months post-loss and remained low for the remaining two years (Bonanno, 2004).

Empirical Validation of Bonanno's Four Grief Pathways

A limitation to Bonanno's (2004) theory, as noted by Infurna and Luthar (2016), is the use of a single depression measure as the only indicator of psychological functioning. However, there has been extensive validation of Bonanno's (2004) four grief pathways utilizing different measures of psychological functioning (e.g., anxiety, distress, subjective well-being, life satisfaction, emotional stability), as evidenced by two systematic reviews of the literature (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018). Galatzer-Levy et al.'s (2018) systematic review was limited to 54 quantitative studies published in the years 2016 and 2017, focusing on grief and bereavement due to the loss of a spouse (80% of studies) or child (20% of studies) in the past three to four years. In these studies, placement into the respective grief category was determined by changes in levels of depression, anxiety, distress, or PTSD over at least 3 time points. In summarizing findings across all 54 studies, Galatzer-Levy et al. (2018) found that the majority of participants had resilient grief (66%), while 14% had recovered grief, 11% had chronic grief, and 9% had delayed grief. These percentages were similar to those found in Bonanno's (2004) original study (i.e., resilient grief 65%, recovered grief 10%, chronic grief 15%, and 10% delayed grief).

Galatzer-Levy et al.'s (2018) systematic review focused on studies that determine grief category placement based on depression and related constructs (i.e., anxiety, distress, and PTSD). Acknowledging the methodological limitation of grief

categorization based solely on depression or related constructs, Infurna and Luthar (2018) expanded their systematic review of the literature to include studies in which grief categories were derived from changes in self-reported life satisfaction, emotional stability, and positive affect. Their review included 77 quantitative studies published between 2016 and 2018 utilizing samples of bereaved older adults. Their findings indicated that, when grief categories were derived from measures of negative affect (i.e., depression, anxiety, and distress), the majority of participants (i.e., 60% to 84%) were categorized as having resilient grief. In studies in which categories were determined by measures of positive affect (i.e., life satisfaction, emotional stability), the resilient grief category percentages were somewhat lower but nonetheless comprised an average of 50% of study participants. Moreover, some studies using life satisfaction measures had remarkably similar category percentages to Galatzer-Levy et al. (2018). For example, Mancini et al. (2011), utilizing a measure of life satisfaction to categorize participants, reported that 59% had resilient grief, 21% had recovered grief, 14% had chronic grief and 6% had delayed grief. Findings from these two systematic reviews of the literature lend support for the validity of Bonanno's (2004) PtRG framework.

The Resilient Grief Pathway

A key contribution made by Bonanno and colleagues (Bonanno, 2004; Bonanno et al., 2011, 2012) was the extensive empirical work spent on validating the resilient grief pattern, which distinguished it from the other grief pathways and resulted in a clear operational definition of resilient grief. Some scholars noted concerns that resilient grief was not, in fact, grief, proposing instead that it was the absence of grief (Infurna, 2020;

Infurna & Luthar, 2018). However, Bonanno (2004) provided empirical evidence that resilient grievers were not "cold and … lacking in feeling and attachment" but were in fact "capable of genuine resilience in the face of loss" by examining differences across the four grief types across aspects of the marital relationship (e.g., quality of marriage, satisfaction with a partner) as well as grief-related attitudes and behaviors and attitudes regarding the marital relationship (p. 23). Findings showed that differences across grief types concerning the perceived quality of marriage and satisfaction with a partner, addressing the concern that resilient grievers differed regarding marital relationship factors.

Findings further showed that individuals with resilient grief did have indicators of grief at 6 and 18-months post-loss. For example, the mean rumination scores for the resilient and chronic grievers were the same at 6 months, and resilient grievers utilized avoidance coping at the same level as recovered grievers at 6 months post-loss. Grief indicators decreased substantially at 18 months for resilient grievers, prompting Bonanno (2004) to posit that psychological adjustment to the loss occurred early for this group. Resilient grievers were able to reach resolution with their grief at an earlier point than other grievers (Bonanno, 2004; Bonnano et al., 2005). Bonanno's (2004) concept of resilient grief shares similarities to Tedeschi and Calhoun's (1996) construct of PTG. Both resilient grief and PTG incorporate aspects of acceptance and "appreciation of life," and both are related to intrapersonal, spiritual, and relational growth (Calhoun et al., 2010, p. 128).

Westphal and Bonanno (2007) hypothesize that PTG was a much larger construct than previous thought and should not be limited in terms of "action-focused growth" (p. 417) but as a form of adaption within resilience. Westphal and Bonanno (2007) theorized that PTG is not really growth if it is not "action-focused growth" (p. 417). Westphal and Bonanno concluded from their literature review that most research on PTG had been based on retrospective self-reporting data that utilized a cross-sectional design, which question if PTG was actual life-altering or attributed to the self-enhancing process (Westphal & Bonanno, 2007). Westphal and Bonanno (2007) argued that social resources reflected long-term functioning and change, instead of resulting from one moment of time from a self-assessment. They further posited that not all individuals seek social support or resources but continued a stable trajectory or resilience despite adversity. Individuals who demonstrated a resilience outcome are less likely to search for meaning following loss or trauma compared to a less resilient individual with similar events (Westphal & Bonanno, 2007, p. 421). Westphal and Bonanno (2007) theorized that self-serving and self-enhancing attributes of PTG might lead to a positive adjustment to adverse events, by numbing the effects and restoring one's sense of self-esteem and enhancing one's locus of control.

Westphal and Bonanno (2007) identified self-enhancer's high scores for narcissism and related decreased social resources and negative interpersonal support as dysfunctional. However, they appear to have an advantage during adverse events and are better adjusted than individuals who score lower for narcissism. Westphal and Bonanno (2007) cited the studies of bereavement after violent loss and individuals from Bosnian

after the Balkan war. The results indicated that most severe self-enhancers showed more adaptive behaviors, concluding that self-enhancement appears to protect individuals from the most devastating of threats. However, the study also concluded that self-enhancers were rated as unfavorable to observers. Westphal and Bonanno concluded from their findings that PTG might utilize a form of coping that transforms into positive adjustment. The September 11 attack study found that self-enhancers perceived positive social relationships but appeared to be unaware of their negative effect on others, which played a significant role in reducing PTSD symptomology while "maintaining healthy functioning" (Westphal & Bonanno, 2007, p. 423).

Hardiness as a Predictor of Resilient Grief

Bonanno (2004) focused on the resilient grief pattern in his PtRG theoretical framework. Central to the PtRG model were the specific attributes of the individuals who displayed resilient grief. One attribute was hardiness, also known as trait resilience. The unique aspect of Bonanno's (2004) PtRG model is that it incorporates both personality (trait) and process/outcome resilience into a grief model but differentiates between the two. Bonanno's (2004), PtRG model, made very clear the distinctions between resilience as an outcome and trait resilience, or hardiness. The resilience pattern to grief is an outcome of loss, and Bonanno (2004) defined this type of resilience as one's ability, in the face of such loss, to not only display "healthy levels of psychological and physical functioning" but to also have the ability to experience growth and "positive emotions" resulting from loss (p. 20). In contrast, hardiness (trait resilience) is a personality characteristic that contributes to resilient grief. Bonanno (2004) proposed that hardiness

(or trait resilience), or more specifically, the three components of hardiness; commitment, control, and challenge, provided a pathway to resilience as an adaptation to and growth from spousal loss.

Maddi (2004, 2006, 2012) and Ong and colleagues (Ong & Bergeman, 2004; Ong et al., 2009, 2010) provided further explications of the components of hardiness within the context of grief. Maddi (2004, 2006, 2012) elaborated that hardiness is conceptually linked to the expression of positive emotions, adaptive coping mechanisms, and a positive attitude toward life. Ong and colleagues (Ong & Bergeman, 2004; Ong et al., 2009, 2010) examined how hardiness traits were specifically linked to positive outcomes post-spousal loss among the older adult population. Their empirical work showed that individuals with high levels of hardiness also reported high levels of positive affect, hope, and low levels of neuroticism (Ong & Bergeman, 2004; Ong et al., 2010). The PtRG literature has documented those hardy individuals are emotionally stable, optimistic, and hopeful, utilize effective coping mechanisms, and often have high levels of social support, all of which contribute to resilience outcomes (Bennett, 2010; Bonanno et al., 2011, 2012; Galatzer-Levy & Bonanno, 2012; Maddi, 2012; Ong & Bergeman, 2004; Ong et al., 2010). Findings from relevant empirical studies (Albuquerque et al., 2018; Bennett et al., 2019; Dawwas & Thabet, 2017; Duan et al., 2015; King et al., 2019; Rossi et al., 2007; Spahni et al., 2015) have consistently documented significant association between hardiness and resilient grief outcomes. These studies are reviewed later in this chapter.

Summary of Theoretical Section

This study is informed by numerous distinct yet related theoretical frameworks, including bereavement, grief, resilient grief, PTG, and hardiness. To provide a historical theoretical context of Bonanno's (2004) PtRG theory, historical theories on grief and bereavement were first reviewed. These earlier theories, which included work by Freud (1917), Bowlby (1973), Kübler-Ross (1973), and Stroebe and Schut (2001), took deficits-based positions toward grief, arguing that: (a) grief occurs in predictable stages; (b) individuals experience high levels of grief and distress in response to the death of a loved one; and (c) individuals always need therapeutic interventions to work through and resolve their grief.

The review continued with explications of the theoretical work on process resilience, an adaptive outcome of trauma, and PTG, considered thriving in the face of trauma. The primary process resilience theorists reviewed were Resnick et al. (2018), Rutter (1987), and Luthar et al. (2000). The seminal work on PTG, a concept created by Tedeschi and Calhoun (1996), was then discussed. According to Tedeschi and Calhoun (1996), PTG is a form of resilience that emerges in response to a traumatic event and is indicated by: (a) insight and strength; (b) the ability to find new meaning in life; (c) an appreciation for life and hopefulness; (d) emotional availability; and (e) spiritual growth (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun, 1996, 2004). The review then examined the theoretical construct of hardiness, or trait resilience, as well as the three Cs of hardiness (i.e., control, commitment, and challenge), referencing the theoretical work of McCubbin (2001) and Maddi and Kobasa (Kobasa, 1979; Kobasa et al., 1982; Maddi,

2006, 2007; Maddi & Kobasa, 1984). All sections included empirical studies that provided validation of the respective theories.

This section ended with a comprehensive review of Bonanno's (2004) PtRG theory, which guides this study. The PtRG theory is an amalgamation of grief and bereavement, process resilience, PTG, and hardiness theory, with Bonanno (2004) being among the first theorists to question the enduring and dominant assumption that grief is always psychologically distressing and occurs in predictable stages. Bonanno (2004) contributed to the grief and bereavement theoretical literature in two key ways. One, he postulated four grief pathways, two of which were maladaptive (i.e., chronic and delayed) and two of which were positive (i.e., resilience and recovered). The theoretical identification of four grief pathways has received considerable empirical validation, as evidenced by two systematic reviews of the literature (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018). There has been considerably less empirical work on Bonanno's (2004) second postulate that hardiness (or trait resilience), or more specifically, the three components of hardiness; commitment, control, and challenge, provided a pathway to resilience as an adaptation to and growth from spousal loss. While Maddi (2004, 2006, 2012) and Ong and colleagues (Ong & Bergeman, 2004; Ong et al., 2009, 2010) elaborated upon the theoretical links between the three Cs of hardiness and resilient grief outcomes, it has not been empirically tested. There are numerous studies, however, that suggest linkages between bereavement and resilient outcomes as well as hardiness, resilient grief, and PTG. These studies are reviewed in the following section.

Review of the Literature

The empirical literature has historically framed bereavement as negative, utilizing the assumption that spousal loss inevitably results in emotional distress and psychological dysfunction. As such, there remains considerable interest in maladaptive grief reactions, especially chronic grief (Lundorff et al., 2017; Rosner, 2015). The loss of a spouse is indeed a traumatic event that has psychological, emotional, and social implications for individuals. However, as evidenced from studies on Bonanno's (2004) PtRG theory, resilience, that is, psychological growth and personal thriving can occur in the face of loss. The intent of this literature review is to provide a systematic and comprehensive overview of the empirical literature most pertinent to this study.

Differences in Psychological Functioning Between Bereavement Groups

The first set of studies tested the postulate that the level of psychological distress due to spousal loss is pronounced enough to distinguish between bereaved and nonbereaved individuals (e.g., Fried et al., 2015; Hahn et al., 2011) and differentially bereaved groups (e.g., loss of child versus loss of spouse; spousal loss due to death versus divorce; e.g., Mancini et al., 2015). Most studies utilized a causal comparative design and operationally defined psychological functioning in similar ways (e.g., lower depression and/or anxiety, higher levels of life satisfaction and happiness).

Fried et al. (2015), in their causal comparative study with 515 adults (85% female, mean age of 73 years), the authors focused on differences in various psychological factors between individuals classified as bereaved (i.e., having lost a spouse within the past 6 months) or nonbereaved (i.e., currently married). Results from a one-way

multivariate analysis of variance (MANOVA) revealed that bereaved individuals, at 6 months post-loss, had significantly higher levels of loneliness, sadness, and depression and significantly lower levels of happiness and enjoyment as compared to their married peers (Fried et al., 2015).

Time since spousal loss plays a critical role in psychological adjustment to bereavement, and psychological functioning tends to be most impaired in the early stages of the bereavement process (Bonanno, 2004, Bonanno et al., 2005). Therefore, it is somewhat expected in Fried et al.'s (2015) study that, at only 6 months post-loss, bereaved individuals would experience high levels of depression compared to those not experiencing a loss. Fried et al. (2015) examined differences at only one time-point and only examined the construct of depression. Different findings were reported in the study by Hahn et al. (2011) with 200 women (mean age of 71 years), comparing differences in psychological functioning between married women and women who lost their spouse two years prior. Hahn et al. (2011) found no significant differences in well-being and emotional health between married women and women who had lost a spouse two years prior. Both groups of women reported having a positive outlook 'most of the time' and rated their emotional health as 'average to good' (Hahn et al., 2011, p. 5).

Other studies have expanded their examination of the effects of widowhood to include groups of individuals differentiated by grief type as well as a 'control group' of nonbereaved individuals. Bratt et al. (2016), in their causal comparative study, examined if a variety of factors, including life satisfaction, psychological functioning, perceived health, and social support, significantly differed between four differentially bereaved

older adult groups. At an average of 15 years post loss, these groups included: (a) those who lost a child (n = 69); (b) those who lost a spouse (n = 362); (c) those who lost both a spouse and a child (n = 84); and (d) nonbereaved individuals (n = 635). Findings from a series of factorial ANOVAs with Tukey *post hoc* tests revealed significant differences in life satisfaction and adaptive functioning between all four groups and across gender. The nonbereaved group had the highest level of life satisfaction and functioning, followed by the group who lost a spouse within the past 15 years. Participants who lost a child or lost both a child and spouse within the past 15 years had the lowest levels of satisfaction and functioning, with women having the lowest scores overall. There were no significant bereavement and/or gender group differences concerning self-reported health or social support (Bratt et al., 2016).

Acknowledging the potential confounding effects of time since spousal loss and focusing on the female gender, Kim and Kim (2016) examined differences in psychological functioning across groups differentiated by years of widowhood. In their causal comparative study with a sample of 5,704 Korean older adult women (mean age of 60 years), Kim and Kim (2016) examined differences in depression between women who had been widows for 10 years or more, women who were widowed within the past year, and married women. Results from one-way ANOVAs and logistic regression analyses indicated that recently widowed women had the highest levels of depression, with a mean score that was significantly higher than long-term widows and married women (Kim & Kim, 2016). Women widowed for more than 10 years also had significantly higher levels of depression than did married women (Kim & Kim. 2016).

Perkins et al. (2016) addressed the potential confounding effects of time since loss in their study with over 9,000 older adults (52% female, mean age of 70 years) in India. They examined differences in psychological distress between married individuals and individuals widowed within the past four years, those widowed between five to nine years, and individuals widowed for 10 or more years. Utilizing logistic regression, they found that participants recently widowed (i.e., within the past four years) had significantly higher levels of psychological distress than did married participants. However, there were no significant distress differences between participants widowed between five and nine years and married participants; furthermore, participants widowed for 10 years or more had significantly lower levels of psychological distress as compared to married participants (Perkins et al., 2016).

There has been some examination of differences in psychological adjustment to spousal loss within the context of divorce and death. The study by Wade et al. (2016) examined the effects of loss due to divorce as compared to loss due to death, with a married group of participants acting as a third comparison group. Wade et al. (2016) examined differences in subjective well-being (controlling for cognitive ability, educational level, and physical health) between married, divorced, and widowed medical patients (n = 55, 60% female, mean age of 57 years). Results from a one-way analysis of covariance (ANCOVA) showed that subjective wellbeing was highest among widowed adults. Participants who lost a spouse due to death had significantly higher levels of subjective well-being than did participants who lost a spouse to divorce, as well as

participants who were currently married. These differences were consistent across gender groups (Wade et al., 2016).

An under-examined empirical topic has been the differences in PTG between differentially bereaved groups. Lopez and Noriega (2015) explored PTG in relation to the functioning of 103 married and widowed older adults (mean age of 70 years, 62% female) in Poland. The authors found no significant differences in PTG between married and widowed older adults. However, when examining the relationships between protective factors and PTG, the authors found that religiosity, sense of coherence, and subjective well-being contributed to PTG for both married and widowed older adults (Lopez & Noriega, 2015). In their causal comparative study, Brodbeck et al. (2017) examined differences in PTG between divorced and widowed older adults (65% female, mean age of 64 years). Findings from a series of MANOVAs indicated that widowed participants had significantly higher levels of PTG in comparison to divorced individuals (Brodbeck et al., 2017).

A few studies have examined differences in hardiness between bereaved and nonbereaved individuals. Time since the spousal loss was recognized as a crucial control variable in Spahni et al.'s (2016) study with over 1200 Swiss older adults (58% female, mean age of 72 years). The authors compared differences in hardiness and other psychological factors between a group of widowed individuals whose spouse had died within the past five years and a control group of married individuals (Spahni et al., 2016). The authors utilized the Resilience Scale (RS; Wagnild & Young, 1993), which assesses the trait-based constructs of personal resilience, competence, and self-acceptance.

Additional psychological characteristics assessed in the study were depression, loneliness, and life satisfaction (Spahni et al., 2016). Spahni et al. (2016) employed different statistical techniques, including *t*-tests and ANCOVAs to examine differences between groups, and correlation and linear regression to examine associations between variables. Findings revealed no differences in trait resilience between widowed and married individuals. Moreover, there were significant differences between groups on all these variables; widowed individuals had significantly higher levels of depression and loneliness and lower levels of life satisfaction as compared to married individuals (Spahni et al., 2016).

Certain conclusions can be drawn when considering the findings across studies. While spousal loss can be a devastating event, it is not necessarily as distressing as the loss of a child or the loss of a spouse resulting from divorce. The overall findings counter the prevailing scholarly opinion that spousal loss is an emotionally devastating event that negatively impacts the psychological functioning of the bereaved individual for a long duration of time. Indeed, widowed older adults may have higher levels of satisfaction and PTG in contrast to divorced older adults and older adults who lost a child. Findings from these studies also suggest that gender may interact with bereavement to influence outcomes and that time since loss plays a crucial role in bereaved individuals' psychological adjustment.

Hardiness as a Predictor of Resilient Grief Outcomes

A central postulate of Bonanno's (2004) PtRG theory is that hardiness and qualities present in hardy individuals contribute to resilient grief outcomes, namely grief

resolution and PTG. The premise in this study was informed by the empirical literature examining the relationships between hardiness or hardiness-related constructs (e.g., hope, life satisfaction, adjustment) and resilient grief outcomes, including PTG (Campbell et al., 1991; Coleman & Neimeyer, 2010; Herth, 1992; King et al., 2019; Rossi et al., 2007; Ungar & Florian, 2004). These studies utilized correlational or longitudinal designs, with some examining trajectories and pathways linking psychological hardiness to adaptive grief outcomes, including grief resolution, defined as acceptance of and psychological adjustment to spousal loss (Remondet & Hansson, 1987), lower levels of depression, and higher levels of PTG (Campbell et al., 1991; Coleman & Neimeyer, 2010; Herth, 1990; King et al., 2019; Rossi et al., 2007; Ungar & Florian, 2004).

There is some empirical work assessing the relationship between hardiness and resilient grief outcomes operationally defined as life satisfaction or depression. Coleman and Neimeyer (2010) conducted a longitudinal study to examine if hardiness, operationally defined as "sense-making," was predictive of positive affect and depression. The authors utilized the Changing Lives of Older Couples Study (CLOC) national dataset, with data collected from 296 older adults (86% female, mean age of 73 years) who lost a spouse three years prior on average. Findings from two multiple linear regressions showed that hardiness, measured at 6 months and 18 months, was significantly predictive of higher levels of positive affect and lower levels of depression, measured at 48 months, controlling for participant age and gender (Coleman & Neimeyer, 2010).

Other studies (King et al., 2019; Rossi et al., 2007) have examined the direct and moderating, or buffering, effects of hardiness and resilient grief outcomes. A correlational design was employed by Rossi et al. (2007) to determine the relationships between perceived stress, hardiness, and life satisfaction following conjugal loss in a sample of 55 widows (100% female, mean age of 65 years) one-month post-loss. Findings from multiple linear regression showed that higher levels of hardiness contributed to life satisfaction post-loss. Moreover, hardiness acted as a moderator, or buffer between life stress and life satisfaction among the 55 widows (Rossi et al., 2007). That is, a higher degree of life stress significantly contributed to lowering life satisfaction under the condition of low hardiness levels (Rossi et al., 2007).

King et al. (2019) utilized data from the Health and Retirement Study (PRS) national database from over 5,000 older adults (55% female, mean age of 58 years) to examine the individual influences of widowhood and hardiness and their interactive effects on depression levels. Findings from ordinary least-square regression analyses showed that widowhood status as compared to married status was significantly associated with higher levels of depression; there was also a significant association between hardiness and depression (i.e., as hardiness levels increased, depression decreased). Findings further showed that hardiness had a moderating or buffering effect between widowhood and depression. That is, widowhood was significantly associated with higher levels of depression only under the condition of low hardiness. These results were found for both men and women, but were more pronounced for females (King et al., 2019).

Hardiness and resilient grief were examined in relation to other variables in the complex studies conducted by Spahni, Bennett, and colleagues (Bennett et al., 2019; Spahni et al., 2015). Spahni et al. (2015) conducted a comprehensive two-step study with 402 adults (57% female, mean age of 74 years) who lost a spouse within the past 5 years. In their first study, they initially conducted a latent profile analysis (LPA) and grouped the participants into three grief categories, resilient (54% of participants), copers (39% of participants), and vulnerable (7% of participants) based on participants' scores on measures of depression, hopelessness, loneliness, life satisfaction, and physical health. The resilient group had the lowest levels of depression, hopelessness, and loneliness and the highest levels of life satisfaction and physical health. The vulnerable group had the lowest scores on these measures, the copers showed a similar pattern to the vulnerable on the measures, but their scores deviated much more. The vulnerables and copers were considered to show maladaptive grief patterns.

Spahni et al. (2015) then conducted a second LPA to determine if significant differences existed across the three grief groups of participants with regard to sociodemographic factors (i.e., age, gender, the highest level of education), marriage factors (i.e., length of time married, marital happiness, spousal support), death of spouse variables (i.e., time since death, expectedness of death, emotional valence of death), Big Five personality traits, social support, and hardiness, measured as a single construct. Results from the LPA showed that women were more likely to be categorized as resilient and less likely as copers and vulnerables, than men. The resilients had been married longer and reported higher levels of marital happiness and spousal support than did

copers and vulnerables. Spahni et al. (2015) study found that the resilient group had significantly higher extraversion, conscientiousness, agreeableness, and openness traits and lower neuroticism than the copers or vulnerables. The most pronounced differences between the resilients and the maladaptive grievers (i.e., the copers and vulnerables) concerned hardiness and life satisfaction. The resilient grievers showed the highest level of hardiness and were the group to have the highest level of life satisfaction. Spahni et al. (2015) argued that grief is dependent on personality factors, such as hardiness, in combination with other contextual factors (e.g., length and quality of marriage) as well as personal resources.

The findings by Spahni et al. (2015) supported their argument that hardiness could minimize the deleterious effects of spousal loss by influencing or interacting with related intrapersonal and interpersonal strengths over time. In the longitudinal study by Bennett et al. (2019), the authors examined the trajectories of adjustment to spousal loss across the three grief groups (i.e., resilients, copers, and vulnerables) utilizing a smaller sample of 309 (57% female, mean age of 74 years) adults who lost a spouse within the past 5 years. The goal of the study was two-fold: to examine the differences in psychological functioning, hardiness, and life satisfaction two years after initial assessment and to determine if these factors influenced changes in grief group membership (Bennett et al., 2019).

Bennett et al. (2019), using LPA, found that resilients had the highest levels of extraversion, conscientiousness, agreeableness, and openness traits and lower neuroticism than the copers or vulnerables two years after initial assessment. The resilients had the

highest levels of hardiness and life satisfaction two years after assessment as well. Indeed, two years after the initial assessment, the degree of difference in hardiness between the resilients and vulnerables was quite pronounced, as evidenced by large effect size. Another intriguing finding was that hardiness increased over time for a small group of participants who moved from the vulnerable to coper groups between Time 1 and Time 2. The findings from Bennett et al.'s (2019) study suggest that hardiness plays a profound role in the psychological adjustment to spousal loss, even among individuals experiencing maladaptive grief early in the bereavement process.

Hardiness as a Predictor of Grief Resolution

Most studies, including the work by Bonanno and colleagues (e.g., Bonanno, 2004; Bonanno et al., 2007; Galatzer-Levy & Bonanno, 2012; Mancini & Bonanno, 2006) and Spahni and colleagues (e.g., Bennett et al., 2019; Rederer et al., Spahni et al., 2015, 2016), have operationalized resilient grief as psychological distress, depression, and/or life satisfaction. Few studies on spousal bereavement have conceptualized resilient grief as grief resolution, which is the first criterion variable of this study. Grief resolution is defined by Remondet and Hansson (1987) as the successful coming to terms with the death of a spouse and "getting on with life" (p. 30). The concept of grief resolution was acknowledged in the theoretical work by Worden (2008) and Stroebe and Schut (2001), and it is often discussed in the empirical literature in relation to complicated grief and prolonged grief disorder (Prigerson et al., 1996, 2008; Winterling et al., 2010).

Grief resolution is one of the few resilient grief constructs to receive psychometric attention, the outcome being the validated GRI (Remondet & Hansson, 1987). The GRI

has been underutilized in the spousal loss literature, despite empirical evidence of its psychometric strength (Hudson et al., 2010; Tomita & Kitamura, 2002), its discriminant validity to distinguish individuals with and without complicated grief (Heeke et al., 2019), and its significant relationships with depression and/or anxiety (Cleiren, 2019) and social support (Bisconti et al., 2006).

There was some attention given to the relationship between hardiness and hardiness-related constructs (e.g., hope, adaptive coping) and the resolution of grief in the 1990s and early to mid-2000s. Herth (1990) found a significant association between hope and use of adaptive coping styles (e.g., optimistic, stress-reducing, self-reliant) and grief resolution in a sample of 75 older adults (62% female, mean age of 79 years) widowed between 12 to 18 months prior. Ungar and Florian (2004) found a significant relationship between cognitive sense of coherence and the resolution of grief in their study with 93 widows who lost a spouse one to five years prior to the study. Campbell et al. (1991) acknowledging the fact that "little attention has been paid to personality and its role in resolving grief" (p. 1). Campbell et al. (1991) examined the link between hardiness as a personality trait and grief resolution in a sample of 70 widows (100% female, mean age of 68 years). Findings from Campbell et al.'s (1991) study indicated significant associations between hardiness and the resolution of grief.

Hardiness as a Predictor of PTG Within the Context of Grief

There has been some examination of the relationship between hardiness and PTG, with the studies best classified into two categories. The first group of studies (Caserta et al., 2009; Lòpez et al., 2015) focused on the associations between hardiness-related

constructs, but not hardiness per se, and PTG among bereaved older adults. Caserta et al. (2009) focused on the associations between restoration-oriented coping and PTG in a sample of 292 older adults (61% female, mean age of 70 years) who lost a spouse within the past 2 to 6 months. Utilizing multiple linear regressions, the authors found a significant relationship between restoration-oriented coping and PTG, after controlling for numerous personal, intrapersonal, and interpersonal factors. In their study with 103 widowed older adults (mean age of 68 years, 65% female) who lost a spouse within the past 5 years, Lòpez et al. (2015) operationalized hardiness as a sense of coherence and religiosity, and examined it in relation to PTG. Results from a HMLR analysis showed that, after controlling for age, gender, socioeconomic status, and current stress level, hardiness was significantly associated with PTG.

There has been some empirical attention (Albuquerque et al. 2018; Dawwas & Thabet, 2017; Duan et al., 2015; Zhang et al., 2016) given to the examination between hardiness and PTG utilizing samples of bereaved adolescents and young adults. Dawwas and Thabet (2017) found a significant association between hardiness and PTG in a sample of 400 traumatized adolescents (50% female, mean age of 17 years), 80% of whom recently lost a loved one to violence. Albuquerque et al. (2018) explored the relationships between trait resilience, or hardiness, and PTG in a study with 197 parents (90% female, mean age of 29 years) who lost a child more than 7 months prior. Findings from a multiple linear regression showed a significant association between trait resilience (hardiness) and PTG, after controlling for numerous personal, coping, and situational variables (Albuquerque et al., 2018).

Other studies that focused on parents bereaved by the loss of their child have consistently shown that hardiness is significantly and positively associated with PTG (Duan et al., 2015; Zhang et al., 2016). The significant link between hardiness and PTG was not, however, found in the study by Mathews and Servaty-Seib (2007), who utilized a sample of 137 college students (70% female, mean age of 22 years) who lost a friend or family member a year or more prior. The authors found that, while higher levels of hardiness were significantly related to lower grief misery, there was not a significant linear association between hardiness and PTG in this sample of bereaved college students (Mathews & Servaty-Seib, 2007).

Only one study, conducted by Rederer et al. (2016), examined the link between hardiness and PTG utilizing samples of bereaved older adults, the findings of which are discussed at the end of this subsection. The study sample was comprised of 332 older adults (58% female, mean age of 73 years) who lost a spouse within the past 5 years. The authors examined numerous potential predictors of PTG other than hardiness, including demographics, personality traits, time since loss, social support, and current stress level. Results from an HMLR analysis showed that hardiness significantly predicted PTG. Additional significant predictors of PTG were extraversion, conscientiousness, and current level of stress (Rederer et al., 2016).

The Three Cs of Hardiness and Resilient Grief Outcomes

A central theoretical argument proposed by Maddi, Kobasa, and colleagues (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984) is that hardiness is comprised of three dimensions. Known as the three Cs of hardiness, these are: (a)

commitment, or having a sense of resoluteness, steadfastness, and responsibility; (b) control, akin to an internal locus of control and grit; and (c) challenge or having the ability to positively reframe and reinterpret a traumatic event (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Maddi, Kobasa, and colleagues posited that the three elements of commitment, control, and challenge activated specific positive cognitive appraisals and involved certain adaptive cognitive, emotional, and behavioral responses (e.g., using active problem-solving skills, remaining calm, seeking support; Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). This study extended the work by Maddi, Kobasa and colleagues (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984) and Bonanno (2004) by examining if the three Cs are significantly predictive of resilient grief outcomes.

There has been minimal empirical attention given to the relationship between the three Cs of hardiness (i.e., commitment, control, and challenge) and resilient grief outcomes. This work has been conducted by O'Rourke (2004) concerning resilient grief outcomes and Ogińska-Bulik and colleagues (Ogińska-Bulik, 2014, 2015; Ogińska-Bulik & Koblyarczyk, 2015) regarding PTG as an outcome of bereavement. O'Rourke (2004), in a correlational study with 232 women (mean age of 61 years) widowed, on average, for almost 9 years, examined if commitment, control, and challenge were significantly associated with two grief outcomes, satisfaction with life and life distress, after controlling for demographic factors (i.e., income level, age, years of education, years married), warning of spousal death, duration of widowhood, and physical health.

The findings from O'Rourke's (2004) series of multiple linear regressions were equivocal regarding the three Cs and two grief outcomes: life satisfaction and life distress. Findings from a multiple linear regression noted significant associations between two Cs, commitment and control, and life satisfaction. That is, as women's sense of commitment and control increased, so did their life satisfaction. Findings from the second multiple linear regression analysis showed that only commitment was significantly associated with life distress. As women's degree of commitment increased, their life distress decreased. In summary, a commitment was significantly associated with life satisfaction and life distress, control with life satisfaction only, and challenge with neither life satisfaction nor life distress (O'Rourke, 2004).

The purpose of the longitudinal study conducted by O'Rourke et al. (2011) was to examine the long-term effects (i.e., over one year) of the three Cs of hardiness on depression. The authors conducted the study within a sample of 105 (68% female, mean age of 72 years) adults who lost a spouse to Alzheimer's disease. They utilized complex multiple linear regression analyses that assessed Time 1 effects of the three Cs of hardiness on Time 2 (i.e., one year later) levels of depression. O'Rourke et al.'s (2011) results showed significant associations between Time 1 control and challenge scores and Time 2 depression levels. That is, higher degrees of control and challenge reported by the participants at Time 1 were significantly associated with lower levels of depression at Time 2, one year later. A commitment was not found to be significantly associated with depression (O'Rourke et al., 2011).

Ogiňska-Bulik (2014, 2015) and Ogiňska-Bulik and Koblyarczyk (2015) examined the relationships between hardiness as a general construct and PTG in samples of adults who lost a close friend, family member, or spouse. Ogiňska-Bulik's (2014) first study was conducted with 74 adults (64% female, mean age of 38 years) who lost a loved one in the past 5 years. Findings from a multiple linear regression analysis showed a significant relationship between trait resilience, or hardiness, and PTG, controlling for gender and age. However, when they assessed hardiness as a three-factor (i.e., commitment, control, challenge) construct utilizing samples of adult bereaved individuals (68% female, mean age of 45 years), they found that only challenge was significantly related to PTG (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015).

Summary of Hardiness and Grief Outcomes Literature

Despite the differences in the operational definitions of hardiness (e.g., hardiness-related constructs, hardiness as a single indicator) and resilient grief outcomes (e.g., grief resolution, depression, life satisfaction, PTG) across studies (e.g., Albuquerque et al., 2018; Bennett et al., 2019; Dawwas & Thabet, 2017; Duan et al., 2015; King et al., 2019; Spahni et al., 2015; Zhang et al., 2016), they have nonetheless shown consistency in findings. There is consistent empirical evidence from studies conducted in the 1990s and 2000s (e.g., Campbell et al., 1991; Herth, 1990; Ungar & Florian, 2004) that hardiness is significantly linked to grief resolution, defined as acceptance of and psychological adjustment to spousal loss (Remondet & Hansson, 1987). Grief resolution has, however, been neglected in the empirical literature on resilient grief outcomes, despite empirical evidence of the psychometric strength of the GRI (Remondet & Hansson, 1987), as noted

by Hudson et al. (2010). There is, further empirical evidence from the work by Rederer et al. (2016) and Ogiňska-Bulik (2014) that hardiness is significantly associated with PTG within the context of spousal bereavement. PTG is the study's second criterion variable.

There has been much less empirical attention given to the relationship between the three Cs of hardiness (i.e., commitment, control, and challenge) and resilient grief outcomes. The only studies to date are the works by O'Rourke and O'Rourke and associates (2004, 2011), regarding the three Cs and resilient grief outcomes, and Ogiňska-Bulik and colleagues (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015) concerning the three Cs and PTG as an outcome of bereavement. A key conclusion drawn from these four studies, which had equivocal findings, was that the significance of the relationships between the three Cs of hardiness and resilient grief is dependent upon the operational definition of resilient grief as measured (i.e., life satisfaction, life distress, depression, PTG). When assessed collectively, the study findings indicated significant relationships between commitment and life satisfaction, life distress, and depression, but not PTG (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015; O'Rourke, 2004, 2011). Control was significantly related to life satisfaction and depression but not life distress nor PTG (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015; O'Rourke, 2004, 2011). Challenge was significantly linked to depression and PTG but not life satisfaction or life distress (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015; O'Rourke, 2004, 2011). The reasons for these equivocal findings are unknown. It is hoped that this study will shed some light on the relationships between the three Cs of hardiness and two resilient grief outcomes, grief resolution and PTG.

Gender Differences in Resilient Grief

Any study on grief must acknowledge the social phenomenon of the *feminization of aging*. Feminization of aging directly reflects the incongruences of life expectancies, social implications, financial poverty, and life events between older men and women (Streeter, 2020). Between 2013 and 2014, life expectancy for women was 81.2 years, while the life expectancy for men was 76.4 years, a difference of 4.8 years (Federal Interagency Forum on Aging-Related Statistics, 2016). Moreover, women aged 65 and older are expected to live an additional 20.5 years, well into their mid-eighties, while men aged 65 and older can expect to live 10 more years (Ortman et al., 2014). As women live longer than men, it is not surprising that a higher percentage of women as compared to men experience widowhood (Federal Interagency Forum on Aging-Related Statistics, 2016). For example, in 2015, an estimated 34% of women 65 years and older identified as widows, compared to 12% of men, and 73% of women aged 85 and older were widows, compared to 34% of men (Federal Interagency Forum on Aging-Related Statistics, 2016, 2019). Women over the age of 65 are three times more likely than older men to be widowed (Federal Interagency Forum on Aging Related Statistics, 2016, 2019).

The effect of the feminization of aging is reflected in the empirical literature on grief. As seen in the previous sections, studies on grief have utilized study participants samples that were predominantly female (e.g., Bennett et al., 2019; Fried et al., 2015; Spahni et al., 2015, 2016; Wade et al., 2016) or all female (e.g., Hahn et al., 2011; Kim & Kim, 2016; Rossi et al., 2007). In the studies having a majority female sample, some also

examined gender in relation to resilient grief. Bennett et al. (2019) reported that a higher percentage of resilient grievers were female (67%). Spahni et al. (2016) reported a similar finding, reporting that females comprised the majority (61%) of resilient grievers.

Other studies have documented that the resilient grief pathway is more common among women as compared to men (Burns et al., 2015; Powers et al., 2014). There is an over 50-year history of empirical work that has documented those women display significantly higher levels of life satisfaction, resilience, and PTG than men in response to spousal death (Bratt et al., 2016; Helgeson et al., 2006; Holm & Severinsson, 2012; Koren, 2015; McCrae & Coster, 1997; O'Rourke, 2004; Rahe, 1967). Further empirical work has shown that women who have high levels of hardiness, or trait resilience, and related characteristics (e.g., motivation reserve, generativity, psychological-well-being, motivation, life satisfaction, and spirituality) are more likely to have a resilient response to spousal death (Bennett, 2010; Fontes & Neri, 2015; Pudrovska & Carr, 2006; Soulsby & Bennett, 2017; Wild et al., 2011). There is empirical evidence that women with high levels of hardiness have: (a) more rapid recoveries in response to loss; (b) increases in help-seeking behaviors; (c) lower level of anxiety and depression; (d) fewer health problems; (e) higher levels of hope and optimism; and (f) higher levels of PTG (Bennett, 2010; Fontes & Neri, 2015; Garcini et al., 2019; Pudovska & Carr, 2008; Soulsby & Bennett, 2017; Wild et al., 2011).

Additional Predictors of Resilient Grief

As evidenced in the comprehensive review of the literature presented in this chapter, there are numerous demographical, intrapersonal, and contextual factors

associated with resilient grief outcomes. Most of the reviewed studies included at minimum, the demographic covariate of age. While the grief and bereavement studies discussed in this chapter, have typically focused on older adults, there is some empirical evidence that younger aged, even during the period of late adulthood, is significantly associated with resilient grief outcomes (Hahn et al., 2011; King et al., 2019; Wade et al., 2016), including PTG (Currier et al., 2012; Michael & Cooper, 2013). There have, however, been studies that found no significant relationship between age and resilient grief outcomes (Coleman & Neimeyer, 2010; Ong et al., 2010; Perrig-Chiello et al., 2015; Spahni et al., 2015).

The decision to include the variables of time since loss and depression as covariates was based on their theoretical relevance noted by Bonanno (2004; Bonanno et al., 2011, 2012) and their significant effects on resilient grief outcomes in additional studies (e.g., Fried et al., 2015; Galatzer-Levy et al., 2018; Perkins et al., 2016). There is considerable evidence that time since spousal loss plays a critical role in psychological adjustment to bereavement, and psychological functioning tends to be most impaired in the early stages of the bereavement process (Bonanno, 2004; Bonanno et al., 2005; Kim & Kim, 2016; Perkins et al., 2016). Numerous studies have emphasized the significant influence of time since a spousal loss on resilient grief outcomes, with many identifying it as the most pertinent confound variable (Fried et al., 2015; Kim & Kim, 2016; Perkins et al., 2016; Rederer et al., 2016). Moreover, the empirical literature has consistently operationalized resilient grief as reduced depression (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018). Depression takes center stage as the key indicator of psychological

functioning in Bonanno's (2004) PtRG theory, and review of the literature studies have noted that individuals with resilient grief have significantly lower levels of depression in comparison to their peers (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018; Michael & Cooper, 2013).

The last two covariates was religiosity, considered to be both an internal and external resource of the bereaved individual (Stroebe et al., 2005). Spahni and colleagues (Bennett et al., 2019; Rederer et al., 2016; Spahni et al., 2016) emphasized the important role that religiosity played as a personal resource in the adaptation to spousal loss. MacLeod et al. (2016) argued that the "key positive characteristics" associated with resilient grief were supported by a religious or spiritual community (p. 269). Religiosity has further been linked to not only grief resolution (Bisconti et al., 2006) but also higher levels of PTG within the context of bereavement (Malhotra & Chebiyan, 2016). Indeed, Michael and Cooper (2013), in their systematic review of the literature on bereavement and PTG, reported that all the 15 reviewed studies established relationships "between religion, spirituality, and PTG following … bereavement" (p. 28).

Summary

This concludes Chapter 2. The purpose of Chapter 2 was to provide a comprehensive review of both the theoretical and empirical literature. The chapter opened with a section that summarized the literature search strategy. It continued with an extensive examination of the theoretical literature. Grief and bereavement theory was first examined using a historical lens, with discussions of the theoretical work of Freud (1917), Bowlby (1973), and Kübler-Ross (1973), among others. The differences between

process and trait resilience were then summarized, with references made to the theoretical work by Rutter (1987) and Luthar et al. (2000), among others. The seminal work on PTG by Tedeschi and Calhoun (1996) was then examined. These theories provided the foundation in which to elaborate on the guiding theory of this study, Bonanno's (2004) PtRG.

A substantial portion of Chapter 2 was the comprehensive review of the relevant empirical literature. The first studies presented were those that examined differences in psychological functioning between differentially bereaved groups of individuals. Most of these studies utilized a causal comparative design and operationally defined psychological functioning in similar ways (e.g., lower depression and/or anxiety, higher levels of life satisfaction and happiness). The last sections of the chapter were devoted to summarizing the empirical literature, the majority of which used longitudinal designs, that documented links between hardiness-related constructs and hardiness and resilient grief outcomes, including grief resolution and PTG. Particular attention was given to the four studies by O'Rourke (2004), O'Rourke et al. (2011) and Ogińska-Bulik and colleagues (Ogińska-Bulik, 2014; Ogińska-Bulik & Koblyarczyk, 2015). Conclusions drawn from these four studies, which had equivocal findings, was that the significance of the relationships between the three Cs of hardiness and resilient grief was dependent upon the operational definition of resilient grief as measured (i.e., life satisfaction, life distress, depression, PTG). The chapter concluded with a rationale for including the variables of time since loss, participant age, depression, social support, and religiosity as covariates.

It was the intent of this study to advance current knowledge and understanding of the relationships between the three Cs of hardiness and grief resolution and PTG within the context of spousal loss. The focus on both hardiness, or resilience as a trait, and resilience as a process added clarity to the resilience literature. This study helped to clarify the operationalization of resilient grief that has varied across studies. Bonanno (2004) defined resilient grief as a psychological, emotional, and physical adjustment to loss, akin to the concept of grief resolution. It remains conceptually unclear if resilient grief is just grief resolution or something beyond that, more transformative and life changing and is thus akin to PTG. This study contributed to the conceptual understanding of PTG by examining its relationship to grief resolution and the covariates of depression and religiosity, as part of the statistical analyses. Finally, the study contributed to the literature on additional factors by including the covariates of participant age, time since the death of spouse, depression, and religiosity.

Chapter 3: Research Method

It was not known, if, and if so, to what degree, the three Cs of hardiness (i.e., commitment, control, and challenge) were significantly associated with two resilient grief outcomes, grief resolution and PTG. The purpose of this quantitative correlational study was to examine whether there were significant relationships between the three hardiness personality factors of commitment, control, and challenge, and the grief-related outcomes of grief resolution and PTG in a national sample of women aged 50 or older. The researcher measured the three hardiness factors of commitment, control, and challenge, the predictor variables, using the respective subscales on the 15-item DRS-15 (Bartone, 1995). The researcher measured the criterion variable of grief resolution using the GRl (Remondet & Hansson, 1987), and the researcher measured the criterion variable of PTG using the PTGI (Tedeschi & Calhoun, 1996). In the study the researcher also tested four covariates: (a) participant age; (b) time since spousal death; (c) depression, measured using the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001); and (d) religiosity, assessed using the Centrality of Religiosity Scale (CRS; Huber & Huber, 2012).

The purpose of Chapter 3 is to provide a comprehensive review of the study methodology. The opening section presents the rationale for the use of a quantitative correlational design. The researcher then discusses specific components of the study methodology, with following sections on: (a) study target population, sampling plan, and sample size; (b) recruitment and data collection procedures; and (c) data analysis. The researcher then outlines the threats to external, internal, and statistical conclusion validity

and ethical procedures specific to this study. Chapter 3 concludes with a summary section.

Research Design and Rationale

For this study the researcher used a quantitative nonexperimental correlational design to examine if there were significant relationships between the three Cs of hardiness (i.e., commitment, control, and challenge) and two resilient grief outcomes, grief resolution and PTG, controlling for pertinent covariates. The study had six research questions, each with associated null and alternative hypotheses. These were:

RQ1: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$1: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a1: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995) and grief resolution, measured using the GRI (Remondet & Hansson,

1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ2: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$2: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a2: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among recently widowed women aged 50 or older.

RQ3: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$3: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a3: There is a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ4: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$4: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a4: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone,

1995) and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ5: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$5: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a5: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ6: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant

age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$6: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a6: There is a significant relationship between the hardiness personality factor of challenge, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

This study was quantitative as the researcher used the scientific method, posing and testing hypotheses about the statistical relationship of variables (McCusker & Gunaydin, 2014; Rahi, 2017). Bonanno's (2004) PtRG model informed the research questions, which had null and alternative hypotheses. The researcher collected numerical data using standard methods and validated instruments. The researcher statistically analyzed the data, and the findings informed the decision to reject or fail to reject the null hypotheses. Due to its lack of random selection as well as the absence of study conditions, this study was nonexperimental.

The study was correlational, as it focused on the significance, direction, and strength of the relationships between the predictor variables of the three Cs of hardiness

(i.e., commitment, control, and challenge) and the study's criterion variables of grief resolution and PTG, controlling for covariates. Much of the reviewed research had used the correlational approach to examine the relationships between hardiness or hardiness-related constructs (e.g., hope, life satisfaction, adjustment) and resilient grief outcomes (e.g., Coleman & Neimeyer, 2010; Herth, 1990; King et al., 2019; Ogiňska-Bulik, 2014; Ogiňska-Bulik & Koblyarczyk, 2015; O'Rourke, 2004; O'Rourke et al., 2011; Rossi et al., 2007; Ungar & Florian, 2004). The researcher assessed the three predictor variables of hardiness (i.e., commitment, control, and challenge) using the respective subscales of the DRS-15 (see Bartone, 1995). The researcher used the GRI (see Remondet & Hansson, 1987) to measure the criterion variables of grief resolution, the researcher used the PTGI (see Tedeschi & Calhoun, 1996) to assess the criterion variable of PTG. The potential covariates were: (a) participant age; (b) years since spousal loss; (c) depression, as assessed by the PHQ-9 (see Kroenke et al., 2001); and (d) religiosity, as measured by the CRS (see Huber & Huber, 2012).

The researcher collected data at one time-point due to time constraints. The researcher used Qualtrics research panel recruitment services, and the data collection occurred online. The type of statistic used to test study hypotheses was HMLR, commonly used in correlational studies (see Giles, 2013). An HMLR tests the statistical effects of two or more predictor variables on one criterion variable, with variables collectively entered on more than one regression model/step (Keith, 2014). Hypothesis testing entailed the computation of two HMLRs, with one examining the effects of the

three Cs of hardiness on grief resolution (controlling for covariates) and the second examining the effects of the three Cs of hardiness (controlling for covariates) on PTG.

Methodology

Population and Sample

The target population for this study was females who lost a spouse. In this study, participants had to meet the following study criteria: (a) be female; (b) be of age 50 or older; and (c) lost a spouse. The researcher utilized convenience sampling to obtain the study sample of participants. Convenience sampling is a type of nonprobability sampling in which researchers recruit study participants who meet "certain practical criteria," including "easy accessibility … availability … or willingness" to participate in the study (Etikan, Musa, & Alkassim, 2016, p. 2).

Quantitative Sample Size: Power Analysis

The minimum sample size was determined by computing a power analysis using G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) using the multiple linear regression protocol, with the number of predictors set to 7 (i.e., the three Cs of hardiness and the four covariates), effect size set to medium, $f^2 = 0.15$, significance set to $p < .05$, and power set to .90 (see Figure 3). The sample size needed for this study was $N = 130$. Figure 3 presents the results from G*Power (Faul et al., 2007). To allow for the potential removal of multivariate outliers, a 10% contingency factor was added so that the minimum sample size for this study was $N = 145$. The final sample size was $N = 218$, which far exceeded the necessary sample size.

Figure 3

Power Analysis Findings

F tests - Linear multiple regression: Fixed model, R^2 increase
Analysis: *A priori* - Compute required sample size

Input: Effect size $f^2 = 0.15$
α err probability = 0.05
Power (1-β err prob) = 0.90
Number of tested predictors = 7
Total number of predictors = 7

Output: Noncentrality parameter λ = 19.50
Critical *F* = 2.09
Numerator *df* = 7
Denominator *df* = 122
Total sample size = 130
Actual power = 0.90

Procedures for Recruitment, Participation, and Data Collection

The researcher engaged in specific processes for participant recruitment and data collection. Participant recruitment and data collection activities commenced upon IRB approval from Walden University (IRB approval number 09-30-20-0117747). These activity procedures are outlined in the following sections.

Recruitment Process

The researcher utilized a study panel via Qualtrics, a private research panel platform that has received certification as a service that meets the standards required by CFR 45.46 (Federal Guidelines for Human Research; Qualtrics, 2012). The researcher started the recruitment process via online submission to Qualtrics, submitting to https://success.qualtrics.com/panels-request-quote.html, where the researcher provided information of the type and sample size of participants needed for the study. The

researcher also submitted her contact information. A Qualtrics representative contacted the researcher to discuss the specific needs of the study and to obtain additional information about the participants for the study. The researcher was invited to register on the Qualtrics website by providing a username and password. The researcher had to use a login name and password to access the encrypted survey site.

Qualtrics obtains participants for study panels via recruitment processes often conducted alone and via partnerships with panel recruitment companies, such as Research Now, GMI, and SSI (Qualtrics, 2012). Potential study participants can choose to join the Qualtrics panels through a double opt-in process. They first register as potential participants on the Qualtrics website. Upon website registration, they enter basic demographic data about themselves, including their employment type and income level as well as hobbies and interests. All potential study participants must sign a consent form that is sent to them via email from Qualtrics, which is maintained by Qualtrics in their participant panel database. Once the individual is verified, he/she is assigned an individual ID number that allows Qualtrics to contact him/her when the person meets the requirements of a study. Qualtrics does provide an incentive for participation in a survey. The incentive was points, which are pooled and redeemed in the form of gift cards, credit for online games, etc. (Qualtrics, 2012).

Data Collection

Data collection occurred online using the Qualtrics platform. A Qualtrics administrator sent emails that included the online questionnaire link to participants who met study criteria. The selected individual could choose to answer the questionnaire for

points, which could be redeemed for incentives (Qualtrics, 2012). In this study, the Qualtrics link opened to an Informed Consent form. Participants had to read the form and click *Yes*, denoting that they consented, to move on to the questionnaire items. Participants who clicked *No*, indicating that they did not consent to answering the questionnaire, were redirected out of the Qualtrics site and were not able to access it in the future (Qualtrics, 2012). Participants then completed the instruments and questions that comprised the online questionnaire. The participants had the choice to not answer any or all questions, and they could cease answering the online questionnaire at any time without penalty. The data collection period lasted approximately one month.

The researcher accessed the study site and data collection information by entering in the login name and password on the Qualtrics main website. Once the data was collected, the researcher reviewed the data set with a Qualtrics administrator to address any concerns regarding missing data. Once the researcher received full and complete data, which had responses from 218 participants, the researcher downloaded the questionnaire data from the Qualtrics site directly into an SPSS 27.0 data file, which the researcher kept on an encrypted password-protected jump drive. The SPSS data file contained only the responses to questionnaire items, not any information, such as the computer IP address, that could be used to identify the participant. The researcher closed the Qualtrics site, and the survey link was no longer functional. The researcher kept the jump drive containing the SPSS 27.0 data set, results, and reports, in a locked file cabinet in the office. The researcher is the only individual with access to this information. The researcher will maintain this information for five years after the final approval of the

dissertation manuscript, upon which the researcher will destroy the study material, including the jump drive.

Instruments

The participants completed the online Qualtrics questionnaire that included the study instruments. The participants completed: (a) the DRS-15 (Bartone, 1995), an assessment of the three Cs (i.e., commitment, challenge, and control) of hardiness; (b) the GRI (Remondet & Hansson, 1985), a measure of grief resolution; and (c) the PTGI (Tedeschi & Calhoun, 1996), which is an assessment of PTG. These instruments have been shown to have sound construct and criterion-related validity and inter-item and test-retest reliability (Abbasi et al., 2019; Ahern et al., 2006; Bartone, 2007, Bartone et al., 2016; Egbert et al., 2004; Fradelos et al., 2018; Hystad et al., 2010; Kristjanson, 1991; Krok, 2015; Tomita & Kitamura, 2002; Windle et al., 2011). The online questionnaire also included the PHQ-9 (Kroenke et al., 2001), a gold standard assessment of depression (Smarr & Keefer, 2011) and the CRS (Huber & Huber, 2012), an extensively validated and utilized measurement of religiosity (Krok, 2015).

All study variables were interval. There is a distinction between Likert-type item scores, which are ordinal, and composite interval scale scores, which are summed or mean scores of a combination of items to measure a specific construct (Boone & Boone, 2012; Norman, 2010; Sullivan & Artino, 2013). The computation of composite scale scores removes the ordinal scaling; the scaling of the items does not align with the scaling of the composite scale (Boone & Boone, 2012; Norman, 2010). Norman (2010) stated that “while Likert items may well be ordinal,” composite scales “consisting of

sums of many items will be interval" (p. 629). Boone and Boone (2012, p. 3) confirmed Norman's (2010) statement; "the composite score … should be analyzed at the interval measurement scale." The variables assessed by the study instruments and the specific psychometric information of the instrument subscales or the instruments themselves are detailed in the following sections. The study also included as covariates two single items that inquire about the participant's age and time since the death of a spouse, and the operationalization of these variables is also presented in the following sections.

Predictor Variable 1: Hardiness Commitment. The interval predictor variable of commitment was assessed using the 5-item Commitment subscale on the DRS-15 (Bartone, 1995). The 5-items measure hardiness commitment attributes of "vitality, strength, and capacity" (Wong et al., 2014, p. 2491). An example item is "*Most of my life gets spent doing things that are meaningful"* (Bartone, 1995). Each item has a 5-point Likert scoring, from 1 = *strongly disagree* to 5 = *strongly agree*. The composite score for the DRS-15 Commitment subscale is computed by summing item scores; composite scores can range from 5 to 15 points, with a higher score denoting higher levels of commitment.

The Commitment subscale has emerged as one of three factors in exploratory factor analyses (EFAs) and confirmatory factor analyses (CFAs; Wong et al., 2014). The Commitment subscale has sound test-retest reliability, with coefficients in the mid- .70s (Bartone, 1995; Bartone et al., 2007) and good inter-item reliability, with Cronbach's alphas ranging from the low .70s to high .80s (Bartone, 1995; Windle et al., 2011; Wong et al., 2014).

Predictor Variable 2: Hardiness Control. The interval predictor variable of control was assessed using the 5-item Control subscale on the DRS-15 (Bartone, 1995). The 5-items measure control attributes of grit and efficacy to resist and cope with stressors and changes (Wong et al., 2014). An example item is "*How things go in my life depends on my own actions"* (Bartone, 1995). Each item has a 5-point Likert scoring, from 1 = *strongly disagree* to 5 = *strongly agree*. The composite score for the DRS-15 Control subscale is computed by summing item scores. Composite scores can range from 5 to 15 points, with a higher score denoting higher levels of control.

The Control subscale has emerged as one of three factors in exploratory factor analyses (EFAs) and confirmatory factor analyses (CFAs; Wong et al., 2014). The Commitment subscale has sound test-retest reliability, with coefficients in the high- .70s, (*ps*<.001; Bartone, 1995; Bartone et al., 2007) and good inter-item reliability, with Cronbach's alphas ranging from the mid- .70s to high .80s (Bartone, 1995; Windle et al., 2011; Wong et al., 2014).

Predictor Variable 3: Hardiness Challenge. The interval predictor variable of challenge was assessed using the 5-item Challenge subscale on the DRS-15 (Bartone, 1995). The 5-items assess challenge traits of positivity and confidence to manage adverse events (Wong et al., 2014). An example item is, "*I enjoy the challenge when I have to do more than one thing at a time*" (Bartone, 1995). Each item has a 5-point Likert scoring, from 1 = *strongly disagree* to 5 = *strongly agree*. The composite score for the DRS-15 Challenge subscale is computed by summing item scores, and Challenge composite

scores can range from 5 to 15 points, with a higher score denoting higher levels of challenge.

The Challenge subscale has emerged as one of three factors in exploratory factor analyses (EFAs) and confirmatory factor analyses (CFAs; Wong et al., 2014). The six-week test-retest coefficients for Challenge have ranged from the mid- .70s to mid- .80s (*ps*<.001), indicative of sound test-retest reliability (Bartone, 1995; Bartone et al., 2007). This subscale has sound inter-item reliability, with Cronbach's alphas ranging in the .70s to low .80s (Bartone, 1995; Windle et al., 2011; Wong et al., 2014).

Criterion Variable 1: Grief Resolution. The interval criterion variable of grief resolution was measured using the 7-item GRI (Remondet & Hansson, 1987). The GRI assesses the degree to which an individual has adapted to the loss of a spouse and adjusted to widowhood. The GRI opens with a statement, "*Since the death of your spouse, how well are you able to …,*" with an example item being "*reach out to others and get on with life*" (Remondet & Hansson, 1987). The 7-items have Likert response scoring, from 1 = *very poorly* to 5 = *very well*. The 7-items are summed to derive the composite GRI score, which can range from 7 to 35, with a higher score denoting higher levels of grief resolution.

CFA findings have confirmed the one-factor structure of the GRI, and GRI scores have been significantly associated with lower levels of depression, fear, and anxiety, providing evidence of its criterion-related concurrent validity (Kristjanson, 1991; Remondet & Hansson, 1987; Tomita & Kitamura, 2002; Walshe, 1997). The two-week test-retest coefficients have been in the .70s, (*ps* < .001; Remondet & Hansson, 1987;

Walshe, 1997). The inter-item reliability for the GRI is sound, as indicating by Cronbach's alphas in the mid- .80s (Remondet & Hansson, 1987; Tomita & Kitamure, 2002).

Criterion variable 2: Posttraumatic Growth. The interval criterion variable of PTG was assessed using the 21-item PTGI (Tedeschi & Calhoun, 1996). The PTGI is completed by first identifying a specific traumatic event, which in this study is the loss of a spouse (in the past 3 years) and then answering items on subsequent changes that occurred from his stressor using a 6-point Likert-type response format from 0 = *none at all* to 5 = *a very great degree* (Tedeschi & Calhoun, 1996). An example item is, "*As a result of this event* [the loss of my spouse], *I am more likely to change things that need changing"* (Tedeschi & Calhoun, 1996). The composite PTGI score is derived by summing the 21-items; composite scores can range from 0 to 105 points, with a higher score denoting a higher degree of PTG (Tedeschi & Calhoun, 1996).

The PTGI is the most utilized PTG instrument (Morgan et al., 2017). Studies have confirmed the one-factor structure of the PTGI (Morgan et al., 2017; Taku et al., 2008). There is empirical evidence of the criterion-related concurrent and predictive validity of the PTGI, with PTGI scores being significantly linked to higher psychological well-being and lower levels of depression and anxiety (Prati & Pietrantoni, 2009; Tedeschi & Calhoun, 1996; Triplett et al., 2012). The coefficients for the two-week test-retest reliability of the PTGI have ranged from the high .60s to mid- .70s, (*ps*<.001; Tedeschi & Calhoun, 1996; Weiss & Berger, 2006). The inter-item reliability of the 21-item PTGI

has ranged from the high .80s to low .90s (Tedeschi & Calhoun, 1996; Triplett et al., 2012).

Covariate 1: Age. One covariate was age, an interval variable. The age question was, "*What is your age*?" Participants provided their age. The youngest age for this study was 51 years.

Covariate 2: Time since death of spouse. The interval covariate of time since death of spouse was assessed by one question, "*How long has it been since your spouse passed*? This question was coded in years.

Covariate 3: Depression: The PHQ-9 (Kroenke et al., 2001) was used as a measure of depression, the third covariate of this study. The PHQ-9 opens with the statement, "*Over the last two weeks, how often have you been bothered by any of the following problems?"* Participants provide answers to 9-items that align with DSM-IV depression symptom indicators (e.g., *little interest or pleasure in doing things*, *feeling tired or having little energy;* Kroenke et al., 2001). Each PHQ-9 item has Likert-type coding where 0 = *not at all*, 1 = *several days*, 2 = *more than half the days*, and 3 = *nearly every day*. The 9-items are summed to provide the PHQ-9 full scale score, which can range from 0 to 27 points. Scores between 0 and 4 indicate none to minimal depression, scores between 5 and 9 indicate mild depression, scores between 10 and 14 indicate moderate depression, scores between 15 and 19 indicate moderately severe depression, and scores between 20 and 27 indicate severe depression (Kroenke et al., 2001).

The PHQ-9 is considered a gold standard instrument of depression (Manea et al., 2015; Mitchell et al., 2016; Moriarty et al., 2015; Smarr & Keefer, 2011). EFA and CFA

findings have indicated that the PHQ-9 is best conceptualized as a single factor (Mitchell et al., 2016; Smarr & Keefer, 2011). Significant correlations between the PHQ-9 and other measures of depression (i.e., Hospital Anxiety and Depression Scale, Hamilton Rating Scale for Depression) provide evidence of its criterion-related concurrent validity (Mitchell et al., 2016; Smarr & Keefer, 2011). Seven-day test-retest coefficients have ranged from the low .80s to high .90s, (*ps* < .001; Mitchell et al., 2016; Smarr & Keefer, 2011). The inter-item reliability of the PHQ-9 is sound, Cronbach's alphas averaging in the low .90s (Mitchell et al., 2016; Smarr & Keefer, 2011).

Covariate 4: Religiosity. The fourth covariate of religiosity was assessed using the 5-item CRS (Huber & Huber, 2012). The CRS assesses the "centrality [and] the importance of religious meanings in personality" (Huber & Huber, 2012, p. 711). The items, one of which is, "*How often do you think about religious issues*" have Likert-type scoring from 1 = *never* to 5 = *more than once a week*. The composite CRS score is derived by summing the 5-items; CRS scores can range from 5 to 25, with a higher score indicating higher levels of religiosity.

The 5-item CRS is best structured as one factor, based on EFA and CFA evidence (Abbasi et al., 2019; Huber & Huber, 2012). Scores on the CRS have been significantly and positively associated with other measures of religiosity and spirituality and significantly and negatively associated with measures of stress and depression (Huber & Huber, 2012; Krok, 2015; Winterling et al., 2010). The two-week test-retest reliability coefficients have ranged from the .60s to .80s, (ps < .001) and Cronbach's alphas for the CRS have been in the .90s (Huber & Huber, 2012; Krok, 2015; Winterling et al., 2010).

Data Analysis Plan

Once the data was collected, the researcher downloaded the data set from Qualtrics into an SPSS 27.0 data file. All analytical procedures were conducted using SPSS 27.0. The data analysis was conducted in a sequential process, in steps. Tables and figures augmented data findings. The steps in the data analysis plan are detailed in the following sections.

Data Cleaning and Organization

Data were reviewed and if relevant, adjusted for missing data and outliers. Missing data was the first to be examined, using missing value analysis functions in SPSS 27.0 and if necessary, computation of the Box's *M* statistic per recommendations (Field, 2013; Treiman, 2014). Any cases that had missing not at random data (MNAR) and cases that had 75% or more missing data that were missing at random (MAR) or missing completely at random (MCAR) were removed from the data set. Statisticians allow for imputation of data for cases that have 25% or less MAR or MCAR data (Field, 2013; Treiman, 2014). Should there be any cases with 25% or less MAR or MCAR data, missing data were replaced using mean imputation methods.

The data set was then explored for multivariate outliers. Mahalanobis distances were computed for each case to identify multivariate outliers. Mahalanobis distances were computed by conducting a multiple linear regression (MLR; Field, 2013; Treiman, 2014) with all seven predictor variables entered into the MLR model, and a random interval variable was entered as the criterion variable. The Mahalanobis distance critical

value for seven predictors is 18.84 at ($p < .01$; Field, 2013; Treiman, 2014). Any cases that have a Mahalanobis distance of 18.84 or higher were removed from the data set.

The data organization phase included the computation of Cronbach's alphas and the creation of composite scales for the DRS-15, GRI, PTGI, PHQ-9, and CRS. The Cronbach's alphas are an indicator of scale inter-item reliability (Mertler & Reinhart, 2016; Nimon, 2012). The absolute lowest acceptable Cronbach's alphas are .65; scales should ideally have Cronbach's alphas that are .70 or higher (Mertler & Reinhart, 2016; Nimon, 2012).

Descriptive Statistics

The second phase of the data analysis entailed the computation of descriptive statistics for all study variables. All the variables were interval. As such, the mean, median, standard deviation, and minimum and maximum scores were computed and reported for the study variables.

Testing of Covariates

A set of preliminary statistics were conducted to determine covariate significance in relation to the two resilient grief criterion variables. Pearson bivariate correlations were conducted between the interval covariates of participant age, time since spousal loss, depression (assessed using the PHQ-9), and religiosity (measured using the CRS) and the two criterion variables of grief resolution and PTGI. Significance was set to $p < .05$. Covariates that were significantly associated with the respective resilient grief outcomes were entered collectively into the first set/model of the HMLRs conducted for hypothesis testing.

Testing of Assumptions

HMLR models have assumptions of the data that must be met (Field, 2013; Treiman, 2014). These assumptions are: (a) interval normality; (b) homoscedasticity of errors (residuals); (c) linearity between the predictor and criterion variables; (d) independence of errors (residuals); and (d) lack of multicollinearity among the predictor variables (Field, 2013; Treiman, 2014). The statistical analyses used to test these assumptions and the posited adjustments of the data should assumption violations occur are discussed in the following sections.

Assumption of Interval Variable Normality

Two sets of analyses were conducted to test for variable normality. The first analysis was the computation of Mahalanobis distance values, which test for multivariate normality, and which was previously discussed. $Z_{skewness}$ values (i.e., skewness divided by the skewness standard error (Kim, 2013) were also computed to test for univariate outliers and normality. For small-sized studies (i.e., less than $N = 300$), $z_{skewness}$ values less than 1.96 indicate acceptable univariate normality (Kim, 2013). All variables were normally distributed.

Assumption of Residual Normality and Linearity

The testing of residual normality and linearity was performed by computing P-P (probability) plots of standardized predicted versus actual residuals for each predictor-criterion relationship, resulting in six separate P-P plots. Normality and linearity are met if the residuals align along a diagonal line (Field, 2013; Treiman, 2014). The linearity assumption is crucial to linear regression models, and a violation of the linearity

assumption can bias statistical findings and increase the chance of committing a Type I error or rejecting the null hypothesis when in fact it should be retained (Field, 2013; Treiman, 2014). All data met the residual normality and linearity assumption.

Assumption of Homoscedasticity

The homoscedasticity assumption pertains to the equal variance of residuals across all values of the predictor variable(s) (Field, 2013; Treiman, 2014). The homoscedasticity assumption was tested by computing a scatterplot of standardized predicted versus actual residuals for each predictor-criterion relationship. The assumption of homoscedasticity is met if the residuals are equally dispersed above and below a horizontal zero value on the scatterplot (Field, 2013; Treiman, 2014). A violation of homoscedasticity is a concern only if heteroscedasticity is especially severe, and linear regression models are generally robust against a violation of the homoscedasticity assumption (Field, 2013; Treiman, 2014). The data met the assumption of homoscedasticity.

Assumption of Independence of Errors

The assumption of independence of errors refers to the lack of autocorrelation among residuals (Field, 2013; Treiman, 2014). A series of Durbin-Watson statistical analyses were computed for each predictor-criterion relationship. If the Durbin Watson value falls between 1 and 3, the assumption of independence of errors is met (Field, 2013; Treiman, 2014). The independence of errors assumption is rarely violated in correlational studies (it is more of a concern for longitudinal or pretest-posttest studies; Field, 2013; Treiman, 2014). Data met the assumption of independence of errors.

Assumption of Lack of Multicollinearity Among Predictor Variables

The predictor variables should not be so highly correlated that they show multicollinearity, or a relationship so high that the variables are essentially measuring the same construct (Field, 2013; Treiman, 2014). The multicollinearity assumption was a possibility in this study, as the predictor variables of commitment, control, and challenge were assessed using subscales that comprise the DRS-15. The determination as to whether this assumption was met (or not) depended on the variance inflation factors (VIF) computed for each predictor. A VIF is computed in a similar way as is the Mahalanobis distance. The VIFs are derived by selecting the 'Collinearity' function of the linear regression model test in SPSS 26.0, and running an MLR, with the three hardiness variables entered as predictors of a randomly selected interval variable (Field, 2013; Treiman, 2014), which was age. The lack of multicollinearity assumption is met if the VIF is less than 4 (Field, 2013; Treiman, 2014). The lack of multicollinearity among predictor variables was met in this study.

Hypothesis Testing

Two HMLRs were conducted to test the six research questions. For the first HMLR, the covariates were entered on the first model (step) of the HMLR, followed by the three predictor variables that measure the three Cs of hardiness. The criterion variable for the first HMLR was grief resolution. The second HMLR was conducted in the same way, with the criterion variable being PTG.

Linear regression models have results related to the entire model of effects of the predictors on the criterion variable as well as bivariate results for each predictor-criterion

relationship (Field, 2013; Treiman, 2014). In this study, the overall regression model *F*-value and associated *p*-value (with $p < .05$) for each regression model/step were calculated and reported, as was the model R^2 as an indicator of effect size. According to Field (2013), an R^2 value between .02 and .149 indicates a small effect size, an R^2 between .15 and .349 indicates a medium effect size, and an R^2 that is .35 denotes a large effect size. Results also included the standardized beta weights (β) and associated *p* values (with $p < .05$ indicating significance), which denoted the level of association for each predictor/covariate-criterion variable relationship.

Threats to Validity

An empirical study must be considered in light of its internal, external, and statistical conclusion validity. Internal validity reflects the soundness of the study regarding "how well the results" from the study sample "represent true findings" in the population (Patino & Ferreira, 2018). External validity refers to the generalizability of study findings to other participants, settings, and times (Krupnikov & Levine, 2014). Statistical conclusion validity pertains to the degree to which the relationships examined in a study are accurate and "justified … as far as statistical issues are concerned" (García-Pérez, 2012, p. 1). Each type of validity has associated threats that reduce the overall quality of the study findings (Barnham, 2015). The three types of validity and the related threats are reviewed in the following sections.

Threats to Internal Validity

The internal validity threats common to correlational studies are the *self-selection* and *social desirability biases*, resulting from the use of nonrandom sampling, and *causal*

ambiguity, a consequence of collecting data at one point in time (i.e., a cross-sectional correlational research design; Moring, 2014). The self-selection bias refers to the selective participation in a study based on specific attributes of the participant; that is, participants differ from non-participants on critical demographical, personality, and social factors (Moring, 2014). For example, this study may have attracted women who had low or high levels of hardiness and who adapted poorly or very well to spousal loss. Certain methodological procedures may have helped to reduce the self-selection bias. The informed consent process may have helped to reduce this bias. The study participants were anonymous to the researcher. Posserud et al. (2010) argued that the self-selection bias may be reduced if participants provided informed consent and/or remained anonymous to the researcher.

The second internal threat to validity is the *social desirability bias*, one of the most common sources of research bias in correlational studies (King & Bruner, 2000). The social desirability bias refers to participants answering study questions in a socially acceptable but not necessarily truthful way, often emphasizing positive traits while minimizing negative ones (King & Bruner, 2000; Moring, 2014). The social desirability bias can be amplified by asking sensitive and personal questions (King & Bruner, 2000). This study addressed sensitive topics, including grief resolution, depression, and religiosity. The informed consent process may have acted as one means to communicate the importance of respect for the study participants and the information they provided; participants had the right to not answer certain questions and leave the study at any time

without penalty. The completely anonymous data collection procedure may have also helped to reduce the social desirability bias.

A final internal validity threat for correlational research is causal ambiguity, or the inability to determine temporal precedence, that is, that the predictor variables preceded the criterion variable (Asamoah, 2014; Gorard, 2013). Temporal precedence can only be determined in longitudinal studies where data are collected at two or more times (Gorard, 2013). As data were collected just once in this study, there was little that could be done to eliminate causal ambiguity (Moring, 2014). However, there was less of a concern in this study that hardiness preceded grief outcomes (although it may have; Bonanno, 2004) and more of a focus on the associations between the three Cs of hardiness and resilient grief outcomes.

Threats to External Validity

All empirical studies have external validity threats that reduce the ability to generalize study findings to other populations, settings, or conditions (Krupnikov & Levine, 2014). One external validity threat is the *threat of population validity*, or the inability to translate study findings from the sample under examination and other populations (Krupnikov & Levine, 2014). A highly specified and defined sample increases the likelihood that the threat of population validity will occur (Krupnikov & Levine, 2014). This study utilized a sample that was quite narrowly defined: older adult females, aged 50 or older, who lost a spouse. Because of this narrow focus, study findings could be generalized to men (of any age) who lost a spouse, women younger than 50 who experienced spousal loss (at any time in their life), or women in lesbian

marriages. The use of Qualtrics panel recruitment services likely reduced the threat of population validity. Studies have shown that Qualtrics participants are highly representative of the population under study, more so than participants recruited using other online panel services (e.g., Survey/Monkey, Mechanical Turk; Boas et al., 2018; Kees et al., 2017).

An additional external validity threat is the *threat of ecological validity*, or the inability to generalize findings to situations that utilized different recruitment and data collection procedures (Krupnikov & Levine, 2014). This was an online study, and as such, findings from this study may have differed from those that utilized different methods (e.g., in person). A related threat is the *threat of specificity of variables*, or the inability to generalize findings to studies that utilized other data collection instruments (Krupnikov & Levine, 2014). In this study, specific instruments were used to assess study variables. As such, study findings may differ in future research using different instruments.

Threats to Statistical Conclusion Validity

Statistical conclusion validity refers to the degree of accuracy "in revealing a link" (or lack thereof) between the predictor and criterion variables "as far as statistical issues are concerned" (García-Pérez, 2012, p. 2). Threats to statistical conclusion pertain to specific elements of study sample size coupled with statistical elements: (a) the degree of power the study has: (b) the degree to which the study can "reveal" accurate effects and relationship; and (c) the magnitude of the effect size, or the degree to which the variance in the criterion variables is explained by the predictor variables (García-Pérez,

2012, p. 2). The reduction or elimination of these threats is necessary to ensure the trustworthiness and accuracy of the data findings (García-Pérez, 2012).

Some threats to statistical conclusion validity are low statistical power, violations of statistical assumptions, and poor inter-item reliability of study instruments (García-Pérez, 2012). The threat of low power was not an issue in this study: the sample size necessary to achieve adequate power was $N = 130$, but the actual sample size was $N = 218$. Moreover, oversampling allowed for the removal of multivariate outlier cases without any threat to loss of power. The data met all assumptions for MLR (presented earlier in this chapter). Poor inter-item reliability was also not an issue in this study. Cronbach's alphas were computed for all study instruments, and all variables had Cronbach's alphas that were .70 or higher.

Ethical Procedures

Empirical studies conducted with humans must be conducted in an ethical manner (OHRP, 2019). All ethical procedures as outlined by human subject research ethical guidelines in the Belmont Report (OHRP, 2019) were followed in this study. These procedures are discussed in the following sections.

Use of Qualtrics Panel Recruitment Services

Qualtrics is recognized as a panel recruitment service that meets the ethical guidelines for human subject standards required by CFR 45.46 (Federal Guidelines for Human Research; Qualtrics, 2012). Per Qualtrics policies, all potential study participants must sign a consent form that is sent to them via email from Qualtrics, which is maintained by Qualtrics in their participant panel database. Once the individual is

verified, he/she is assigned an individual ID number that allow Qualtrics to contact him/her when the person meets the requirements of a study. Qualtrics does provide an incentive for participation in a survey. The incentive, which is equivalent to $1.50, is given as points, which are pooled and redeemed in the form of gift cards, credit for online games, etc. (Qualtrics, 2012).

Study Informed Consent

The informed consent process assures that "subjects enter into the research voluntarily and with adequate information" (OHRP, 2019, para. 17). There are three required elements of the informed consent process: (a) participants must comprehend (understand) the informed consent form; (b) the informed consent form must contain language on the voluntary nature of study participation; and (c) the informed consent form must include specific information outlining the study, and the participants' role in the study (OHRP, 2019). The informed consent form was written on a 9th grade level to ensure that the participants understood the study and their role in it. The informed consent form included all language required for research with human subjects, including information regarding: (a) the purpose of the study and participants' role in the study; (b) the participants' rights as human subjects, including their right to not answer any or all survey questions; (c) assurances of participant confidentiality and anonymity; (d) the potential benefits and risk for participating in the study; and (e) pertinent researcher and school contact information.

Confidentiality and Anonymity of Participant Information

Certain procedures were implemented to ensure the confidentiality and anonymity of participants. Due to the use of Qualtrics recruitment panel services, the researcher was blind as to who was recruited; participants were completely unknown to the researcher. An additional assurance of participant anonymity was the deselection of the Save IP Address option provided on the Qualtrics platform so that the data set did not include participants' IP addresses. The researcher collected data using an encrypted password-protected survey site maintained by Qualtrics. Per Qualtrics (2012) guidelines, the researcher had to provide a login name and password each time the researcher accessed the data. The researcher was the only person who could access the study data site. All findings were reported at the aggregate (group) level.

Maintenance and Destruction of Study Materials

The researcher engaged in certain procedures to ethically maintain the study materials. The researcher downloaded the study data onto a password-protected and encrypted USB drive, saved as an SPSS 27.0 data file. The researcher deleted the study data site from the Qualtrics platform once data was downloaded. The researcher stored the USB drive and any related materials (e.g., printouts of results) in a locked file cabinet in the home office. The researcher will keep the study materials for five years after a successful dissertation defense, after which the researcher will destroy all study materials.

Summary

This concludes Chapter 3. The purpose of this chapter was to provide a detailed overview of the study methodology. The chapter included an opening section on the

rationale for using a quantitative correlational design, and additional sections provided information on the: (a) study target population, sampling plan, and sample size; (b) recruitment and data collection procedures; and (c) data analysis. Final sections focused on discussions of the threats to external, internal, and statistical conclusion validity and ethical procedures specific to this study are then outlined. The study findings are reviewed in the next chapter, Chapter 4.

Chapter 4: Results

As the American Baby Boomer widowed population grows in number (Bouk, 2018), scholars have noted the importance of examining resilient grief, defined as a successful adaptation to loss, inclusive of both grief resolution and post spousal loss growth (Bonanno, 2004; Maddi, 2012; Ong et al., 2009, 2010). Researchers have posited that the three Cs of hardiness (i.e., commitment or sense of purpose, control or being in command of one's environment, challenge or acceptance to change) may play essential roles in minimizing postbereavement distress and fostering positive change and growth from loss (Bonanno, 2004; Bonanno et al., 2007, 2011, 2012; Maddi, 2004, 2006, 2012; Ong & Bergeman, 2004; Ong et al., 2009, 2010). However, there has yet to be empirical examination of the relationships between the three Cs (i.e., control, commitment, and challenge) and resilience grief, operationalized in this study as grief resolution and PTG, in a sample of older adult (i.e., aged 50 or older) widows.

The purpose of this quantitative correlational study was to examine if significant relationships existed between the three hardiness personality factors of commitment, control, and challenge and the resilient grief outcomes of grief resolution and PTG in a national sample of widowed women. This study posed six research questions, each having associated null and alternative hypotheses. The research questions and hypotheses were:

RQ1: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling

for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$1: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a1: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995) and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ2: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$2: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a2: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among recently widowed women aged 50 or older.

RQ3: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

H_03: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a3: There is a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ4: Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995),

and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$4: There is not a significant relationship between the hardiness personality factor of commitment, measured using commitment subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a4: There is a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS15 (Bartone, 1995) and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ5: Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

$H_0$5: There is not a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for

participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a5: There is a significant relationship between the hardiness personality factor of control, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

RQ6: Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older?

H_06: There is not a significant relationship between the hardiness personality factor of challenge, measured using challenge subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

H_a6: There is a significant relationship between the hardiness personality factor of challenge, measured using control subscale of the DRS15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for participant age, time since spousal loss, depression, and religiosity, among widowed women aged 50 or older.

Chapter 4 provides a comprehensive presentation and discussion of the study findings. The chapter is presented in sections, each having a specific focus. Data collection is the topic of the first section; included in this section is information on the time frame for collection, changes in the original data collection process, and the description and representativeness of the study sample. The Results section, which constitutes the bulk of the chapter, includes the descriptive statistics for the study predictor and criterion variables, covariate test results, results from the testing of assumptions for HMLR, and most importantly, the HMLR results vis-à-vis the study research questions. The chapter concludes with a summary. Tables and figures augment the study findings in this chapter.

Data Collection

The data was collected online using the Qualtrics platform, with the data collection period occurring in the months of December 2000, and January 2021. The original plan was to focus on older adult widows (aged 50 or older) who had lost a spouse within the past three years. The 3-year period was selected as scholars have posited that grief is most pronounced during the initial stages of bereavement and as literature has documented significant associations between length of time since spousal loss and grief outcomes (Ong & Bergeman, 2004; Ong et al., 2010). However, after two weeks of data collection, only three participants had responded to the survey. Due to the low response rate, and as years since spousal loss was included as a covariate in HMLR analyses, the loss within three years criterion for participation was removed, allowing for a larger, more representative sample of older adult widows. Studies have shown that Qualtrics

participants are highly representative of the population under study, more so than participants recruited using other online panel services (e.g., Survey Monkey, Mechanical Turk; Boas et al., 2018; Kees et al., 2017). The expansion to include all older adult widows resulted in a successful data collection in which the researcher obtained data from 226 participants. Once the data collection period ended at the end of January 2021, the researcher downloaded the data set from Qualtrics and saved it as an SPSS 27.0 data file on an USB drive. The researcher used SPSS 27.0 for all statistical analyses.

Data Cleaning and Organization

The researcher reviewed, cleaned, and organized the data set of 226 participants using SPSS 27.0 functions prior to descriptive and inferential statistical analyses. The first step of the data cleaning was reviewing the data for entry errors. Ten data entry errors (e.g., "44" was entered instead of "4") were found across a random number of cases and corrected. The second step of the data cleaning was checking to ensure that the participants answered the study criteria questions. The participants were required to confirm that they were aged 50 or older, female, widows (i.e., lost a spouse), and aged 50 or older at the time of spouse's death. Participants were also asked to provide the number of years it had been since they lost their spouse (in years). Two of the 226 participants did not provide responses to the age and gender criteria questions and thus were removed from the data set. The remaining 224 participants answered all study criteria questions and met the study criteria (i.e., were female widows aged 50 or older who lost a spouse). The researcher examined years since loss of spouse. Two participants stated they lost their spouse more than 40 years prior; the participants also did not provide answers to

two-three of the questions on the DRS-15 (Bartone, 1995). Due to the length of time since spousal loss and the missing hardiness responses, these two cases were removed from the data set, reducing the sample size to 222.

Data cleaning and organization also entailed checking the data for MNAR, MAR, and MCAR data. There were 15 instances of missing data across random variables and participants; that is, the data were MCAR. The 15 missing data points were imputed with the mean value for the respective variable, in accordance with the stated methods presented in Chapter 3. The researcher calculated the Cronbach's alphas (i.e., to determine the inter-item reliability), which are presented in the Results section, and computed the composite scales for the study variables (i.e., the three hardiness predictor variables, the two criterion variables of grief resolution and PTG, and the covariates of depression and religiosity), the descriptive statistics of which are also presented in the Results section.

Once the study variables were computed, the data were examined for multivariate outliers. Multivariate outlier testing entailed computing Mahalanobis distance values for each case (participant) by conducting a multiple linear regression (MLR; Field, 2013; Treiman, 2014) with the seven variables (i.e., the three hardiness variables and the four covariates) entered as predictors of one randomly selected interval variable (i.e., a religiosity variable). The Mahalanobis distance critical value for seven predictors is 18.84 at ($p < .01$; Field, 2013; Treiman, 2014). Four cases were identified as multivariate outliers, having Mahalanobis distances of 23.01, 20.01. 19.88, and 19.13, respectively.

The multivariate outlier cases were removed from the data set, resulting in a final sample of $n = 218$ (96.5% of the initial sample). The steps of removing cases are summarized in

Table 1

Removal of Cases

Reason for Removal	*n* (%)	Sample *n* Adjusted (Initial sample *n* = 226)
1. Did not answer one or more criteria question (did not meet study criteria)	2	*n* = 224
2. Lost spouse over 40 years prior and did not answer 2-3 hardiness questions	2	*n* = 222
3. Multivariate outliers (exceeded Mahalanobis distance critical value)	4	Final *n* = **218** (96.5% of original sample)
Total Case Removed	8	

Descriptive Statistics: Participants

Descriptive statistics on the participants' age, years since the loss of spouse, depression, and religiosity were computed and are presented in Table 2. The average age of the 218 participants was 64.06 years ($Md = 63.00$, $SD = 0.48$), and participants ranged in age from 51 to 88 years of age. The average years since the loss of spouse was $M = 7.31$ years ($Md = 5.00$, $SD = 6.07$), with years since the loss of spouse ranging from half a year to 26 years. As noted in Table 2, over half (51%) lost a spouse within the past 5 years and 75% of the participants lost a spouse within the past 10 years. The mean religiosity score was $M = 18.39$ ($Md = 20.00$, $SD = 5.51$). A score between 15 and 20 is considered 'religious' (Huber & Huber, 2012). The participants' mean PHQ-9 depression

score was 7.17 (*Md* = 5.00, *SD* = 6.79). Scores between 5 and 9 on the PHQ-9 indicate mild levels of depression (Kroenke et al., 2001). In summary, the participants were in their mid-60s, most had lost their spouse in the past 5-10 years, and they had average levels of religiosity and mild levels of depression.

Table 2

Descriptive Statistics: Participant Age, Years since Loss of Spouse, Religiosity, and Depression

Variable	M	Md	SD	Min	Max
Age	64.06	63.00	0.48	51.00	88.00
Years since loss of spouse	7.31	5.00	6.07	0.50	26.00
PHQ-9 depression	7.17	5.00	6.79	0.00	27.00
Centrality of religiosity	18.39	20.00	5.51	5.00	25.00

Note. (*N* = 218).

Results

In this results section, certain findings are presented. The descriptive statistics for the three Cs of hardiness predictor variables and the two criterion variables of grief resolution and PTG are first summarized. The findings from the testing of covariates are then reviewed, followed by a discussion on the testing of the assumptions for the HMLRs, the analyses conducted for hypothesis testing. The last section provides a comprehensive presentation of the results from the two HMLRs conducted for hypothesis testing, with findings discussed in relation to the research questions.

Descriptive Statistics: Predictor and Criterion Variables

Descriptive statistics were computed for the three Cs of hardiness predictor variables of commitment, control, and challenge, measured using the DSR-15 (Bartone, 1995) respective subscales. Descriptive statistics were also calculated for the criterion variables of grief resolution, measured using the GRI (Remondet & Hansson, 1987) and PTG, and assessed using the PTGI (Tedeschi & Calhoun, 1996). Table 3 provides the descriptive statistics for the predictor and criterion variables.

Descriptive statistics for the three Cs of hardiness were first calculated. The hardiness commitment mean score was $M = 8.97$ ($Md = 9.00$, $SD = 3.05$, $Min = 2.00$, $Max = 15.00$), indicative of average levels of hardiness commitment. The hardiness control mean score was $M = 10.26$ ($Md = 10.00$, $SD = 2.54$, $Min = 4.00$, $Max = 15.00$), denoting average-to-high levels of hardiness control. The hardiness challenge mean score was $M = 7.76$ ($Md = 8.00$, $SD = 3.14$, $Min = 0.00$, $Max = 15.00$), indicative of average levels of hardiness challenge. The three hardiness subscales were normally distributed, with $z_{skewness}$ values all less than +/-1.96, and the hardiness subscales had sound inter-item reliability, with Cronbach's alphas in the .70s (see Table 3).

Descriptive statistics were computed for the two criterion variables of grief resolution and PTG. The grief resolution mean score was 22.19 ($Md = 22.50$, $SD = 7.61$, $Min = 7.00$, $Max = 35.00$), denoting average degrees of grief resolution. The PTG mean score was 57.56 ($Md = 60.00$, $SD = 20.52$, $Min = 3.00$, $Max = 105.00$), indicative of an average level of PTG. The grief resolution and PTG measures were normally distributed, with $z_{skewness}$ values less than +/-1.96. The grief resolution and PTG measures had

excellent inter-item reliability, with a Cronbach's alpha of .87 for the GRI and a Cronbach's alpha of .92 for the PTGI.

Table 3

Descriptive Statistics: Hardiness Commitment, Control, Challenge, Grief Resolution, and PTG

Variable	M	Md	SD	Min	Max	$Z_{skewness}$	Cronbach's alpha
Hardiness commitment	8.97	9.00	3.05	2.00	15.00	-1.59	.71
Hardiness control	10.26	10.00	2.54	4.00	15.00	-1.74	.79
Hardiness challenge	7.76	8.00	3.14	0.00	14.00	-1.22	.72
Grief resolution	22.19	22.50	7.61	7.00	35.00	-1.56	.87
PTG	57.56	60.00	20.52	3.00	105.00	-1.62	.92

Note. (N = 218). $Z_{skewness}$ = skewness/skewness standard error; values < 1.96 indicate acceptable normality (Kim, 2013).

Testing of Covariates

The next step in the data analysis plan involved testing the covariates. A series of Pearson bivariate correlations were conducted between the covariates of participant age, year since the spouse's death, depression, and religiosity and the criterion variables of grief resolution and PTG. As noted in Table 4, the significance of relationships varied across variables. Participant age was significantly associated with grief resolution (r = .20, p =.003) but not PTG (r = .06, p = .409). The number of years since loss of spouse was also significantly related to grief resolution (r = .18, p =.008) but not PTG (r = .11, p =.100). Depression scores were significantly related to both grief resolution (r = -.42, p < .001) and PTG (r = -.16, p =.017). In contrast, higher levels of religiosity were

significantly predictive of PTG (r = .35, p <. 001) but had no relationship at all with grief resolution (r = -.01, p = .898). These findings indicated that older age, a longer time since the loss of a spouse, and lower levels of depression were significantly related to grief resolution, while higher levels of religiosity and lower levels of depression were significantly predictive of PTG. Due to the significance of the correlations and to add clarity and consistency to analyses, all four covariates were used in the HMLRs conducted for hypothesis testing. While not shown in Table 4, there was a significant correlation between grief resolution and PTG (r = .16, p = .016). That is, a grief resolution increased, so did PTG among the participants.

Table 4

Pearson Bivariate Correlations: Participant Age, Years Since the Loss of Spouse, Depression, Religiosity, and Depression and Grief Resolution and PTG

Variable	Grief Resolution	PTG
Participant age	.20**	.06
Years since loss of Spouse	.18**	.11
PHQ-9 depression	-.42***	-.16*
Centrality of religiosity	-.01	.35***

Note. (*N = 218). *p < .05; **p < .01; ***p < .001.

Testing of Assumptions

HMLR has specific assumptions of the data that must be met (Field, 2013). For the assumptions of normality of residuals, predictor-criterion linearity, and homogeneity of variances, scatterplots, and P-P plots of predicted versus actual residual scores were

computed. The scatterplots and P-P plots, presented in Appendix A, showed that the residual normality, linearity, and homogeneity of variances assumptions were met.

An additional assumption for HMLR is independence of errors, or the lack of autocorrelation among error terms (residuals) (Field, 2013; Treiman, 2014). A series of Durbin-Watson values were computed for each predictor/covariate-criterion relationship. If the Durbin Watson values fall between 1 and 3, the assumption of independence of errors is met (Field, 2013; Treiman, 2014). As noted in Table 5, all Durbin Watson values fell with 1 and 3. As such the assumption of independence of errors was met.

Table 5

Durbin Watson Values for Each Predictor/Covariate Relationship

	Durbin Watson value
Age-grief resolution	2.13
Years since spousal loss-grief resolution	2.06
Depression-grief resolution	1.94
Religiosity-grief resolution	2.00
Hardiness commitment-grief resolution	2.03
Hardiness control-grief resolution	1.99
Hardiness challenge-grief resolution	2.01
Age-PTG	1.93
Years since spousal loss- PTG	1.94
Depression- PTG	1.96
Religiosity- PTG	1.91
Hardiness commitment- PTG	1.97
Hardiness control- PTG	1.98
Hardiness challenge-PTG	1.92

Note. (N = 218).

The last assumption for HMLR is lack of multicollinearity among the predictor variables; that is, the predictor variables should not be so highly correlated with each other that they are essentially measuring the same construct (Field, 2013; Treiman, 2014). Lack of multicollinearity was tested by computing variance inflation factors (VIFs) for each predictor variable. VIFs are derived by selecting the 'Collinearity' function of the linear regression model test in SPSS 27.0, and running an MLR, with the predictor variables entered as predictors of a randomly selected interval variable as the criterion variable (Field, 2013; Treiman, 2014), which in this study, was age. The lack of multicollinearity assumption is met if the VIF is less than 4 (Field, 2013; Treiman, 2014). The VIF for hardiness commitment was 1.40, the VIF for hardiness control was 1.40, and the VIF for hardiness challenge was 1.20, all under the critical VIF value of 4. The assumption of lack of multicollinearity was met.

Table 5

Variance Inflation Factors for the Three Cs of Hardiness

	Variance inflation factors
Hardiness commitment	1.40
Hardiness control	1.40
Hardiness challenge	1.20

Note. (N = 218).

Hypothesis Testing

Two separate HMLR were conducted to address the study's research questions. The first HMLR was conducted for the first three research questions, which inquired as to if there were significant relationships between the hardiness personality factors of commitment, control, and challenge, measured using the DRS-15 (Bartone, 1995), and

grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for pertinent covariates (i.e., participant age, religiosity, depression, and time since death of spouse), among widows aged 50 or older. The second HMLR was conducted for the last three research questions, which inquired as to if there were significant relationships between the hardiness personality factors of commitment, control, and challenge, measured using the DRS-15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for pertinent covariates (i.e., participant age, religiosity, depression, and time since death of spouse), among widows aged 50 or older. The HMLR findings are first presented and then discussed in relation to the respective research questions.

Research Questions 1-3

The first three research questions concerned whether hardiness commitment, control, and challenge were significantly associated with grief resolution, controlling for pertinent variables. For the HMLR, the four covariates of age, years since spousal loss, depression, and religiosity were entered in the first model (step) of the HMLR, followed by the three hardiness predictor variables, with grief resolution as the criterion variable. The HMLR findings are presented in Table 6. The first HMLR model was significant, F (4, 213) = 12.10, $p < .001$, $R^2 = .19$. Individual relationships were examined, and results showed that depression was the only significant predictor of grief resolution, β (218) = -.40, $p < .001$; as depression increased, grief resolution decreased. The second model of the HMLR was not significant, F (3, 210) = 2.56, $p = .056$, $R^2_{change} = .029$. However, in reviewing the individual relationships, results showed that hardiness commitment

significantly predicted grief resolution, β (218) = .17, p = .033; as hardiness commitment increased, grief resolution also increased. Depression also remained a significant predictor of grief resolution, β (218) = -.39, p < .001; as depression increased, grief resolution decreased.

Table 6

HMLR: Hardiness Commitment, Control, and Challenge Predicting Grief Resolution, Controlling for Participant Ages, Years since the Loss of Spouse, Depression, and Religiosity

	Model 1				*Model 1*			
	B	*SE B*	*β*	*p*	*B*	*SE B*	*β*	*P*
Participant age	.01	.07	.01	.867	-.01	.07	-.01	.934
Years since spousal loss	.11	.09	.09	.211	.10	.09	.08	.272
Depression	**-.45**	**.07**	**-.40**	**<.001**	**-.44**	**.08**	**-.39**	**<.001**
Religiosity	.00	.09	.00	.988	-.04	.09	-.03	.678
Hardiness commitment					**.38**	**.18**	**.17**	**.033**
Hardiness control					-.34	.21	-.12	.106
Hardiness challenge					-.25	.16	-.10	.124

Note. (N = 218). Significant findings are bolded.

Research Question 1. The first research question was, "Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS-15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse) among widowed women aged 50 or older?" Results from the HMLR showed that hardiness commitment

was significantly associated with grief resolution, β (218) = .17, p = .033; as hardiness commitment increased, grief resolution also increased. Due to the significant relationship between hardiness commitment and grief resolution, the null hypothesis failed to be retained for the first research question.

Research Question 2. The second research question was, "Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS-15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse), among recently widowed (i.e., 3 years or less) women aged 50 or older?" Results from the HMLR were not significant for the relationship between hardiness control and grief resolution, β (218) = -.12, p = .106. Due to the non-significant relationship between hardiness control and grief resolution, the null hypothesis was retained for the second research question.

Research Question 3. The third research question was, "Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS-15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse), among widowed women aged 50 or older?" Results from the HMLR were not significant for the relationship between hardiness challenge and grief resolution, β (218) = -.10, p = .124. Due to the non-significant relationship between hardiness challenge and grief resolution, the null hypothesis was retained for the third research question.

Research Questions 4-6

The last three research questions concerned whether hardiness commitment, control, and challenge were significantly associated with PTG, controlling for pertinent variables. For this HMLR, the four covariates of age, years since spousal loss, depression, and religiosity were entered in the first model (step), followed by the three hardiness predictor variables. PTG was the criterion variable. The HMLR findings are presented in Table 7. The first HMLR model was significant, F (4, 213) = 10.16, $p < .001$, $R^2 = .17$. Individual relationships were examined, and results showed that depression was significant associated with PTG, β (218) = -.17, $p = .014$; as depression increased, PTG decreased. Religiosity was also significantly associated with PTG, β (218) = .36, $p <$ .001; as religiosity increased, so did PTG.

The second model of the HMLR was significant, F (3, 210) = 21.40, $p < .001$, $R^2_{change} = .195$. There were a few significant relationships among variables. Years since spousal loss was significant associated with PTG, β (218) = .13, $p = .045$; as the number of years since spousal loss increased, so did PTG. Religiosity remained significantly associated with PTG, β (218) = .22, p < .001; as religiosity increased, so did PTG. Concerning the hardiness predictor variables, results showed that hardiness commitment was significantly associated with PTG, β (218) = .42, $p < .001$; as hardiness commitment increased, PTG also increased. Hardiness control was also significantly associated with PTG, β (218) = .16, $p = .015$; as hardiness control increased, PTG also increased.

Table 7

HMLR: Hardiness Commitment, Control, and Challenge Predicting Grief Resolution, Controlling for Participant Age, Years since the Loss of Spouse, Depression, and Religiosity

	Model 1				Model 1			
	B	SE B	B	p	B	SE B	β	P
Participant Age	-.18	.18	-.08	.319	-.13	.16	-.05	.432
Years Since Spousal Loss	.44	.24	.13	.070	**.43**	**.21**	**.13**	**.045**
Depression	**-.50**	**.20**	**-.17**	**.014**	.23	.20	.08	.259
Religiosity	**1.36**	**.23**	**.36**	**<.001**	**.83**	**.22**	**.22**	**<.001**
Hardiness Commitment					**2.55**	**.44**	**.42**	**<.001**
Hardiness Control					**1.26**	**.51**	**.16**	**.015**
Hardiness Challenge					-.06	.40	-.01	.889

Note. (N = 218). Significant findings are bolded.

Research Question 4. The fourth research question was, "Is there a significant relationship between the hardiness personality factor of commitment, measured using the commitment subscale of the DRS-15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse) among widowed women aged 50 or older?" Results from the HMLR showed that hardiness commitment was significantly associated with PTG, β (218) = .42, p < .001; as hardiness commitment increased, PTG also increased. Due to the significant relationship between hardiness commitment and PTG, the null hypothesis failed to be retained for the fourth research question.

Research Question 5. The fifth research question was, "Is there a significant relationship between the hardiness personality factor of control, measured using the control subscale of the DRS-15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse), among recently widowed (i.e., three years or less) women aged 50 or older?" Results from the HMLR were significant for the relationship between hardiness control and PTG, β (218) = .16, p = .015; as hardiness control increased, PTG also increased. Due to the significant relationship between hardiness control and PTG, the null hypothesis failed to be retained for the fifth research question.

Research Question 6. The sixth and last research question was, "Is there a significant relationship between the hardiness personality factor of challenge, measured using the challenge subscale of the DRS-15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for pertinent covariates (i.e., participant age, depression, religiosity, and time since death of spouse), among widowed women aged 50 or older?" Results from the HMLR were not significant for the relationship between hardiness challenge and PTG, β (218) = -.01, p = .889. Due to the non-significant relationship between hardiness challenge and grief resolution, the null hypothesis was retained for the sixth research question.

Summary

The purpose of this quantitative correlational study, guided by Bonanno's (2004) PtRG model, was to examine if there were significant relationships between the three Cs

of hardiness (i.e., commitment, control, and challenge) and resilient grief, operationalized in this study as grief resolution and PTG, controlling for pertinent variables, in a sample of women aged 50 and older. The participants were, on average, 64.06 years of age (with a range in age from 51 to 88 years). The average time since spousal loss was 7.31 years, and 75% of the participants lost a spouse within the past 10 years. The participants had average levels of religiosity and mild levels of depression. Concerning hardiness, the women had average levels of hardiness commitment and challenge and average-to-high levels of hardiness control. Regarding the resilient grief outcomes, the participants had average levels of grief resolution and PTG. Grief resolution and PTG were significantly associated with one another.

Two separate HMLR were conducted to address the study's six research questions. The first HMLR addressing the first three research questions concerning whether there were significant relationships between the hardiness personality factors of commitment, control, and challenge, measured using the DRS-15 (Bartone, 1995), and grief resolution, measured using the GRI (Remondet & Hansson, 1987), controlling for pertinent covariates (i.e., participant age, religiosity, depression, and time since death of spouse), among widows aged 50 or older. Results from this first HMLR showed that hardiness commitment was significantly related to grief resolution; as hardiness commitment increased, so did grief resolution. Results further showed that depression was significantly and negatively associated with grief resolution, with higher levels of depression being significantly associated with lower levels of grief resolution.

The second HMLR was conducted for the last three research questions, which inquired as to if there were significant relationships between the hardiness personality factors of commitment, control, and challenge, measured using the DRS-15 (Bartone, 1995), and PTG, measured using the PTGI (Tedeschi & Calhoun, 1996), controlling for pertinent covariates (i.e., participant age, religiosity, depression, and time since death of spouse), among widows aged 50 or older. Somewhat different results were found for the second HMLR. Hardiness commitment and control were both significantly related to PTG; as commitment and control increased, so did PTG. Years since spousal loss and religiosity were also significantly related to PTG, with a higher number of years since loss and higher levels of religiosity significantly associated with PTG.

The findings from this study suggested that, for this sample of 218 widowed women, aged 50 or older, having hardiness commitment, or being involved in their surroundings, activities, and daily life and engaged with others (Maddi & Kobasa, 1984; Sheard & Golby, 2007) offered benefits and promoted resilient grief outcomes concerning both resolution of grief and growth from grief. Furthermore, having hardiness control, or feeling empowered, was beneficial in promoting PTG in response to spousal loss. The study findings are discussed in relation to theory and prior empirical research in Chapter 5, the last chapter of the dissertation. Chapter 5 also provides information on the implications and practical applications of the findings, as well as offering suggestions for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

The social phenomenon of the graying of America and the feminization of aging has led to new concerns regarding the grief response among older women who are widows (Gross, 2018; Kepic, 2020; Super, 2020). These concerns are compounded when considering that widowed older adult women experience more financial burdens than their male peers (Gross, 2018; Streeter, 2020). However, women display higher levels of functioning in the face of spousal loss than male peers (Blanchard et al., 2020; Nseir & Larkey, 2013; Soulsby & Bennett, 2017). The contradictory findings have prompted an increased examination of spousal bereavement and grief among older adults in general and older adult women specifically (Blanchard et al., 2020; Arizmendi & O'Connor, 2015; MacCallum et al., 2017). The purpose of this quantitative correlational study was to examine if significant relationships existed between the three hardiness personality factors of commitment, control, and challenge and the resilient grief outcomes of grief resolution and PTG in a national sample of widowed women.

This chapter provides a discussion of the study findings documented in Chapter 4. Chapter 5 opens with a summary of the study's key findings. The Interpretation of Findings section follows; it includes discussion of the study findings in relation to the peer-reviewed literature and the guiding theory, Bonanno's (2004) PtRG. After a summary of the limitations of the study, the researcher posed recommendations for further research. The penultimate section, implications, includes study implications for theory, practice, and positive social change. The Conclusion section ends the chapter.

Summary of Findings

The goal of the study was to examine if hardiness commitment, control, and challenge were significantly associated with two resilient grief outcomes, controlling for pertinent variables, in a sample of older women who lost a spouse. The study was conducted with 218 older widows (*M* age = 64.06 years) who had lost a spouse, most (75%) in the past 5-10 years. The participants had average levels of religiosity and mild levels of depression. The widows had average levels of hardiness commitment and challenge but average-to-high levels of hardiness control; moreover, the participants had average levels of grief resolution and PTG. As indicated by the average scores, the study hardiness and grief resolution variables, as well as the covariates, were normally distributed. A correlation showed a significant relationship between grief resolution and PTG. The variables also met all assumptions for HMLR, the statistical analysis conducted for hypothesis testing.

The study had six research questions. The first three research questions concerned whether hardiness commitment, control, and challenge were significantly associated with grief resolution, controlling for age, years since spousal loss, depression, and religiosity. The researcher conducted one HMLR to test the first three research questions. Findings from the HMLR showed that hardiness commitment, or being involved in their surroundings, activities, and daily life and engaged with others (see Maddi & Kobasa, 1984; Sheard & Golby, 2007), was significantly related to grief resolution, but hardiness control and challenge were not. Depression was the only significant covariate; as depression increased, grief resolution decreased.

The second set of three research questions concerned whether hardiness commitment, control, and challenge were significantly associated with PTG, controlling for age, years since spousal loss, depression, and religiosity. The researcher conducted one HMLR to test these three research questions. Findings from the HMLR showed that hardiness commitment and control were significantly related to PTG; however, hardiness challenge was not. The two significant covariates were years since spousal loss and religiosity. A longer length of time since spousal loss and higher levels of religiosity were significantly associated with PTG.

Interpretations of the Findings

This study addressed the gap in the empirical literature for the three Cs of hardiness and resilient grief outcomes, namely grief resolution and PTG, in older widows. The three Cs of hardiness are: (a) commitment, or having a sense of resoluteness, steadfastness, and responsibility; (b) control, similar to an internal locus of control and grit; and (c) challenge or having the ability to positively reframe and reinterpret a traumatic event (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). In this section of the chapter, the researcher discuss the study findings in relation to the relevant prior research and the guiding theory, Bonanno's (2004) PtRG model.

Interpretation of Findings: Prior Literature

The first three research questions examined if there were significant relationships between the three Cs of hardiness and grief resolution, measured using the GRI and defined as "getting on with life" (Remondet & Hansson, 1987, p. 30). There is minimal research that has used the GRI as a measure of grief resolution, despite empirical

evidence of its psychometric strength (Hudson et al., 2010), its discriminant validity to distinguish individuals with and without complicated grief (Heeke et al., 2019), and its significant relationships with depression and/or anxiety (Cleiren, 2019). One study by Campbell et al. (1991) did find that hardiness was significantly associated with grief resolution as measured by the GRI.

O'Rourke (2004) examined relationships between the three Cs and grief outcomes associated with grief resolution, namely life satisfaction and distress. Interestingly, O'Rourke (2004), in a study with 232 widows, found that as women's sense of commitment and control increased, so did their life satisfaction; moreover, as the women's commitment increased, their life distress decreased. In this study, as the women's commitment increased, so did their grief resolution. In both this and O'Rourke's (2004) study, challenge was not significantly associated with resilient grief outcomes. Taken together, these findings suggest that having hardiness commitment, or a sense of resoluteness, steadfastness, and responsibility (Maddi, 2004, 2006), plays an important role in the bereavement process.

The second set of three research questions examined if the three Cs of hardiness were significantly associated with PTG. Studies have shown that hardiness was significantly linked to PTG in samples of bereaved adolescents and young adults (Albuquerque et al., 2018), traumatized young adults (Dawwas & Thabet, 2017), and bereaved parents (Duan et al., 2015; Zhang et al., 2016). Moreover, Rederer et al. (2016) found a significant link between hardiness and PTG in their study of 332 older adults (50% female, mean age of 73 years). The only studies, however, that have specifically

examined the associations between the three Cs of hardiness and PTG were conducted by Ogiňska-Bulik and colleagues (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Kobylarczyk, 2015). Their findings showed that challenge was the only hardiness dimension to be significantly associated with PTG. These findings contrasted with those found in this study. In this study, hardiness commitment and control (i.e., internal locus of control and grit) were both significantly related to PTG; as commitment and control increased, so did PTG. Reasons for these differences are unclear. The differences may have been a result of the study samples. Ogiňska-Bulik and colleagues (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Kobylarczyk, 2015) conducted their studies with persons who lost someone close, not necessarily a spouse. It may be that different attributes of hardiness are needed to best cope with spousal loss as compared to the loss of more extended family and friends. Ogiňska-Bulik and colleagues (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Kobylarczyk, 2015) also utilized samples from Poland, and as such, cultural differences may have played a role.

It is also important to discuss the findings concerning the covariates, as different factors played a role in grief resolution and PTG. Depression was a significant predictor of grief resolution; as depression increased, grief resolution decreased. The empirical literature has consistently operationalized resilient grief as reduced depression (Galatzer-Levy et al., 2018; Infurna & Luthar, 2018). Depression takes center stage as the key indicator of psychological functioning in Bonanno's (2004) PtRG theory, and review of the literature studies have noted that individuals with resilient grief have significantly lower levels of depression in comparison to their peers (Galatzer-Levy et al., 2018;

Infurna & Luthar, 2018; Michael & Cooper, 2013). This study confirms prior findings that depression has a profound effect on coping with grief (Bonanno, 2004, Bonanno et al., 2005; Galatzer-Levy et al., 2018; O'Rourke et al., 2011), and it further suggests that depression may play a more long-term role in widows' capacity to resolve their grief.

Interestingly, time since spousal loss was not significantly linked to grief resolution but was associated with PTG. There is considerable evidence that time since spousal loss plays a critical role in psychological adjustment to bereavement (Bonanno, 2004; Bonanno et al., 2005; Kim & Kim, 2016; Perkins et al., 2016). In this study, findings suggest that time since spousal loss may play less of a role in resolving grief and more of a role in growing from loss. The same may be said for religiosity, as it was found to significantly predict PTG but not grief resolution. MacLeod et al. (2016) argued that "a strong social support network," including support from a religious or spiritual community, was critical to the grieving process (p. 269). Religiosity has further been linked to not only grief resolution (Bisconti et al., 2006), but also higher levels of PTG within the context of bereavement (Malhotral & Chebiya, 2016). Indeed, Michael and Cooper (2013), in their systematic review of the literature on bereavement and PTG, reported that all 15 reviewed studies established relationships "between religion, spirituality, and PTG following … bereavement" (p. 28).

Interpretation of Findings: Bonanno's Pathways to Resilient Grief Model

This study was informed by Bonanno's (2004) PtRG model, a key contribution made by Bonanno (2004) to the theoretical literature on grief and bereavement. Bonanno (2004) proposed that the three components of hardiness, commitment, control, and

challenge, provided a pathway to resilience as an adaptation to and growth from spousal loss. Bereaved individuals with high levels of hardiness reach resolution with their grief at an earlier point than other grievers (Bonanno, 2004; Bonanno et al., 2005; Galatzer-Levy et al., 2018). Moreover, according to Bonanno (2004), hardy individuals displaying resilient grief often have PTG. Both resilient grief and PTG incorporate aspects of acceptance and "appreciation of life," and both are related to intrapersonal, spiritual, and relational growth (Calhoun et al., 2010, p. 128). Westphal and Bonanno (2007) further hypothesized that PTG was a much larger construct than previously thought and should not be limited in terms of "action-focused growth" (p. 417), but as a form of adaptation within resilience.

The findings of this study advanced the understanding of Bonanno's (2004) PtRG theory by testing the premise that the three Cs of hardiness are linked to resilient grief outcomes, namely grief resolution and PTG. Contrary to theoretical suppositions, only commitment was significantly linked to both resilient grief outcomes. Control was linked to PTG only, and challenge showed no direct effects on either grief resolution or PTG. These findings suggest that certain dimensions of hardiness and not all three Cs play a role in the resilient grief process. Commitment is defined as a sense of resoluteness, steadfastness, and responsibility, and being involved and engaged with others; it is the opposite of alienation (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Control is akin to an internal locus of control; it involves empowerment and grit (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). Challenge is somewhat different, as it involves growth in the face of adversity; it entails the ability to positively reframe and

reinterpret a traumatic event (Kobasa, 1979; Maddi, 2004, 2006; Maddi & Kobasa, 1984). It may be that commitment and control are more consistent or embedded personality traits that assist with more long-term bereavement processes, while challenge is more a cognitive and adaptive response to a more immediate traumatic event. It may be that, as there was no time limit since the death of the women's spouse, that challenge may have played a more important role in the grieving process early on (e.g., 1-2 years postloss).

Study Limitations

As with any empirical study, this study had some limitations. One limitation was that the study expanded to include participants who lost a spouse without setting a specific period (as was planned). As such, instead of focusing on older women who lost a spouse within the past three years, the study sample included women who lost a spouse between 6 months to 26 years. However, most participants (75%) had lost a spouse 5-10 years prior. Moreover, years since spousal loss was included as a covariate. Nonetheless, this study did not capture the experiences of recently bereaved older women. Moreover, results from this study can only be discussed in relation to the PtRG grief model (Bonanno, 2004), not including other grief theories. The operational definitions of hardiness, grief resolution, and PTG as well as depression and religiosity were constrained to the instruments used to measure the constructs. As such, findings from this study may differ from those found in other studies that utilize other instruments to measure the constructs of hardiness, grief resolution, PTG, depression, and religiosity.

The use of nonprobability (i.e., nonrandom) sampling and a correlational design may have introduced some study biases, namely self-selection and social desirability (Drost, 2011; Nardi, 2018). Women who took part in this study may have differed from those who chose not to participate; for example, they may have been less or more adjusted to their spousal loss and more engaged with others and their community. Self-report surveys are prone to the social desirability bias, where participants provide responses that are socially acceptable but not necessarily truthful (Drost, 2011; Nardi, 2018). However, the responses overall did not show exaggeration; all variables were normally distributed. As such, the self-selection and social desirability biases may have been reduced in this study. The online format of the study, which precluded the ability of the researcher to know who was in the study, may have helped to reduce the likelihood of the social desirability bias. While limiting participants to those who are female may have minimized effects of the self-selection bias (as research has shown that study volunteers tend to be female; Drost, 2011), it precluded the ability to generalize findings to other bereaved individuals, including men (of all ages), women below the age of 50, and women who identify as lesbian who lost a spouse.

Recommendations

The recommendations for further research are informed by its strengths and limitations, theoretical work by Bonanno (2004), and prior research on hardiness and resilient grief outcomes. One strength of this study was that it was the first to examine relationships between the three Cs of hardiness and resilient grief outcomes, namely grief resolution and PTG. Replication is the cornerstone of empirical science (Simon, 2013).

As such, future studies should examine the same relationships (i.e., the three Cs of hardiness and grief resolution and PTG) assessed in this study, and findings could provide empirical validation (or the lack thereof) of the results found in this study. As there is minimal research that has utilized the GRI as a measure of grief resolution, despite its psychometric strength (Hudson et al., 2010) and its significant relationships with depression and/or anxiety (Cleiren, 2019) and hardiness (Campbell et al., 1991), it is recommended for future studies to utilize this measure of grief resolution.

There are additional recommendations for future empirical work. Further research should be conducted on the examination of the three Cs of hardiness and additional resilient grief outcomes (e.g., life satisfaction, emotional wellbeing) as well as further examination of the roles that depression and religiosity play in resilient grief outcomes. More complex quantitative studies that assess moderating and mediating effects of the three Cs of hardiness, depression, and religiosity would be very enlightening. Moreover, as there is minimal empirical examination of grief within the context of personal hardiness, qualitative research (e.g., phenomenological studies on widow's lived experiences of hardiness and grief, narrative inquiry work on the grief process among hardy widows) are needed to augment findings from quantitative research.

There was an unanticipated limitation of this study in the time since spousal loss was extended from past three years to multiple decades. In this study, about 75% had lost a spouse in the past 5-10 years; however, 25% had lost a spouse more than 10 years prior, with a handful losing a spouse more than 20 years prior. It is important to understand if the relationships between the three Cs of hardiness and resilient grief outcomes remain

the same over certain periods of time since loss. It is recommended that future studies examine the relationships between the three Cs of hardiness and resilient grief among widowed women who have lost a spouse within the past one-two years. Longitudinal studies that examine the changes over time regarding hardiness and resilient grief would be especially enlightening.

An additional limitation was the emphasis on (heterosexual) older adult women (aged 50 or older) who lost a spouse. While limiting participants to those who are female may have minimized the likelihood of the self-selection bias (as research has shown that study volunteers tend to be female; Drost, 2011), it precluded the ability to generalize findings to other bereaved individuals, including men (of all ages), women below the age of 50, and women who identify as lesbian who lost a spouse. It is theoretically and empirically important that further research examine the relationships between the three Cs of hardiness and resilient grief outcomes in other populations, especially those that have limited empirical attention (e.g., older adult men, young women who lost a spouse, military spouses, lesbians), as such work could guide the development of therapeutic and counseling initiatives.

Implications

The findings from this study have numerous implications for grief and bereavement theory. Much of the research on grief and bereavement has utilized theories taking a deficit approach (e.g., Bowlby's attachment, loss, and grief; Kübler-Ross's, five stages of grief, 1973) and has focused on maladaptive outcomes of grief; including ineffectual and even harmful coping strategies, social isolation, complicated grief, and

PTSD (Holm & Severinsson, 2012; Stroebe et al., 2014). In alignment with the work by Bonanno (2004), this study focused instead on resilient grief and helped to identify key personality factors (i.e., commitment, control) associated with adaptive grieving outcomes. It is hoped that additional work be conducted on resilient grief initiated by Bonanno (2004) and expanded upon in this study.

There are numerous practical implications of the study. This study provided information on certain personal factors that impeded (e.g., depression) or promoted (e.g., commitment, control, religiosity) resilient grief. This study's emphasis on personality traits and belief systems that promote resilient grief that may offer information that could be used to guide the development of effective grief and bereavement interventions, especially for older adult women who are more likely to be widowed as compared to their male peers (Davidson, 2019). The identification of personal risk (e.g., depression) and protective (e.g., commitment, control, religiosity) factors in this study may help to provide practitioners with information they could use to distinguish individuals who may be at risk for significant mental and physical health concerns versus those who are more adaptive to loss. Findings can also be used to develop interventions focusing on building resiliency and PTG among widowed women, which may provide short and long-term mental health and health benefits.

This study has implications for social change. One group within society that continues to suffer from the highest bereavement rate and its associated incongruences of life, substantial financial burden, poverty, social isolation, emotional distress, and mental and physical decline are women 50 years and older (Gross, 2018). This study may

contribute to positive social change by prompting the development of not only grief and bereavement initiatives focusing on building resilience, strength, PTG among widowed women but also informing policy initiatives aimed at enhancing the quality of life among older adult widowed women, many of whom are experiencing financial burdens (Gross, 2018).

Conclusions

The purpose of this quantitative correlational study, guided by Bonanno's (2004) PtRG model, was to examine if there were significant relationships between the three Cs of hardiness (i.e., commitment, control, and challenge) and resilient grief, operationalized in this study as grief resolution and PTG, controlling for pertinent variables, in a sample of women aged 50 and older. This study had 218 participants who were, on average, 64 years of age and had lost a spouse on average seven years prior. The study findings showed that hardiness commitment contributed to resilient grief outcomes concerning both resolution of grief and PTG, while hardiness control promoted PTG. Depression was a significant covariate concerning grief resolution, while years since spousal loss and religiosity were the two covariates significantly associated with PTG. In summary, study findings showed that depression impeded resilient grief while hardiness commitment and control and religiosity promoted it.

This study not only enhanced understanding of Bonanno's (2004) PtRG theory, but it also contributed to the minimal body of research examining the three Cs of hardiness and resilient grief outcomes (Ogiňska-Bulik, 2014; Ogiňska-Bulik & Kobylarczyk, 2015; O'Rourke, 2004, 2011). The study findings offer numerous areas in

which to empirically explore as well as build effective grief and bereavement interventions, especially for older adult women who lost a spouse. It is the hope that this study brought awareness to the grief and bereavement needs, as well as the personal strengths of largest population in United States history, female Baby Boomers (Davidson, 2019).

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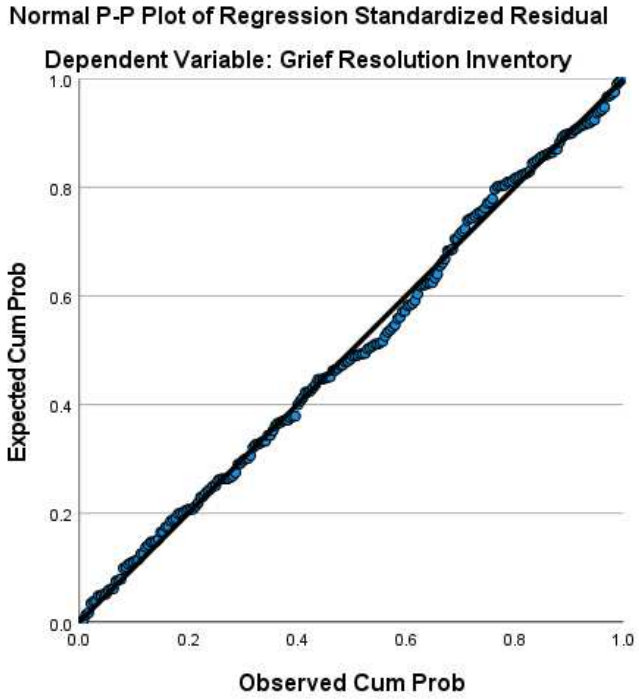
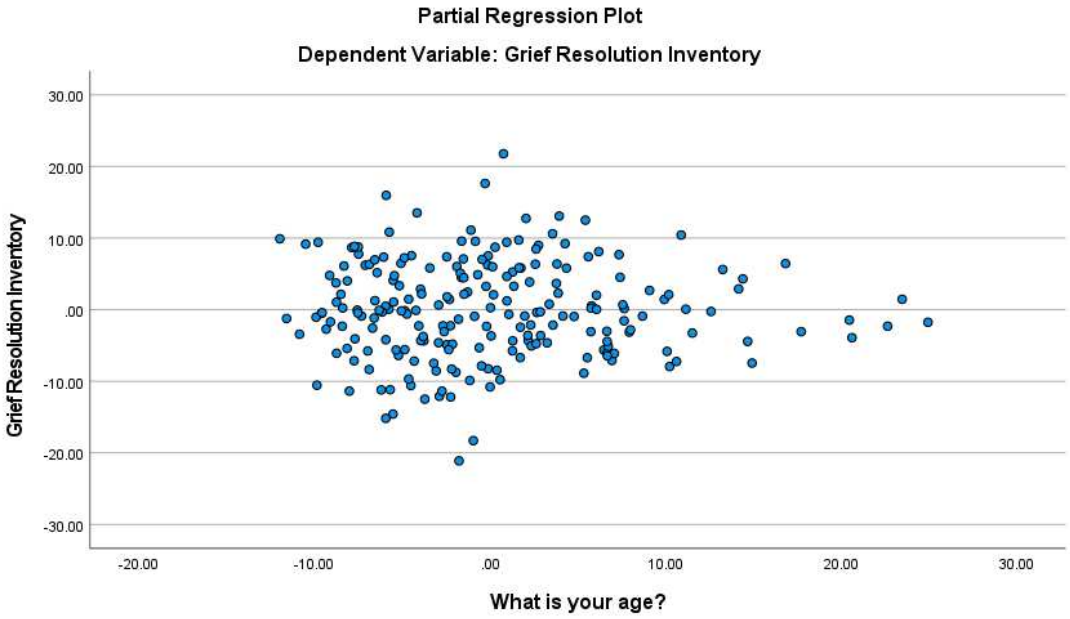
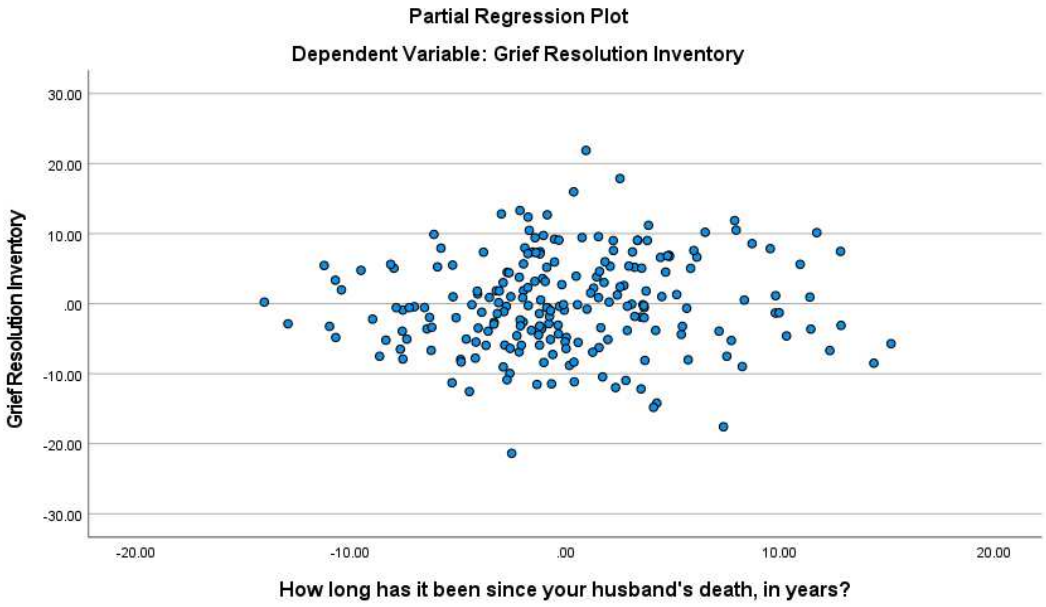
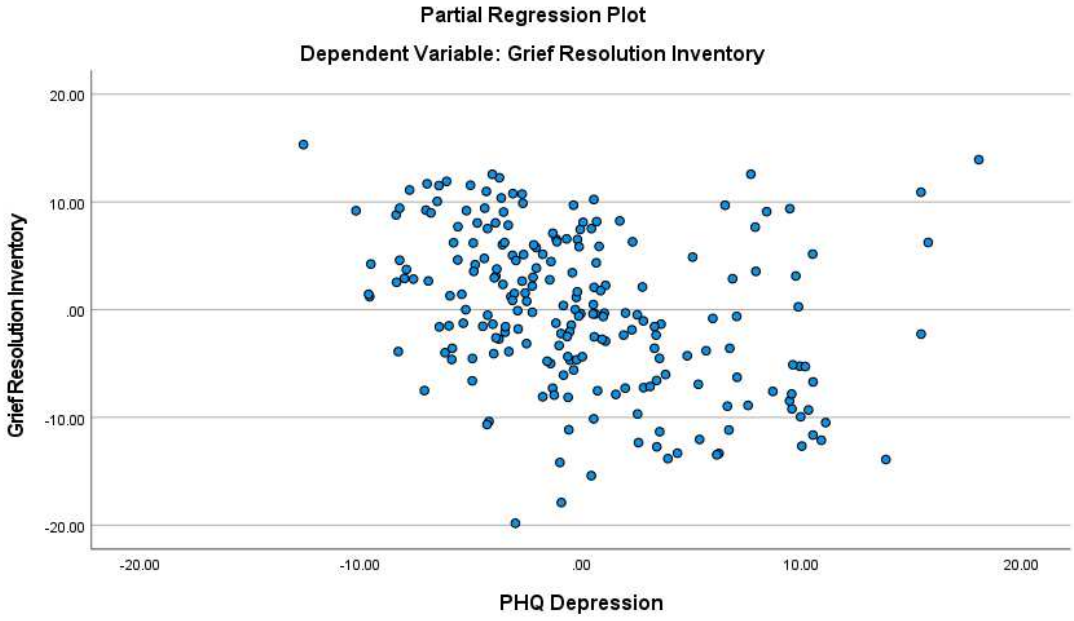
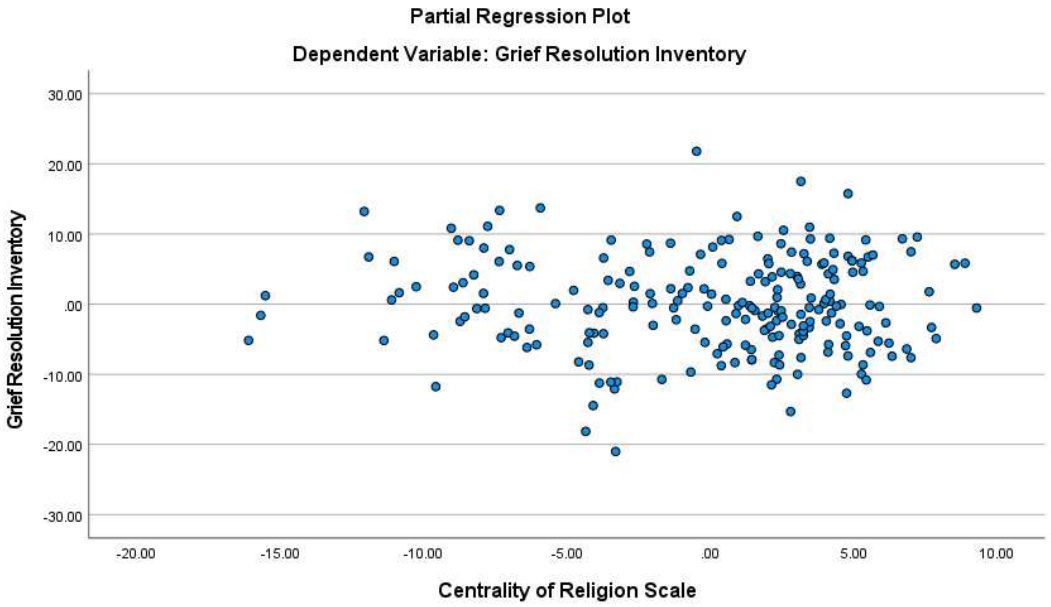
Appendix: P-P Plots and Scatterplots for Hierarchical Multiple Linear Regressions






Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
30.00
20.00
10.00
.00
-10.00
-20.00
-30.00
-20.00
-10.00
.00
10.00
20.00
How long has it been since your husband's death, in years?


Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
20.00
10.00
.00
-10.00
-20.00
-20.00
-10.00
.00
10.00
20.00
PHQ Depression


Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
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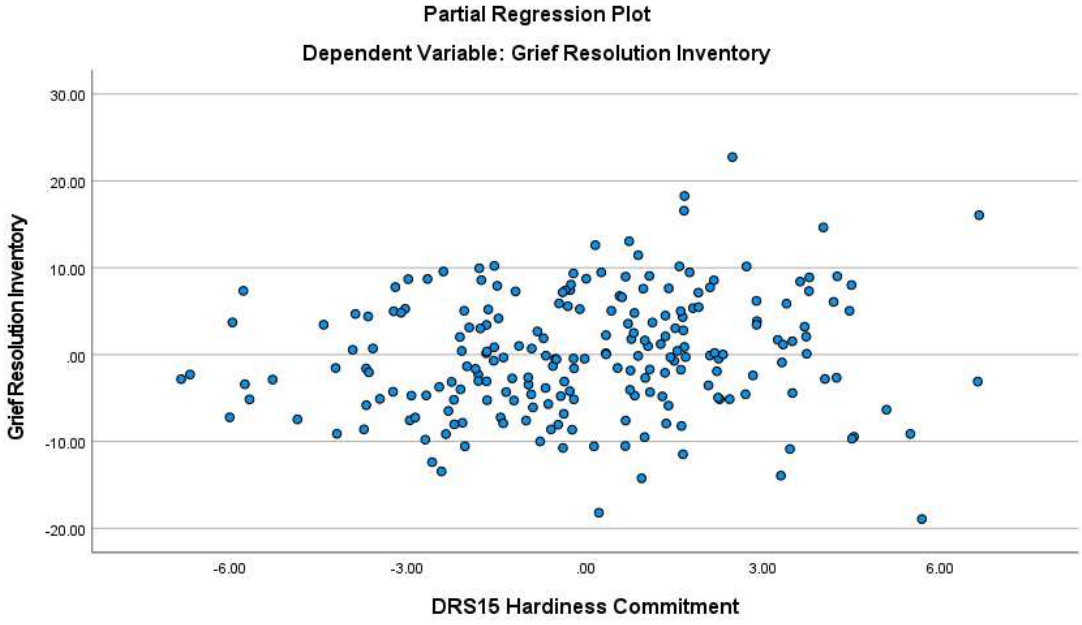
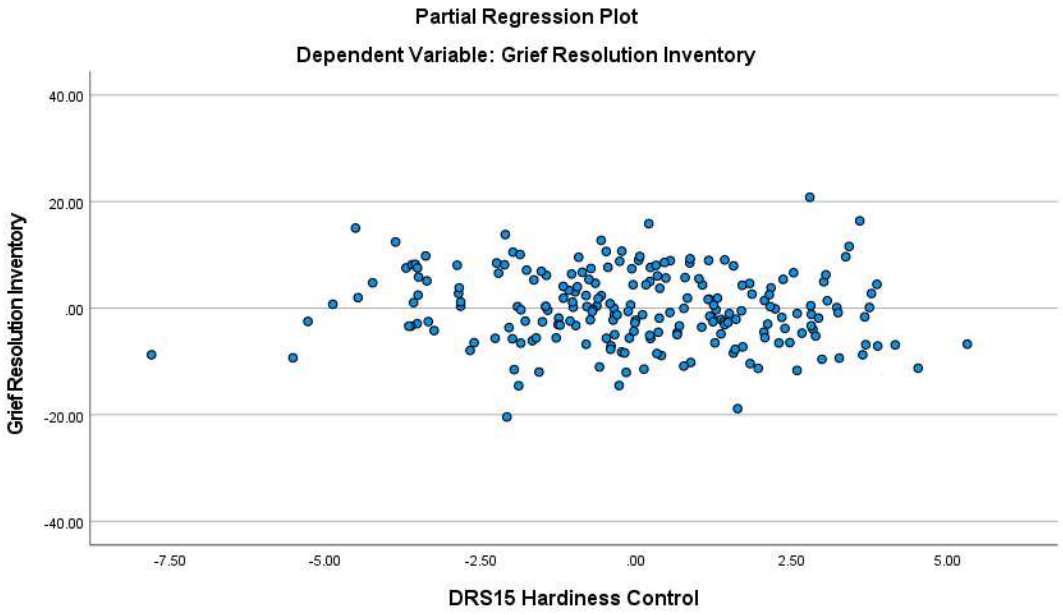
20.00
10.00
.00
-10.00
-20.00
-30.00
-20.00
-15.00
-10.00
-5.00
.00
5.00
10.00
Centrality of Religion Scale


Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
30.00
20.00
10.00
.00
-10.00
-20.00
-6.00
-3.00
.00
3.00
6.00
DRS15 Hardiness Commitment


Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
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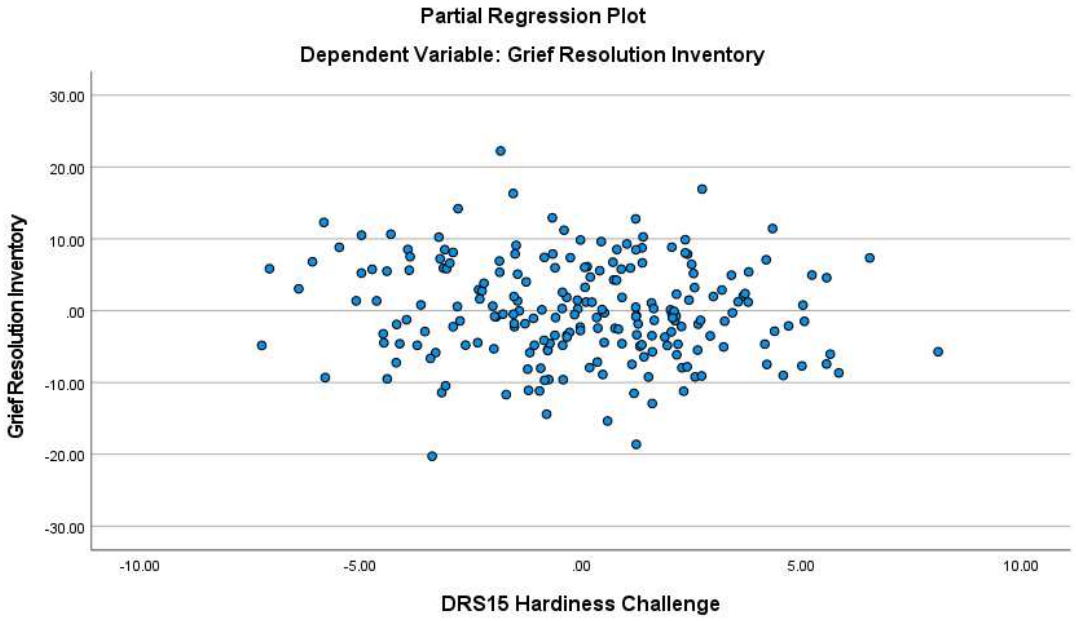
-20.00
-40.00
-7.50
-5.00
-2.50
.00
2.50
5.00
DRS15 Hardiness Control


Partial Regression Plot
Dependent Variable: Grief Resolution Inventory
Grief Resolution Inventory
30.00
20.00
10.00
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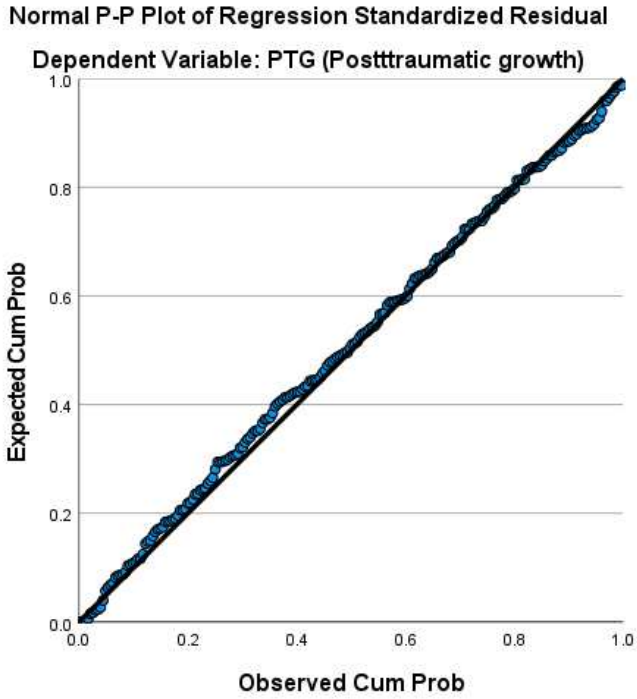
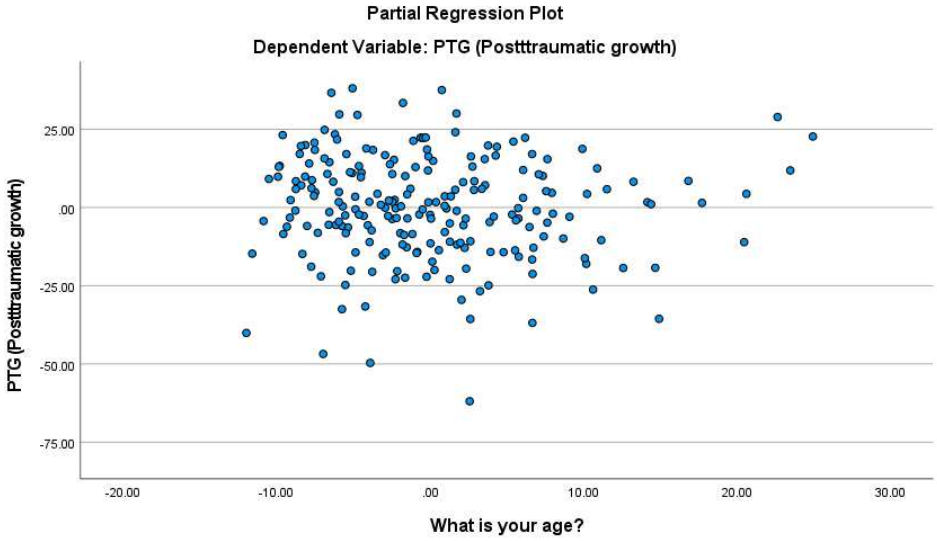
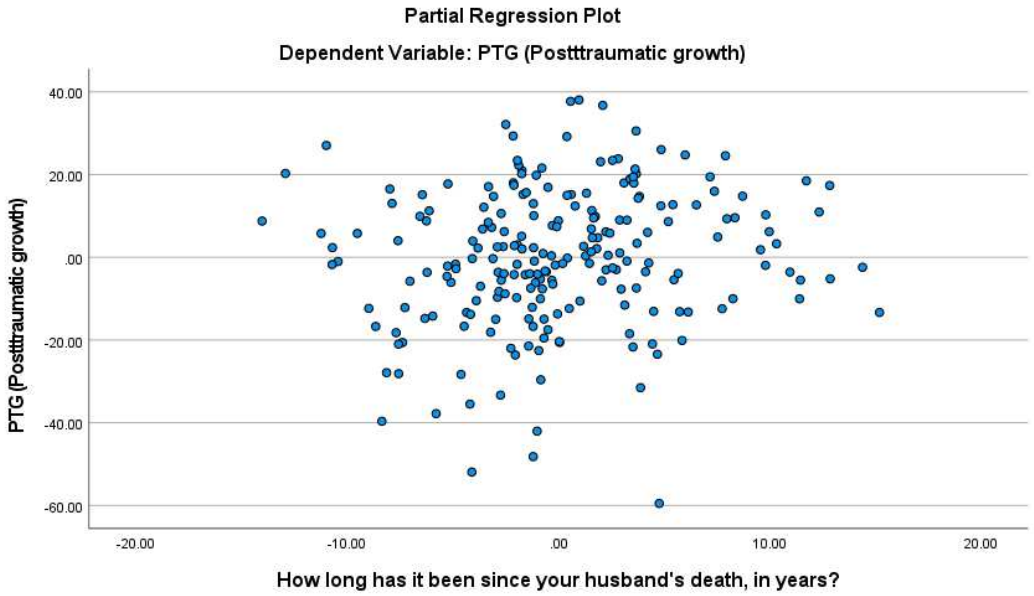
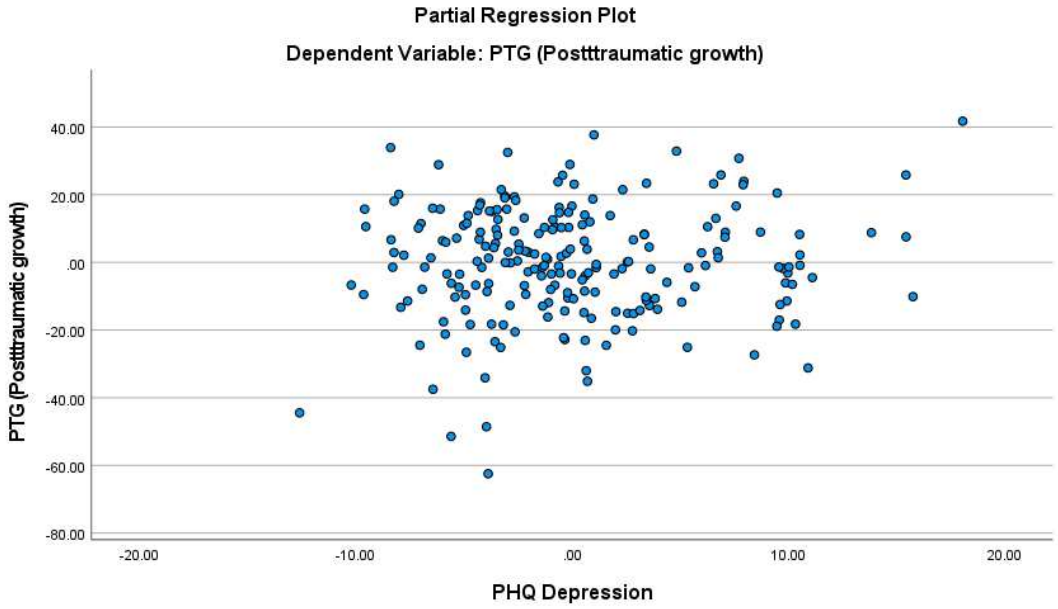
-10.00
-20.00
-30.00
-10.00
-5.00
.00
5.00
10.00
DRS15 Hardiness Challenge

Scatterplot and P-P Plots for HMLR 2






Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
40.00
20.00
.00
-20.00
-40.00
-60.00
-20.00
-10.00
.00
10.00
20.00
How long has it been since your husband's death, in years?


Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
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20.00
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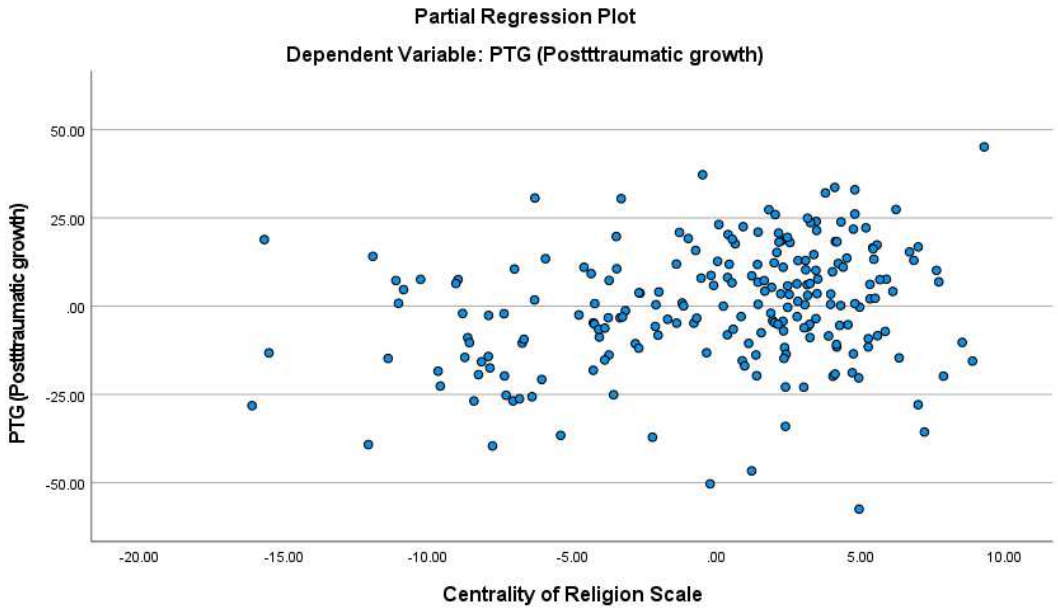
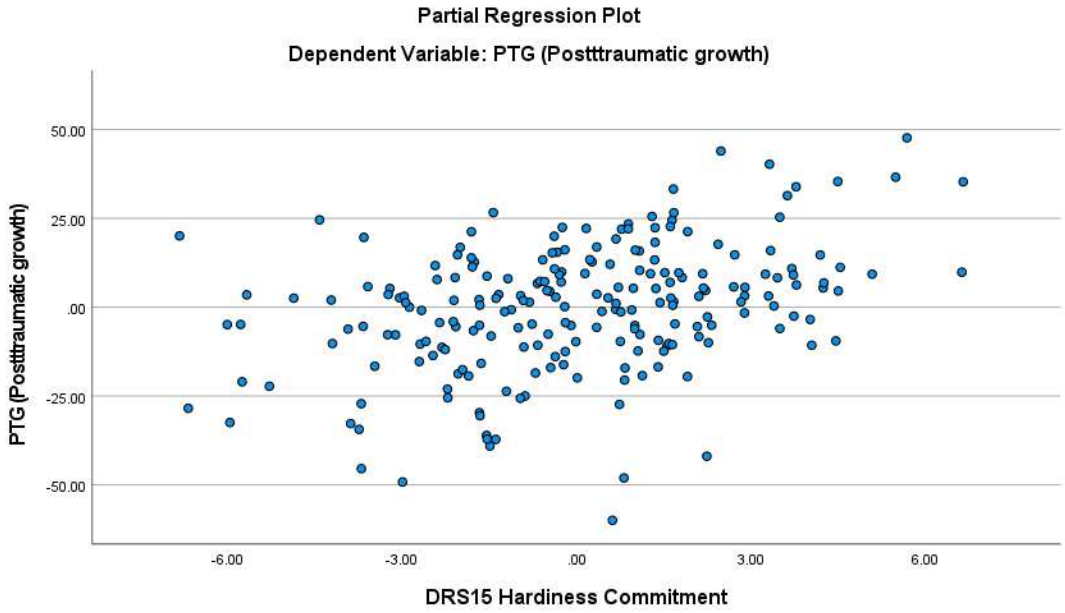
20.00
PHQ Depression


Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
50.00
25.00
.00
-25.00
-50.00
-20.00
-15.00
-10.00
-5.00
.00
5.00
10.00
Centrality of Religion Scale


Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
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25.00
.00
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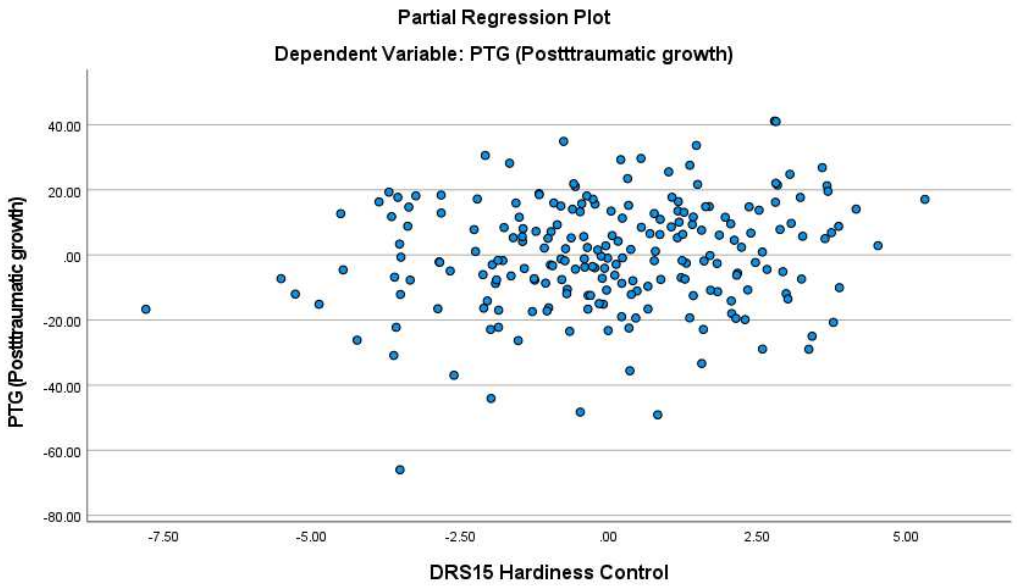
-6.00
-3.00
.00
3.00
6.00
DRS15 Hardiness Commitment


Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
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20.00
.00
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-5.00
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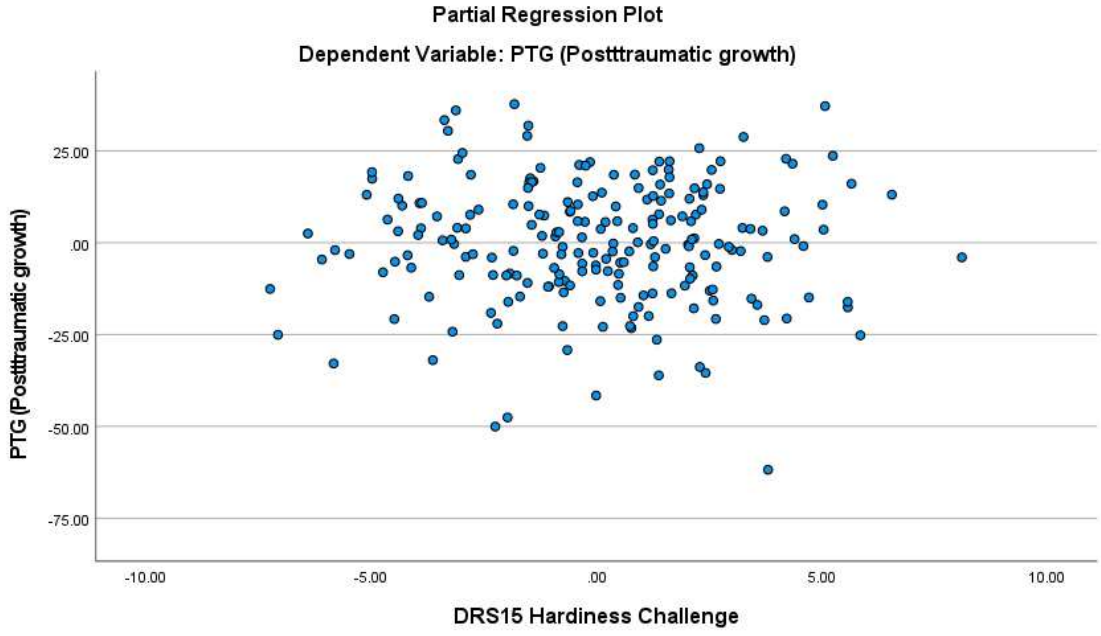
.00
2.50
5.00
DRS15 Hardiness Control


Partial Regression Plot
Dependent Variable: PTG (Postttraumatic growth)
PTG (Postttraumatic growth)
25.00
.00
-25.00
-50.00
-75.00
-10.00
-5.00
.00
5.00
10.00
DRS15 Hardiness Challenge