

The Role of Relatedness and Expressive Flexibility  
In the Prediction of Complicated Grief

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## Abstract

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The current study explores the association between expressive flexibility, attachment styles, interpersonal dependency, and complicated grief among a sample of middle-aged bereaved adults. A relatedness framework, which encompasses specific and more generalized relational interpersonal behaviors, was utilized to broaden the frame of inquiry. This study represents one of the first systematic efforts to examine conjointly attachment and dependency behaviors in a middle-aged bereaved population. It is also one of the first empirical explorations of the association between dependency and expressive flexibility. The Experiences in Close Relationships - Revised questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000) was employed to derive anxious and avoidant attachment schemas. Adaptive and maladaptive interpersonal dependence were measured utilizing the Relationship Profile Test (RPT; Bornstein & Languirand, 2003). Participants were asked to express, suppress, or behave normally to evocative images. Observer ratings of participants' responses were used to measure expressive enhancement and suppression ability. Results indicated a significant association between expressive flexibility factors, attachment, and complicated grief, and more notably a relationship between dependency and complicated grief. Results also revealed adaptive dependence (i.e., healthy dependency) as the strongest predictor of complicated grief, above and beyond attachment related anxiety and avoidance. The data also suggested that expressive enhancement ability moderates the relationship between healthy dependency and complicated grief, such that the interaction between low expressive enhancement ability and low healthy dependence predict

significantly increase the likelihood of complicated grief. Taken together, the findings of this study suggest the importance of including expressive flexibility and dependency factors in understanding complicated grief. The clinical implications of these findings are also be discussed.

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## I – INTRODUCTION

### **Background**

The psychological impact of losing a spouse is second only to the loss of a child, particularly during middle-age when loss due to death is less expected (Sanders, 1980). The death of this important person can evoke strong feelings of sadness and yearning. While most individuals eventually recover, others endure persistent intrusive thoughts, severe emotional distress, excessive feelings of loneliness and emptiness, sleep disturbance, and decreased interest in personal activities (Horowitz, Siegel, Holen, Bonanno, Milbrath, & Stinson, 1997).

In light of these individual differences in response to spousal bereavement, factors such as attachment style, interpersonal dependency, and the expressive flexibility of the bereaved spouse may further clarify post-loss adjustment. Independently, each of these factors provides some empirical explanation of severe grief outcomes; however, the particular combination of these interpersonal strategies may distinguish unique risk features of protracted grief syndromes that can tremendously affect a bereaved person's health and well-being.

In the context of bereavement, attachment theory has become a paradigm for classifying “the nature and significance of loss and for understanding patterns of complicated grief” (Stroebe, Schut, & Stroebe, 2005, p. 49). In adulthood, the marital partnership becomes the primary attachment relationship, outranking peer and parental bonds (Selcuk, Zayas, & Hazan, 2010). Consequently, considering the primacy of the marital relationship, the death of a spouse can be a double-edged loss. That is, the surviving spouse simultaneously incurs the loss of a loved individual, and the loss of the person whom they would turn to for comfort and support during such a stressful time. Thus, resilience to the loss may be impeded.

Fraley (2000) describes as attachment-related anxiety (i.e., the extent to which people are insecure vs. secure about the extent to which their partner's availability and responsiveness) and attachment-related avoidance (i.e., the extent to which people are uncomfortable being close to others vs. secure depending on others). The presence of these problematic attachment styles have been shown to negatively impact grief outcomes (Bowlby, 1980; Stroebe & Schut, 1999). More recently, researchers have noted deficient interpretations of the role of attachment in thanatological research. More explicitly, Noppe (2001) describes the relationship between attachment and bereavement as “siblings that frequently experience poor communication” (p. 515). While traditional and contemporary models of attachment (e.g. Bowlby, 1979 and Fraley, Brumbaugh, & Marks, 2005) note the dynamic nature of attachment, particularly the profound emotional responses to the loss/death of an attachment figure, applications of attachment theory in bereavement research often fail to consider whether or not a person will seek out another attachment figure. Queries focused on the time it takes to connect and consider an individual an attachment figure is also left unanswered (Shear & Shair, 2005). Also this change does not occur quickly.

Also included in the complex configuration of conjugal bereavement is the role of emotional dependency, which has been shown to have an impact on spousal response to bereavement (Carr, 2004; Johnson, Vanderwerker, Bornstein, Zhang, & Prigerson, 2006). Similar to attachment schemas, relational behaviors in adulthood are influenced by adaptive and maladaptive dependency behaviors developed/learned over the lifespan (Kirkpatrick & Hazan, 1994). The ability to utilize a spouse to meet emotional dependency needs has been shown to be a critical component of relatedness in the spousal relationship (Carr et al., 2000). Problematic interpersonal dependency, in this case dysfunctional detachment or destructive overdependence,

may impact the attachment bond (Crowell, Treboux, & Waters, 2002), as well as representations of the attachment bond. Ultimately, relatedness capacity (the ability to attach to and depend on a partner) may affect the subjective experience of the loss and influence post-loss adjustment for the surviving spouse.

An infinite number of social situations can cause distress in adulthood. During those times, spouses/romantic partners often rely on one another for emotional support. Thus, when an individual's spouse dies, they essentially "lose one of the factors regulating their physiological and psychological systems, and as a result, the systems become dysregulated" (Selcuk, Zayas, & Hazan, 2010, p. 266). Alongside strong feelings of loss and grief, the remaining spouse may be required to continue to engage in a variety of family and social obligations, including day-to-day decision making, continued caretaking of children, and generating income. Moreover, the surviving spouse may need to maintain their a sense of emotional stability for the sake of their children while simultaneously seeking caring support for themselves from others (Shuchter & Zisook, 1993; Stroebe & Stroebe, 1987).

Accordingly, emotion self-regulatory processes, particularly the ability to suppress or express emotional experiences, can have a critical impact on coping strategies activated to attend to grief symptoms related to a loss (Bonanno & Kaltman, 1999). Recent research on emotion regulation processes provides evidence that the capacity for more complex and flexible affective experiences, and the actual utilization of this capacity, may facilitate better coping when one is confronted with highly adverse events (Bisconti, Bergeman, & Boker, 2004; Coifman, Bonanno, & Rafaeli, 2007, Gupta & Bonanno, 2011).

In the context of spousal bereavement, a conjoint examination of dependency and attachment may prove productive. Unlike parent-child attachment patterns (where the child is

wholly dependent on an adult for emotional and structural support), attachment behaviors in marital dyads are characterized by complex internal and external needs and motivators (e.g., intimacy, warmth, friendship, financial support, and security). Also, the marital bond is likely premised on reciprocity, as each marital partner simultaneously seeks and provides a safe haven (secure base), proximity, and security (Hazan & Shaver, 1994). Thus, bereaved spouses may be at increased risk for enduring grief syndromes, in that they have lost their primary attachment figure – the person on whom they were most likely to depend – whose presence and support promoted positive emotion regulation processes. Consequently, this study investigates how and in what ways attachment and dependency factors affect complicated grief. Also of interest is how these dyadic relatedness functions are affected by the expressive flexibility of the bereaved individual.

### **Research Framework**

A conceptual framework of relatedness motivated and shaped this enquiry. Relatedness can be characterized as a functional, behavioral system rooted in early attachment behaviors and patterns that serve to ease anxiety and enable people to secure necessary elements for survival and companionship. Importantly, interpersonal transactions in this broader framework affect and are affected by emotion regulation strategies. While some researchers have identified attachment as a component of relatedness (Josselson, 1992; Rock & Garavan, 2011), less effort has been placed on identifying additional factors that potentially inform a broader perception of the complex reciprocal interactions of bereaved individuals whose spouse has died. Therefore, the conceptualization of relatedness in this study seeks to examine interpersonal dependency as an additional predictor, and expressive flexibility as a potential moderator of complicated grief. Combining adaptive and maladaptive attachment and dependency behaviors in a relatedness

framework may shed light on psychological aspects underlying one's ability to adjust to the loss of a loved one.

## II – REVIEW OF THE LITERATURE

This chapter reviews selected literature in four main areas: formulations of complicated grief, adult attachment, interpersonal dependency, and expressive flexibility. Theoretical differentiations of attachment and dependency are also clarified.

### **Complicated Grief**

While most individuals experience normal grief after the death of a loved one, individuals with complicated grief experience great difficulty returning to a pre-loss or homeostatic level of functioning (Bonanno, 2005; Rubin, 1999). Approximately 10–20% of bereaved individuals experience extreme, protracted, and debilitating grief symptoms - a sequelae of grief symptoms are referred to as complicated grief (Zhang, El-Jawahri, & Prigerson, 2006). Complicated grief has been associated with numerous physical and psychological problems, including hypertension, depression, occupational and social impairment, and decreased quality of life. Complicated grief also increases the risk of suicide and suicidal behaviors (see Wittouck, Van Autreve, De Jaegere, Portzky, Van Heeringen, 2011).

Complicated grief has been characterized as a cluster of symptoms that includes: yearning, pining, or longing for the deceased, trouble accepting the death, feeling uneasy about moving on with one's life, inability to trust others since the death, excessive bitterness or anger about the death, persistent feeling of being shocked, stunned, or emotionally numb since the death, frequent intense feelings of loneliness, feeling that life is empty or meaningless without the deceased, refraining from doing things and/or going to places that remind one of the loss, and frequent preoccupying thoughts about the person that died (Claxton & Reynolds, 2012, p. 830).

While these protracted grief symptoms have a long history of acknowledgement in psychological literature and practice (e.g., Freud, 1917; Prigerson et al., 2009, Bonanno et al.,



2007), a formal set of diagnostic criteria remains outstanding. A titled disorder of complicated grief is currently under review for inclusion in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition – Text Revision (DSM-IV-TR). Complicated grief in this study is presented as a categorical variable to distinguish “contextually appropriate symptoms that are commonly transitory responses to stressors from mental disorder” (Horowitz, 2010, para. 8).

The impact of complicated grief includes higher prevalence of subsequent lifetime alcohol dependence, greater exposure to traumatic events, and lower perceived social support in a clinically depressed sample. Also noted in this study were higher preexisting rates of panic disorder, social anxiety disorder, and posttraumatic stress disorder among women with complicated grief (Sung, Dryman, Marks, Shear, Ghesquiere, Fava, & Simon, 2011).

### **Adult Attachment and Bereavement**

Attachment theory has served as the primary explanation of grief behaviors for over fifty years. Bowlby, the father of attachment theory, described attachment as an emotional bond that affects human behavior "from the cradle to the grave" (1979, p. 129). Attachment theory has largely focused on the life-span implications of early interactional processes of the parent-child relationship. Bartholomew and Horowitz's (1991) two-dimensional model has emerged as the paradigm for organizing adult attachment patterns (see Brennan, Clark, & Shaver, 1998 for an extensive review of differences in romantic attachment). According to this model, caregiver responsiveness (parent) and expectations of care giving (child) evolve and emerge as working schemas of attachment. In childhood, everyday experiences with attachment figures produce internal working models about the availability and responsiveness of attachment figures. Similarly, adults subscribe to attachment-centered internal working models (partly based on

those developed earlier in life) and incorporate experiences from significant relationships (Hazan & Shaver, 1987).

According to adult attachment theory, “the pair bond, and hence its institutional form—marriage—is the prototypical attachment relationship in adulthood” (Selcuk, Zayas, & Hazan, 2010, p. 262). Psychological studies examining nuanced adult attachment behaviors in multiple psychosocial contexts have emerged only in the past ten years (see Mikulincer & Shaver, 2007), and adult attachment in the context of bereavement even more recently (e.g., Field, Gao, & Paderna, 2005; Fraley & Bonanno, 2004; Stroebe, Shut, & Stroebe, 2005). Along these lines, spousal bereavement provides a unique scenario that illuminates more extensively the complexity and plasticity of attachment behaviors in adulthood.

In conjugal bereavement, the attachment figure is no longer physically available. Thus, proximity to the attachment figure, a primary goal of the attachment behavioral system, becomes unattainable. In response, concrete attachment behaviors require transformation and abstractions, (i.e., representations of the deceased) (Klass, 2001). As such, secure attachment styles can be transformed into positive or negative mental representations of the deceased spouse (attachment figure). According to Field (2001), representations of the deceased can still provide some sense of felt security that promotes growth and exploration, and move the bereaved individual forward after the loss toward normal daily functioning (i.e., engage in external responsibilities and motivators such as employment, social/community roles, etc.). Contrarily, individuals with insecure attachment models may deflect adaptive representations of the deceased and instead employ withdrawal (avoidant attachment) or over-engagement (anxious attachment) behaviors that have developed in response to unmet security needs (Sroufe & Waters, 1977). Ultimately, these symbolic attachments models shape the way adults interpret

and respond to personal interactions (Bäckström & Holmes, 2007; Pietromonaco & Barrett, 1997) such as loss. Of importance to the present study are potential negative psychological consequences of insecure attachment styles when an individual loses a significant other who may have served the role of the primary attachment figure.

Bereavement research places great weight on these relational schemas, as they provide an empirical link between individuals' reactions to separation and grief outcomes (Field, 2001; Stroebe, Schut, & Stroebe, 2005). A study conducted by Van Doorn, Kasl, Beery, Jacobs, and Prigerson (1998) examining the association between insecure attachment styles, complicated grief, and depressive symptoms among caregivers of terminally ill spouses found that insecure attachment styles avoidant and anxious spouses at higher risk for elevated complicated grief symptoms (i.e., strong yearning, feelings of sadness and loneliness, isolation from social activities, and an inability to control intrusive thoughts about the deceased) than those with secure attachment styles.

In contrast to studies that conceptualized attachment as secure or insecure, several bereavement studies have focused on the dimensional differences in attachment styles (i.e., avoidant vs. anxious attachment). Consistent across these studies was the implication of an anxious attachment style as a significant predictor of intense, protracted grief symptoms (Field & Sundin, 2001; Fraley & Bonanno, 2004; Wayment & Vierthaler, 2002). Also, a retrospective study of childhood attachment patterns among a sample of middle-aged adults revealed that reported anxious attachment style in the spousal relationship at 10 months post loss predicted higher levels of psychological distress fourteen, twenty, and sixty months after the loss of a loved one.

Several studies have found no association between avoidant attachment and grief (e.g., Bonanno & Field, 2001; Bonanno & Keltner, 1997; Fraley & Bonanno, 2004; Shaver & Tancredy, 2001; Wayment & Vierthaler, 2002). A study by Wayment and Vierthaler (2002) failed to find an association between avoidant attachment elevated grief symptoms; however, results showed a significant association between somatic symptoms and avoidant attachment. According to these researchers, individuals with avoidant attachment may be able to circumvent experiencing emotional distress, or their distress manifests itself as physical complaints (2002, pp. 142-143). Shaver and Tancredy (2001) also noted that individuals with an avoidant dismissing attachment style have a long history of limiting the extent to which they emotionally attach to and rely on relationship partners (p. 63). Relatedly, a longitudinal study by Simpson (1990) of attachment styles among a sample of dating couples showed that avoidant participants reported less distress than those with anxious attachment following the breakup of a romantic relationship.

Taken together, these empirical findings give rise to the importance of unique attachment scenarios in bereavement, and perhaps more importantly the consideration of relational context in interpreting bereavement coping strategies.

### **Dependency and Bereavement**

Identification of an individual's attachment schema may only provide a partial picture of relatedness. It informs research about expectations and behaviors that may manifest themselves in future attachment relationships. However, in the absence of an attachment figure, in this case a spouse, other relational schemas/working models such as dependency may be activated. Conceptualizations of interpersonal dependency in adulthood are similar to adult attachment, in that both are largely based on childhood attachment experiences and rooted in an enmeshed

developmental framework whereby complex adult behaviors are explained and oversimplified as amended relational coping strategies. Historically, dependence, as a psychological construct, has been largely viewed as maladaptive. In this form, excessive dependency and more recently maladaptive dependency have been linked to chronic grief (Denckla, Mancini, Bonanno & Bornstein, 2011; Lopata, 1979; Parkes & Weis, 1983).

Birtchnell, an influential researcher of interpersonal relations, initially described dependency as “concern with a need for close involvement, and a need for guidance and direction, and excessive humility and self blame” (1984, p. 284). While the majority of dependency research in the past decade has situated interpersonal dependence along a maladaptive spectrum of attachment-related behaviors, Birtchnell (1984, 1987), and more recently Birtchnell (1991) and Bornstein (1992, 1993) have concluded that dependency is an individual difference factor that is associated with both positive and negative outcomes. Moreover, these researchers concluded that dependency is of significant import for “understanding normal and abnormal interpersonal behavior, psychopathology, and psychotherapy” (Pincus & Gurtman, 1995, p.744).

Bornstein (1996) proposed a three-factor model of interpersonal dependency which includes destructive overdependence, dysfunctional detachment, and healthy dependence. These factors were validated with the creation of the Relationship Profile Test (RPT; Bornstein, 1992) which measures adaptive (healthy dependency) and maladaptive dependency (dysfunctional detachment and destructive overdependence) behaviors. According to Bornstein, destructive overdependence is a pattern of insecure, clinging behavior that alienates potential caregivers and undermines the dependent person's efforts to cultivate affiliative ties. Dysfunctional detachment is described as an “inability or unwillingness to cultivate social ties and engage in adaptive

affiliative behaviors” (Fiori, 2008, pp. 700-701). Healthy dependence is described as “flexible, situation-appropriate help and support seeking (p. 701).

A “dependent person's relationship-facilitating self-presentation strategies” (Bornstein, 1998) develop early in life and manifest themselves even when psychological pathology compromises other areas of functioning (p. 67). Consistent with these findings, overly dependent individuals (denoted as destructive overdependence) are predisposed to depression when losing support from others (Neitzel & Harris, 1990; Zuroff & Mongrain, 1987), and may react to a loss of support by engaging in self-criticism and self-blaming for “failing to secure (or deserve) needed help and assistance” (Huprich, Wei, Porcerelli, Bornstein, & Markova, 2010, p. 83).

Dysfunctional detachment was associated with social avoidance and withdrawal as a means of coping with distress and managing anxiety (Bornstein et al., 2003; Bornstein & Huprich, 2006). Given this, individuals with dysfunctional detachment may present as aloof or uninterested in their relatedness to other individuals, such as their spouse before the loss, and potential support sources after the loss (Huprich, Wei, Porecelli, Bornstein, & Markova, 2010). Notably, the extent to which subjective experiences of dysfunctional detachment and overdependence relate to feelings of guilt and shame may also indicate potential risk factors for complicated grief. Notably, the maladaptive dependency factors, destructive overdependence and dysfunctional detachment have been found to impact overall quality of health and well-being among clinical and non-clinical populations (Bornstein, 1995).

Emotional dependency is a significant component in many marital relationships. That is, in the spousal dyad, dependency represents the extent to which partners rely on one another for significant and sometimes essential support. Bornstein (1995) characterized interpersonal

dependency as four primary components (ranging from adaptive to maladaptive): Motivational (i.e., marked need for guidance support and approval from others), cognitive (i.e., a perception of oneself as powerless and ineffectual, such as couples with the belief that others are comparatively powerful and potent), affective (i.e., a tendency to become anxious and fearful when one is required to function autonomously), and behavioral (i.e., a tendency to seek support, guidance, and reassurance from others and to yield to others in interpersonal transactions). Notably, marital partners can exhibit exclusive dependency patterns, whereby one spouse exclusively relies on their partner as a “social companion and confidante, to the exclusion of other important relationships” (Rathus & Leary, 1997, p. 165). Thus, relatedness behaviors, inclusive of dependency needs, may be profoundly affected by the loss of a spouse.

### **Differentiating Attachment and Dependency**

The history of dependency and attachment as significant components of human relatedness is worth noting. Sroufe, Fox, and Pancake (1983) denoted a three-stage history of these constructs: In the first stage, during the 1950s, the concept of dependency rose to theoretical prominence with works by behavioral theorists such as Dollard and Miller (1950), as well as Sears, Maccoby, and Levin (1957). These researchers characterized dependence as a drive for survival of the child by resource seeking from the caregiver, and over-dependence was viewed as problematic. The second stage occurred in the 1960s. During this time, the ethological concept of attachment emerged, was assimilated with the predominant dependence paradigm, and the two constructs were used interchangeably (Gewirtz, 1969; Maccoby & Masters, 1970). These authors endorsed a more generalized view of these constructs, suggesting that dependence and attachment occur in the presence and absence of physical and emotional needs. In the third stage, 1960s to present, attachment and dependence have been separated conceptually, with

attachment ascending as the principal factor in understanding interpersonal relatedness vis-a-vis the seminal works by Ainsworth (1969), Bowlby (1969), as well as Sroufe and Waters (1977).

Ainsworth (1969) identified several differentiating features in dependency and attachment, including specificity, duration, level of maturity, affect implications, and proximity-seeking. While Ainsworth suggested these differences in the context of a child-caregiver model, some of these points of departure may be applied to understanding differences between attachment and dependency among adults, including specificity, duration, and affect implications. Whereas attachment behaviors are directed toward specific caregivers, dependency is a generalized concept which may or may not involve the caregiver. Duration of the relationship indicates attachment as enduring, while dependency may or may not be enduring. Further, affect implications refers to the strong emotional component of attachment relationships that may or may not be present in dependence schemas (Benson & Haith, 2009).

### **Expressive Flexibility**

The regulatory effects of attachment relationships manifest themselves from childhood through adulthood. These effects, according to Coan (2008), may be felt as immediate or generalized. Immediate effects occur when the attachment figure is “present and regulating emotional responding in real-time,” while generalized effects are seen when the attachment figure is “present only in the form of a mental representation” (p. 7). Emotion regulation in conjugal bereavement is better understood through the latter, as the attachment figure is no longer physically accessible.

Emotion self-regulatory processes affect an individual’s appraisal and response to adverse situations (Lukey & Tepe, 2008). A bereaved individual’s ability to minimize and maximize negative emotions during bereavement makes it possible to continue functioning in



areas of personal importance, as “minimization of negative emotions frees up resources for problem-focused coping” (Bonanno & Keltner, 1997, p. 766). Accordingly, expressive flexibility, i.e., the ability to “flexibly modulate emotional expressions” (Westphal, Seivert, & Bonanno, 2010, p. 93), merits special consideration, as it uniquely impacts psychological adjustment among this population.

Amidst current debate regarding whether the expressability of emotion is more beneficial than suppressability in response to stressful situations, neither construct has emerged the frontrunner (Bonanno, Papa, O’Neil, Westphal, & Coifman, 2004). On the one hand, the expression of emotion, particularly negative ones such as anger, may frighten or push people away, while the open expression of sadness may signal a need for care taking and induce others to provide emotional support. The suppression of emotional expression on the other hand may alienate others, as it disrupts communication with others, increases blood pressure, increases the regulator’s blood pressure, and interestingly produces a “uniquely physiologically stressful response for the regulator’s counterpart” (Butler et al., 2003, p. 48). These researchers also found suppression “reduce[d] rapport and inhibited relationship formation” (p. 48). While these findings point to the maladaptive outcomes of expression suppression, there may be circumstances when the ability to suppress emotion expression is beneficial (e.g., Papa & Bonanno, 2008).

Recent research by Gupta & Bonanno (2011) has implicated expressive flexibility as a predictive factor of grief outcomes, noting that increased expressive flexibility decreases the likelihood of complicated grief. Taken together, relatedness factors (dependence and attachment) may serve dual roles in the development of emotion regulation strategies; on the one hand creating learned responses to suppress or repress emotion in the development of adaptive or

maladaptive emotion regulation, and on the other hand utilizing modulating emotion expression when necessary to regain control of emotions. This study presents a comprehensive model integrating adult attachment styles, interpersonal dependency, expressive flexibility, and complicated grief.

### **Purpose of the study**

The primary aims of this study were to examine the relationship between expressive flexibility factors, relatedness factors, and complicated grief. More specifically, the proposed research sought to determine if adult attachment style and/or interpersonal dependency predict complicated grief and if these relatedness factors, when moderated by expressive flexibility, influence complicated grief.

### **Hypotheses**

Attachment related behaviors, as well as dependency-related behaviors, have independently been shown to predict psychological adjustment, specifically reactions to bereavement. Conjuality is often the context in which bereavement is explored, possibly because it is the primary type of adult relationship. Also, this type of loss, particularly in midlife, presents complex issues related to prospective affiliative coping strategies. The death of an attachment figure requires alternative coping strategies, because the person whose presence, real or representational, regulates emotions, who is trusted, and who can be depended upon in stressful situations is no longer available.

While attachment factors and dependency factors have been theoretically delineated in bereavement research (e.g., Ainsworth, 1969; Sroufe, 1983), few studies have endeavored to simultaneously consider the effects of these two types of affiliative strategies on grief adjustment. Moreover, this study may be the first to concurrently examine these strategies in

conjunction with emotion regulation strategies, and their influence on complicated grief. This study attempts to examine independently and jointly these variables among a diverse sample of middle-aged, conjugally bereaved adults.

H1a: The attachment schemas of avoidant and anxious attachment will be associated with higher levels of complicated grief while the attachment schema of secure attachment will be associated with lower levels of CG.

H1b: The components of expressive flexibility (suppression ability and expressive enhancement ability) will moderate the relationship between attachment related factors and complicated grief such that suppression ability will increase complicated grief and expressive enhancement ability will decrease complicated grief.

H2a: Dependence-related factors influence levels of complicated grief. Specifically, maladaptive dependency factors (destructive overdependence and dysfunctional detachment) will be positively associated with complicated grief compared to adaptive dependency factors (healthy dependency) which will be negatively associated with complicated grief (Denckla, Mancini, Bornstein, & Bonanno, 2011).

H2b: The components of expressive flexibility (suppression ability and expressive enhancement ability) will moderate the relationship between healthy and unhealthy dependency-related factors and complicated grief.

H3a: Dependence-related factors, above and beyond attachment-related factors, influence levels of complicated grief in that maladaptive dependency factors (destructive overdependence and dysfunctional detachment) will be positively associated with complicated grief compared to adaptive dependency factors (healthy dependency) which will be negatively associated with complicated grief after controlling for attachment schemas.

### III – METHODS

#### **Participants**

Recruitment was conducted in the New York City metropolitan area through internet and newspaper advertisements, fliers, support group referrals, and letters mailed based on public death listings (see Appendix A). Inclusion criteria stated that participants be younger than 65 years of age and that bereaved participants have a lost a spouse in the last 1.5–3 years. Individuals who contacted the lab were further screened for complicated grief. Additionally, participants were invited to complete other experimental tasks as part of a broader research agenda; therefore, the sample was limited to those with an annual family income of at least \$15,000 and education beyond high school. Participants who reported chronic depression before bereavement were also excluded to improve the criterion validity of the complicated grief measure (Bonanno, 2006, 2007; Bonanno, Moskowitz, Papa, & Folkman, 2005). This exclusion was based on participants' self-reported grief trajectories (see complicated grief measure information below and Appendix B). Final criteria for participation included verification through death certificates, and the Social Security Death Index (noted as an accurate measure of death outcomes by Quinn, Kramer, & McDermott, 2008).

Sixty-four participants met this criterion. Participants were then categorized as bereaved individuals with complicated grief (CG group N=24), and bereaved individuals without complicated grief (non-symptomatic group N=40). These two demographically similar groups were compared to understand the effects of attachment and dependency factors, expressive flexibility components, and complicated grief.

## Measures

### Demographic Information

Demographic information was obtained from a brief standardized questionnaire.

### Measurement of Attachment

Attachment style was assessed in terms of anxiety and avoidance traits using the revised version of the *Experiences in Close Relationships Inventory - Revised* (ERC-R; Fraley et al., 2000). This 36-item questionnaire is specifically designed to assess individual differences in attachment style, dimensionally. The Anxiety subscale (attachment-related anxiety) relates the extent to which individuals are insecure vs. secure about their partner's availability and responsiveness, and taps fears of rejection or abandonment. The Avoidance subscale (attachment-related avoidance) relates the extent to which people are uncomfortable vs. secure being in close proximity to others, and taps fear of intimacy and discomfort with closeness or dependence. Each item is rated on a scale ranging from 1 (strongly disagree) to 7 (strongly agree); higher scores indicate higher levels of attachment anxiety and attachment avoidance. Over a 6-week period, test-retest correlations were found to be in the low .90s (Sibley & Liu, 2004). A study by Fraley et al. (2005) estimated the internal consistency reliability to be .90 or higher. Additionally, Sibley et al. (2005) documented the short-term temporal stability, factor structure, and convergent and discriminate validity of the *ECR-R* and noted that "the *ECR-R* provides one of, if not, the most appropriate self-report measure of adult attachment currently available" (p. 1534). In the current sample, the Cronbach  $\alpha$  for the anxious attachment and avoidant attachment subscale indicated high reliability (.87 and .89, respectively).

### Measurement of Interpersonal Dependency

The *Relationship Profile Test* (RPT; Bornstein & Languirand, 2003) is 30-item questionnaire that asks participants to respond to a series of self-statements. Responses are rated on a 7-point Likert scale that ranges from 1 (*not at all true of me*) to 7 (*very true of me*). Three subscales of the RPT were utilized for this study: Dysfunctional Detachment (DD), Destructive Overdependence (DO), and Healthy Dependency (HD) (10-items each). Representative items from the three subscales include “Other people want too much from me” (DD), “Being responsible for things makes me nervous” (DO), and “I am comfortable asking for help (HD).”

Preliminary construct validity data for the RPT confirms that DO, DD, and HD scores theoretically predicted relationships with measures of attachment, identity, relatedness, and affect regulation (Bornstein, Geiselman, Eisenhart, & Languirand, 2002). Other studies have also noted the predictive validity of the RPT with measures of “relational-interdependent self-construal” and “overall satisfaction with life” (Bornstein et al., 2003, p. 539), as well as later life physical and psychological adjustment (Fiori, Consedine, & Magai, 2008). These authors also noted that among psychiatric outpatients, medical patients, and community adults, RPT scores showed expected relationships with measures of interpersonal problems and health-related behavior (Bornstein et al., 2009; Huprich et al., 2010). RPT scores have acceptable levels of 3-year retest reliability, and subscale scores show acceptable levels of internal consistency (Bornstein et al., 2003; Denckla, Mancini, Bornstein, Bonanno, 2011). In the present sample, Cronbach’s  $\alpha$  for DO, DD, and HD were .85, .75, and .78, respectively.

### **Measurement of Complicated Grief**

Using a structured interview format, participants were asked a series of questions corresponding to eight symptoms associated with complicated grief (Bonanno et al., 2007; Horowitz et al., 1997; Prigerson et al., 1999; Prigerson et al., 2009): (1) strong yearning for the

deceased, (2) preoccupation with thoughts about the loss, (3) recurrent regrets or self-blame about own behavior toward the deceased, (4) recurrent regrets or blame regarding the behavior of others toward the deceased, (5) difficulty accepting the finality of the loss, (6) marked loneliness or sense of emptiness, (7) pervasive sense that life is meaningless, and (8) unusual difficulty developing new relationships. Participants were asked about the occurrence of these symptoms “during the past month.”

Interviews were conducted by advanced doctoral candidates in clinical psychology. Interviews were videotaped and each interviewer coded a randomly selected set of 5 additional interviews. Inter-rater reliability for the symptom items was very high (average  $\kappa = .91$ ). For the logistic regression analysis, participants were categorized as having complicated grief if they endorsed 4 or more of the 11 complicated grief symptoms (see Gupta & Bonanno, 2011). Participants reporting 3 or less symptoms were categorized as “no complicated grief. The Cronbach’s  $\alpha$  for this complicated grief measure was .78.

### **Measurement of Expressive Flexibility**

For the expressive regulation task, subjects were seated before a desktop computer and filmed from a one-way mirror positioned above their line of vision. They were instructed in how to interact with software that displayed blocked sequences of five digitized picture stimuli selected from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 1995). College-student norms (Lang et al., 1995) were used to balance stimuli for valence and arousal across blocks. A more recent study by Libkuman, Otani, Kern, Viger, and Novak (2007) extended the multidimensional normative ratings for the International Affective Picture System (IAPS). The more recent ratings were utilized in this study

A total of 40 pictures (10 practice, 30 experimental) were presented to each participant. Within each block (5 negative or 5 positive pictures) each stimulus was presented for 10 seconds, with 4 seconds between stimuli. Stimulus blocks were not repeated, and each picture was shown only once. These pictures presented exemplars of human experience, including joyful, sad, fearful, angry, and threatening; houses, art objects, household objects, housing projects, erotic couples, funerals, pollution, dirty toilets, cityscapes, seascapes, landscapes, sports events, photojournalism from wars and disasters, medical treatment, patients, related bodies, baby animals, threatening animals, insects, loving families, waterfalls, and children playing. Each picture in the IAPS is rated by large groups of people (men and women) for feelings of emotional arousal the picture evokes during viewing. Pictures are numbered and catalogued according to the mean and standard deviation of these affective ratings.

For practice, subjects viewed randomly presented blocks of positive or negative stimuli, and following each block rated the degree to which they felt “negative emotion” (e.g., anger, revulsion, sadness, distress), by typing a number between 1 (no negative emotion) and 7 (extreme negative emotion), and then the degree to which they felt “positive emotion” (e.g., happiness, joy, amusement, interest), using a similar scale. During the practice portion, the positive IAPS stimuli presented were 1710, 1999, 4614, 5480, 8033, and the negative stimuli presented were 1201, 2120, 2700, 9911, 9622.

Following practice trials, subjects were told that there was another subject in the adjacent room who would also take part in the experiment (another subject was not actually present in the adjacent room); that they would not see the other person, but the other person would sometimes be able to view them on a video monitor; that they would always be informed when the monitor was on and when it was off; and that the other person could not hear them or see the picture



stimuli but would attempt to guess their emotions for each block of stimuli. The instructions further explained that when the experiment began, the computer would (a) sometimes ask subjects to enhance their expression of emotion so the observer could more easily guess what they were feeling, (b) sometimes ask them to suppress their expression of emotion so the observer could not easily guess what they were feeling, and (c) sometimes inform them that the monitor was turned off and that the observer would be unable to see them, in which case they should behave as they would normally. Subjects were then shown three paragraphs, one describing each condition, and were informed that one of the instruction paragraphs would precede each block of stimuli and that emotion ratings would follow each block of stimuli. Six blocks of experimental trials (enhancement, suppression, or control instruction, with each block utilizing either positive or negative stimuli) were then presented in random order. In the positive experimental blocks, the IAPS stimuli included 2170, 4659, 8470, 8030, 2510, 2160, 2530, 2340, 8350, 4250, 2311, 8461, 4660, 2070, and 2030. In the negative experimental blocks, the IAPS stimuli included 9410, 6838, 6571, 2053, 9102, 9452, 6212, 2710, 2800, 8230, 2205, 3022, 2141, 3053, and 9042.

### **Observer Ratings of Emotional Expression**

All of the participants' video-recorded emotional expressions were rated by 3 out of a total of 32 graduate psychology students who were blind to condition (a total of 354 ratings were recorded). Observers used the same positive and negative scales as those that the participants used for the rating of each expression. Onset and offset of each block of trials was indicated by an auditory signal, and observers had no knowledge of the subject's instructions for any given block. Overall observer agreement was high (ICC, two-way random model, consistency type = .89) and did not differ significantly by expression condition or stimulus valence. Final scores for

observer-rated expression were calculated by averaging each condition (enhancement, suppression, and monitor off) across the three raters (see Appendix E for specific task instructions given to participants).

### **Calculation of Suppression Ability and Expressive Enhancement Ability Scores**

The procedures for calculating suppression ability and expressive enhancement ability derive from previous studies on expressive flexibility (Bonanno et al., 2004; Emery & Hess, 2010; Gupta & Bonanno, 2011; Papa & Bonanno, 2008; Westphal, Seivert, & Bonanno, 2010). Observer-rated expressions were calculated by averaging across three raters for the three conditions (expression, suppression, and monitor off), so that each participant received a mean score for each condition. The expressive enhancement ability score was then calculated by subtracting each participant's expression scores in the monitor enhancement condition from their expression score in the monitor off (baseline) condition. Put simply, enhancement ability is the extent that a participant's expressiveness in the enhancement condition was greater than that participant's expressiveness in the baseline condition. Similarly, the suppression ability score was calculated by subtracting the expression score in the monitor suppression condition from the expression score in the monitor off (baseline) condition. In this case, a participant's expressiveness in the suppression condition is less than that participant's score in the baseline (neutral) condition (Gupta and Bonanno, 2011). Higher difference scores signify greater expressive enhancement or suppression ability.

## IV – RESULTS

### **Descriptive Results**

Descriptive statistics (means, standard deviations, and percentages) are presented to provide an overview of the sample's characteristics, covering key demographic variables including age, gender, race, length of marriage, family income, education, and number of individuals living in the household at time of study (Table 1). The sample was comprised of 41 females (64%) and 23 males (36%) with a mean age of 50.41(SD =10.24). The average length of marriage was 19 years (M=19.1, SD=12.64). The self-reported race categories included forty-four participants who identified as Caucasians (68.8%), fifteen who identified as Black/African American (23.4%), five participants who identified as Asian American (1.6%), Hispanic American (4.7%) and “other” (1.5%). The average family income of the sample was \$92,718 (SD=\$127,528). Forty-four participants in the sample reported having a bachelor’s degree or higher (68.7%). No significant between group differences (bereaved vs. bereaved with complicated grief) were noted demographic variables (age, gender, race, family income, length of marriage, education) ( $p > .05$ ).

### **Group Differences**

Twenty-four participants met the criteria for complicated grief, and forty participants did not. Between-groups differences for demographic variables were examined using t-tests (continuous variables) and chi-square tests (nominal variables). Examinations of group differences (bereaved with complicated grief and bereaved without complicated grief) among the study variables showed notable results. While no significant attachment-related differences (avoidant or anxious attachment) were observed between bereaved participants with complicated grief and bereaved participants without complicated grief, dependence-related between-group

differences were noted. Specifically, bereaved individuals without complicated grief had significantly higher levels of healthy dependency ( $M= 3.69$ ,  $SD=.57$ ) than those with complicated grief ( $M=3.29$ ,  $SD=.53$ ) in the sample ( $F = 7.87$ ,  $df = 1$ ,  $p=.007$ ). As well, participants without complicated grief reported significantly lower levels of dysfunctional detachment ( $M=3.13$ ,  $SD=.63$ ) than those with complicated grief ( $M=3.50$ ,  $SD=.58$ ) in the sample ( $F = 5.31$ ,  $df = 1$ ,  $p =.025$ ). No significant differences were noted in destructive overdependence between the two groups. In terms of expressive flexibility, participants with complicated grief showed a significantly lower ability to suppress their emotions ( $M=1.11$ ,  $SD =.98$ ) than bereaved participants without complicated grief ( $M=.60$ ,  $SD=.97$ ) in the sample ( $F=4.16$ ,  $df =1$ ,  $p=.046$ ). No significant differences in expressive enhancement ability were noted between bereaved participants with or without complicated grief. See Table 2 for a summary of these results.

Before selecting demographics for inclusion in the regression models, age, race, and income levels were examined as predictors of complicated grief; none of the variables were significantly associated with complicated grief ( $p<.05$ ). Thus, as suggested by Tabachnick and Fidell (2001) in an effort to preserve degrees of freedom given the relatively small sample size, the variables of age, race, and income were not included in the logistic regression analyses.

### **Correlation Analyses**

Preliminary analyses of the relatedness factors of attachment-related anxiety, attachment-related avoidance and destructive overdependence, dysfunctional detachment, and healthy dependency yielded several significant relationships. See Table 3 for summary. Attachment-related anxiety was significantly positively correlated with dysfunctional detachment ( $r =.46$ ;  $p \leq .01$ ) and destructive overdependence ( $r = .25$ ;  $p \leq .01$ ) and negatively correlated with healthy

dependency ( $r = -.52, p \leq .01$ ). These findings coincide with previous research that has associated anxious attachment with problematic dependence. Attachment-related avoidance was significantly positively correlated with destructive overdependence ( $r = .62; p \leq .01$ ), and significantly negatively correlated with healthy dependency ( $r = -.56, p \leq .01$ ). Complicated grief was positively correlated with dysfunctional detachment ( $r = .28; p \leq .05$ ), and negatively correlated with healthy dependency ( $r = -.34; p \leq .01$ ), and suppression ability ( $r = -.25; p \leq .05$ ).

The expressive flexibility factors (suppression ability and enhancement ability) have shown moderate inverse correlation in earlier studies (Bonanno et al., 2004; Gupta & Bonanno, 2011; Westphal, Seivert, & Bonanno, 2010); this association was also observed in this study ( $r = -.31; p \leq .01$ ). Relative to the relatedness factors, expressive enhancement ability showed a moderate negative correlation with dysfunctional detachment ( $r = -.30; p \leq .01$ ), suggesting that emotional enhancement ability was associated with lower dysfunctional detachment or vice versa. No relationships were observed between suppression ability and any of the relatedness factors (i.e., attachment and dependency). Destructive overdependence, which is characterized by “other-centered” behavior and a “can’t make it on my own relationship script” (Bornstein & Langirand, 2003, p. 43), showed no significant relationship with suppression ability, enhancement ability, or complicated grief.

### **Logistic Regression Analyses**

Diagnostically, complicated grief represents severe responses to bereavement (Bonanno & Kaltman, 2001; Horowitz, Siegel, Holen, Bonanno, Milbrath, & Stinson, 1997; Prigerson, Bierhals, Kasl, et al., 1996; Shear, Frank, Houck, & Reynolds, 2005). Thus, respondents in a community sample are less likely to manifest severe symptoms, and thus more scores with lower values are observed, which corresponds with the notion that measurement of extreme

psychological outcomes introduces the problem of positively skewed distributions of item responses (e.g., Livesley, Jackson, & Schroeder, 1992; Pilkonis et al., 2011).

Consideration of skewness of the complicated grief symptoms scores (criterion variable) were assessed with descriptive analysis (SPSS Version 17), and results of the Shapiro–Wilk Test of normality indicated a positively skewed distribution (W Statistic = .77,  $p=.009$ ). To address this issue, the data were fitted using logistic regression modeling. The outcome variable, complicated grief, was calculated as a categorical variable (1=meets criteria for complicated grief, 0= does not meet criteria for complicated grief). The multiple regression results, using complicated grief symptoms as a continuous outcome variable were retained. The results of these analyses, which were comparable to those obtained with the logistic regression models, are shown in Appendix F.

Eligibility for complicated grief was met by endorsement of 4 or more grief, trauma, and or depression symptoms from the structured interview. This diagnostic algorithm for complicated grief was derived from construct validity studies that propose/endorse a grouping of grief, PTSD, depression-related responses (e.g., ongoing feeling that life is meaningless, strong yearnings for the deceased, severe loneliness, detachment from others, and difficulty accepting the reality of the loss) (Bonanno, Neria, Mancini, Coifman, Litz, & Insel, 2007; Prigerson et al., 2009). A clarification of the complicated grief algorithm was recently published in the *Journal of Abnormal Psychology* by Gupta & Bonanno (2011).

### **Attachment-Related Factors and Expressive Flexibility**

A hierarchical logistical regression was conducted to identify attachment-related predictors of complicated grief (see Table 4 for summary). In Step 1/Model 1, attachment-related anxiety and attachment related avoidance were entered. This baseline model was not

significant ( $\chi^2 (2, N=64) = 2.688, p = .261$ ) and accounted for only 4% to 6% (Cox and Snell  $R^2$  and Nagelkerke  $R^2$ , respectively) of the variance estimation in complicated grief. Neither attachment-related anxiety nor attachment avoidance emerged as a significant predictor of complicated grief ( $p > .05$ ).

When suppression ability and expressive enhancement ability were added in Step 2/Model 2, the model was significant, adding 11%–15% percent (Cox and Snell  $R^2$  and Nagelkerke  $R^2$ , respectively) to the explained variance in complicated grief ( $\chi^2 (2, N=64) = 8.033, p = .018$ ). In this second step, suppression ability was a significant independent predictor of complicated grief ( $B = -.612, p = .032$ ). In terms of odds, increased ability to suppress decreased the odds of complicated grief by .542.

In Step 3/Model 3, the interactions of attachment-related anxiety and suppression, attachment-related avoidance and suppression, attachment-related anxiety and expressive enhancement ability, and attachment related avoidance and suppression ability were entered. This model was not significant, and did not explain any significant additional variance in complicated grief ( $\chi^2 (4, N=64) = 4.545, p = .337$ ). The overall success rate of this model predicting complicated grief was 76.6%.

### **Dependency-Related Factors and Expressive Flexibility**

Another hierarchical logistical regression was conducted to identify dependence-related predictors of complicated grief (see Table 5). In Step 1/Model 1, dysfunctional detachment and destructive overdependence were entered. This baseline model was not significant ( $\chi^2 (2, N=64) = 5.613, p = .060$ ) and accounted for 8% - 11% percent (Cox and Snell  $R^2$  and Nagelkerke  $R^2$ , respectively) of the variance estimation in complicated grief. In step 2, healthy dependency was added. This model proved significant, adding 8% -10% percent (Cox and Snell  $R^2$  and

Nagelkerke  $R^2$ , respectively) to the explained variance ( $\chi^2 (1, N=64) = 5.226, p = .022$ ). In this second step, healthy dependency emerged as a significant predictor of complicated grief ( $B = -.749, p = .031$ ). In terms of odds, healthy dependency decreased the odds of complicated grief by .473. In Step 3/Model 3, suppression ability and expressive enhancement ability were added. This model was not significant, and did not account for any additional significant variance in the explanation of complicated grief ( $\chi^2 (2, N=64) = 5.259, p = .072$ ).

The interactions of healthy dependency and suppression ability, and healthy dependency and expressive enhancement ability, were entered in Step 4/Model 4. This model proved significant ( $\chi^2 (2, N=64) = 8.570, p = .014$ ), explaining overall 32% to 44% percent (Cox and Snell  $R^2$  and Nagelkerke  $R^2$ , respectively) of the variance in complicated grief. Healthy dependence remained a significant predictor of complicated grief ( $B = -1.186, p = .014$ ). Also, the interaction between healthy dependency and expressive enhancement ability emerged as a significant predictor of complicated grief ( $B = 1.327, p = .014$ ). The overall success rate of this model predicting complicated grief increased from 67.2% (Model 1) to 79.7% (Model 4). To illustrate further the nature of the interaction effect, participants were classified as having relatively high or low healthy dependency and relatively high or low expressive enhancement ability on the basis of a median split (see Figure 1).

### **Attachment and Dependency-Related Factors Predicting Complicated Grief**

A direct logistic regression analysis was performed on complicated grief as a categorical variable and the five predictors: attachment-related anxiety, attachment-related avoidance, destructive overdependence, dysfunctional detachment, and healthy dependency. A test of the full model with all five predictors against a constant-only model was statistically reliable,  $\chi^2(5, N=64) = 12.033, p = .034$ , indicating that the predictors reliably distinguished between



participants who had complicated grief and participants who did not have complicated grief. The variance in complicated grief accounted for is moderate, with Cox and Snell  $R^2$  equal to .17 and Nagelkerke  $R^2$  equal to .23. The overall success rate of the model predicting complicated grief was 70.3%. According to the Wald criteria, only healthy dependency significantly predicted complicated grief ( $B=-.883$ ,  $p=.041$ ). Healthy dependency significantly decreased the odds of complicated grief by .413. See Table 6 for a summary.

## V – DISCUSSION

### **Summary of Findings**

The present study examines the relationship between expressive flexibility, attachment, interpersonal dependence, and complicated grief. This research provides an opportunity to examine these factors utilizing a more comprehensive perspective of relatedness that moves beyond simple attachment theory. Moreover, conjugal bereavement during mid-life presents a unique attachment scenario. In the many relational situations whereby a spouse represents the primary attachment figure in adulthood, this type of loss potentially represents a double-edged loss, in that the person who one turns to during stressful situations, and who also serves as an emotion-regulating source, is no longer available. Thus, other empirically-tested relational behaviors such as interpersonal dependence and expressive flexibility were included in this study to increase our understanding of relational factors that exacerbate or attenuate protracted grief symptoms. Attachment theory has consistently identified attachment figures as a primary source of emotion regulation. When primary attachment relationships are no longer accessible, consideration of other relational resources as mediators of negative outcomes may prove informative and clinically beneficial. The validity of utilizing a relatedness framework was supported by the significant associations between interpersonal dependence, expressive flexibility, and complicated grief observed in this study. Taken together, these simple and hierarchical logistic regressions align with the general hypotheses of the study: (1) Adaptive dependence (i.e., healthy dependency) is the strongest predictor of complicated grief above and beyond attachment-related anxiety and avoidance, (2) expressive flexibility factors (i.e., suppression ability and expressive enhancement ability) influence the relationship between attachment and complicated grief, and more notably

the relationship between dependence and complicated grief, (3) expressive enhancement ability moderates the relationship between healthy dependency and complicated grief. Specifically, participants with high healthy dependency reported less complicated grief, and were less affected by high or low levels of expressive enhancement ability, whereas those with low healthy dependency and high levels of expressive enhancement ability reported lower levels of complicated grief than participants with low levels of expressive enhancement.

There has been an observable shift in research conceptualizations of the grief and attachment association. Contemporary bereavement research has noted differential grief outcomes for the two dimensions of insecure attachment, anxious and avoidant. Research indicates a strong association between anxious attachment and grief symptoms, but no significant relationship between attachment avoidance and grief symptoms (Field & Sundin, 2001; Fraley & Bonanno, 2004; Wayment & Vierthaler, 2002). The results of this study are partly consistent with these findings, in that avoidant attachment did not predict a higher likelihood of complicated grief. An unexpected and notable finding was that anxious attachment also failed to show a significant predictive association with complicated grief. Taken together, these findings suggest that insecure attachment styles in and of themselves may be less related to complicated grief outcomes among bereaved individuals one-and-a-half to three years after the loss of their spouse. Moreover, these findings indicate the importance of context in attachment and bereavement research.

In adulthood, the presence of a primary attachment figure may be a dynamic factor in coping with potentially traumatic events, such as loss. In times of distress, the attachment person can be beckoned physically, can be relied upon, and most importantly, can provide soothing support that maintains some sense of safety and security. However, in the case of loss

of the primary adult attachment figure, these strategies may become latent, perhaps even futile. Also notable is the irreplaceable nature of the lost attachment relationship among individuals with complicated grief, as evidenced by participants with complicated grief in this study reporting greater difficulty developing new intimate relationships than bereaved participants without complicated grief – even one-and-a-half to three years after the loss,

In accordance with the Bowlby–Ainsworth attachment hypothesis, attachment style provides a foundation for emotional regulation (Sroufe, 2005). Thus, expressive flexibility, an emotion regulation skill, provides nuanced information about adaptive and maladaptive relational strategies (Thompson, 1994). When participants’ abilities to express or suppress their emotions were examined in tandem with attachment schemas, only the ability to suppress one’s emotions emerged as a predictor of complicated grief in that better ability to suppress was related to less CG. This finding partially aligns with prior research that links insecure attachment styles with decreased flexibility (i.e., underregulation or overregulation of affect) in regulating emotional experiences (Sroufe, 1983).

Taken together, the importance of being able to suppress one’s emotions, and the non-significance of anxious or avoidant attachment in the prediction of complicated grief (1.5 to 3 years after the loss), revive consideration of Bowlby’s (1985) hypothesis that prolonged despair of a loss, that manifests as complicated grief may lead to a form of detachment whereby existing attachment behaviors are relinquished and alternate relationships are utilized to meet relatedness needs, at least temporarily.

As such, adaptive and maladaptive dependency were examined in service to a broader, more inclusive perspective of relatedness. The hypothesis that maladaptive dependency factors would be positively associated with complicated grief was partly confirmed. Dysfunctional

detachment, not destructive overdependence, emerged as a significant predictor of complicated grief, indicating that participants who have a “got-to-go-it-alone relationship script” (Bornstein & Languirand, 2003, p. 83), who believe that others will not be there when needed are at greater risk for protracted, debilitating grief symptoms.

Moreover, when adaptive and maladaptive interpersonal dependence factors were examined conjointly, healthy dependency proved to be the significant predictor of complicated grief. These results replicate recent study findings (Denckla, Mancini, Bornstein, & Bonanno, 2011) that distinguish adaptive dependency as a critical factor in grief outcomes, and suggest that “flexible, mindful help and support seeking behaviors” may “strengthen interpersonal ties rather than undermine them” (p. 1013). Birtchnell (1991) also distinguished normal dependence as essential in specific types of social situations, and suggested that the “inability to enter into a dependence relationship can itself be a disability” (p. 282). The occurrence of conjugal bereavement may consequently be a type of event that requires above-normal dependence ability (i.e., healthy dependency).

The associations between adaptive and maladaptive dependency and expressive flexibility are of interest as underlying factors in the wider frame of interpersonal relatedness. Bonanno and others have identified expressive flexibility as an important emotion regulation strategy in the grief process (Gupta & Bonanno, 2011; Westphal, Seivert, & Bonanno, 2010). Additionally, attachment theorists have largely accepted the emotion regulation qualities of attachment styles and behaviors, but not dependency styles. The consideration of dependency as a disaggregated relational construct (i.e., differentiated from attachment) allows for a parallel examination of these two interactional coping styles. In part helping to fill a gap in the

literature, this is the first known research study that examines the association between expressive flexibility and interpersonal dependence.

The hypothesis that the components of expressive flexibility (suppression ability and expressive enhancement ability) would moderate the relationship between dependency-related factors (adaptive and maladaptive) and complicated grief was partly confirmed. Participants with low expressive enhancement ability and low healthy dependency had the greatest likelihood of complicated grief, compared to those with low expressive enhancement ability and high healthy dependency, as well as participants with high expressive enhancement ability with high or low healthy dependency. Put more simply, the inability to express emotion non-verbally when confounded by an inability to engage in reciprocal, trust-based, help-seeking relationships places individuals at greater risk for complicated grief.

In the absence of healthy dependency relationships, the ability to express emotion with facial expressions is of significant importance. Expressive enhancement ability of negative, as well as positive emotions may evoke concern and support from individuals who may otherwise be unavailable or unengaged. Negative emotions may be salient and socially expected/anticipated during the grief process, and may cull sympathetic and empathetic responses from others. Similarly, positive emotions may also help bereaved individuals garner support and resources by conveying warmth and openness, and in turn cultivate feelings of connectedness with others. Moreover, people learn to associate benefits with positive and negative emotional experiences over time, and as a result, strategically express negative and positive emotions that will allow them to maintain or acquire additional emotional/interpersonal resources necessary for coping and recovery (Wegener and Petty, 1994), in this case bereavement. Thus, individuals with a decreased capacity to express negative or positive

emotion through facial expressions, who do not engage relationships with healthy dependency schemas, are at greatest risk of complicated grief.

The risk of protracted, debilitating symptoms of complicated grief among those with low non-verbal emotional expressiveness lessened significantly among participants with high healthy dependency (i.e., having the capacity to rely on others without feeling compromised).

Moreover, the impact of healthy dependency among these participants (with low expressive enhancement ability) is highly remarkable (as evidenced by the steep slope in Figure 1) in the prediction of grief outcomes.

Contrastingly, the impact of healthy dependency (high or low) on the level of risk of complicated grief was unremarkable among participants with high expressive enhancement ability (as noted by the negligible slope in Figure 1) that the ability to fully express, non-verbally, both positive and negative emotions, supersedes verbal relational behaviors, and that the ability to communicate emotion through facial expression may serve a protective function, as it evokes help from others. However, a notable and unexpected finding was that participants with high expressive enhancement ability and high healthy dependency had a *greater* likelihood of complicated grief than participants with low expressive enhancement ability and high healthy dependency.

Need and need-fulfillment are universally expressed through facial expression, and, in return, emotional support and emotional distance can be provided (Ekman, 2006). In the context of bereavement, facial expressions such as sadness, frustration, anger, and loneliness may become salient. The ability to titrate these expressions may be necessary, as these negative emotions may disturb the equilibrium (i.e., reciprocal value) of the healthy dependency relationship. Moreover, the bereaved individual's way of interacting and help-seeking in the

dependency relationship may change, and new expectations and needs – possibly transferred from the lost attachment relationship – may be unmet. The resultant feelings (possibly including shame, rejection, or anger) may exacerbate distressing feelings – that ultimately compel the bereaved individual to futilely re-seek the lost attachment figure.

Finally, the current study examined the relatedness factors together, including attachment avoidance, attachment-related anxiety, dysfunctional detachments, destructive overdependence, and healthy dependency. While these constructs have been shown to individually provide relevance toward understanding the mechanisms of grief, this study sought to expand the concept of attachment to embody a broader frame of relatedness, inclusive of interpersonal dependency. When dependency and attachment were examined simultaneously as predictors of complicated grief, adaptive dependency (i.e., healthy dependency) proved the strongest predictor of complicated grief above and beyond attachment related anxiety and avoidance. In sum, this finding denotes that one's ability to flexibly seek out interpersonal support after the loss of a spouse is a protective factor against experiencing extreme, protracted, and debilitating grief symptoms. The lack of observed effects of attachment may be indicative of a proxy system (dependence) that is activated when conjugally bereaved adults lose their primary attachment figure. Birtchnell (1987) conceived of dependence as straddling the attachment-end of an attachment-detachment dimension and the receptiveness end of a directiveness-receptiveness dimension" (p. 282). That is, attachment behaviors, as traditionally subscribed to and relied upon to provide explanations of post-loss behaviors, may provide insight into initial or primary reactions to loss, however when this proximity-seeking algorithm returns a null value, alternative relational strategies are enacted to cope with the loss, to mollify negative feelings, and ultimately, to return the bereaved individual to an approximate pre-loss state.



### **Theoretical and Clinical Implications**

Neither avoidant nor anxious attachment predicted complicated grief among participants in this study. However, adaptive dependency proved to be associated with emotional regulation functions among individuals with complicated grief. These findings suggest that a broader system of relational behaviors may better inform post-loss strategies in the context of conjugal bereavement. That is, where stressful or crises events normally activate the attachment system, proxy relational systems may dispatch dependency behaviors (the ability to rely on others, adaptively, flexibility without negating individuals' sense of self-esteem) to regulate stressful feelings and significantly alter the outcome of the grief process. Early theoretical accounts by Ainsworth (1969) noted that "attachment is not a term to be applied to any transient relation or to a purely situational dependency transaction. Dependency reactions vary according to the exigencies of the situation" (p. 2). Moreover, these proxy systems may also facilitate adaptive emotional strategies.

The clinical implications of attachment theory have been largely understood through a practitioner-patient relationship perspective (e.g., Fonagy et. al, 1996; Strauss et al, 2006). That is, rudimentary attachment information is often employed to better understand relational behaviors in the therapeutic relationship (Farber, Lippert, & Nevas, 1995). While attachment theory as a guiding of behavioral intervention treatment is sparse; emerging psychotherapy modalities, such as Accelerated Experiential Dynamic Psychotherapy (AEDP), have sought to create a formal treatment frameworks whereby the patient can utilize the clinician as a (pseudo) attachment figure and secure base (Prenn, 2011). It is important to note that specific psychotherapeutic interventions based on attachment theory have not been empirically tested, in part perhaps because of the uncontrollable nature of the enactment of attachment strategies.

That is, beyond typology, (anxious, avoidant, secure) very little is known about the process of change in attachment over time – making it difficult for researchers to operationalize specific attachment related interventions.

Beyond the dynamics of the therapeutic relationship, consideration of a patient's attachment style may not prove to be a productive intervention for complicated grief. Seeking out and engaging in an adult attachment relationship is wholly under the purview of the bereaved individual – when and who will be the next attachment figure is their choice. Attachment relationships, more than other types of relationships, are carefully initiated, form over time, and emerge more often than not out of a romantic affiliation. Thus, while problems and strengths related to attachment style can be assessed in clinical settings, no known therapeutic intervention can conjure up an attachment figure for patients/clients in distress.

In contrast, dependency behaviors, which are more generalized (to close others) and situationally-based (Ainsworth, 1969), may provide a productive focus of clinical intervention, as other nearby individuals in the bereaved person's life may be available to engage in a reciprocal relationship. Examining the individual's perspective on dependency, identifying possible distortions of these perspectives, and, most importantly, engaging clients in a therapeutic dialogue about healthy dependency that promotes trusting people enough to open up and be vulnerable while maintaining a strong, confident sense of self (Bornstein & Languirand, 2003) may be beneficial.

Returning to the role of relational style in the therapeutic dyad, Bornstein (2012) noted that “dependent patients would be near the top of most therapists' easy-to-handle list” as they are often “compliant, conscientious, and eager to please” (p. 766). Furthermore, the assessment of adaptive and maladaptive dependency in bereaved patients may be of particular value, as these

factors may increase or decrease risk for suicidality, physical illness, as well as high levels of functional impairment and increased health care expenditure (Bornstein, 2012), factors which can coincide with complicated grief.

Specific clinical interventions may also be utilized to aid patients with maladaptive dependency behaviors. According to Bornstein et al. (2003), effective therapeutic interventions among individuals with destructive overdependence should focus on helping clients become more autonomous while strengthening interpersonal skills that stem from dependency (e.g., sensitivity to interpersonal cues) while psychotherapeutic work with clients should focus on strengthening social connectedness and affiliative motivation without compromising the individual's autonomy and self-directedness (p. 72). In the specific case of conjugal bereavement, examination of potential proxy relational sources may prove beneficial, engendering in the patient (even if slowly) the value of trust, and using others as sources of emotion regulation, thereby increasing feelings of agency, balance, and connectedness and ultimately returning the bereaved to a state of subjective well-being.

### Strengths and Limitations

There are numerous strengths and limitations to the present study that warrant attention. A notable strength of this study is the diversity of the sample. While bereavement research is often conducted with an affluent, older population, this sample consisted of a diverse population of bereaved adults. The sample also provides a unique opportunity to examine grief among a middle-aged population that has less expectations of losing their spouse than older adults.

The issue of self-report is acknowledged. According to McClelland, Koestner, and Weinberger (1989), most objective measures assess *self-attributed* needs, i.e., motives that a person acknowledges as being characteristic of his or her day-to-day functioning and experience. Participants who volunteered were aware that this study focused on responses to grief. Thus, participants may have presented themselves or answered questions in a manner indicative of need or help seeking. Notably, this limitation may be offset to some degree by the inclusion of experimental measures.

The Experiences in Close Relationship – Revised measure has been generally accepted as *the* prominent measure of adult attachment (Bartholomew & Shaver, 1998), however, more delineations of adult attachment are needed. Adult attachment research has largely focused on romantic relationships, and has paid little attention to the role of attachment among individuals who are not in romantic relationships. Moreover, in the absence of romantic relationships, deference is often given to retrospective accounts of childhood attachment experiences. While the high-low, secure vs. non-secure models of attachment are informative, dimensional representations in research forces individuals' experiences into prescribed categories. In this case, sensitivity to nuanced attachment experiences that occur closer to the middle of the range (i.e., between high and low) may be decreased/collapsed. As such, multiple measures of

attachment (e.g., the State Adult Attachment Measure (SAAM), which was developed by Gillath, Hart, Nofhle, & Stockdale, 2009) to assess state-like variation in working models of attachment) should be included in understanding responses to grief, specifically among conjugally bereaved individuals. Projective measures of attachment, such as the Adult Attachment Projective Picture System (AAP: George & West, 2001) may also prove beneficial, as self-report measures of attachment may be confounded by concurrent help-seeking or efforts to portray oneself as doing better than they really are.

The categorization of complicated grief continues to be highly debated. This study utilized a reliable, structured clinical interview to assess complicated grief symptoms; however, a formal set of criteria has not been agreed upon and is currently under review for the upcoming fifth edition of the Diagnostic and Statistical Manual of Mental Disorders. This concern was partly addressed by recruiting a sample with a bereavement history ranging from at least 18 months to no more than 3 years; a criterion based on prior bereavement research that suggests this range of time since the loss occurred at “an optimal interval for capturing bereavement-related pathology and for distinguishing complicated grief from more normative forms of grief reaction and from more enduring bereavement-independent forms of dysfunction” (Gupta & Bonanno, 2011, p. 641).

An additional limitation of this study is the measurement of expressive flexibility via lab stimuli. An individual’s ability to express and suppress their emotions in response to a potentially stressful event is a characterological attribute that is loaded with complexity, as these attributes may manifest themselves in numerous nuanced ways in daily life. To address this issue, the ecological validity of the expressive flexibility measure may be modified in future studies to incorporate more real-life scenarios as expression- and suppression-provoking stimuli.

Historically, bereavement and attachment theorists have viewed interpersonal dependence in adulthood as a maladaptive characteristic. However, this study, in conjunction with other recent empirical queries, has demonstrated that adaptive dependency serves as a protective function in the grief process (Bornstein, 1998; Denckla, Mancini, Bonanno, Bornstein, 2011).

The results of the current study invite consideration of interpersonal dependency as a valuable and constructive factor in understanding the grief process, particularly complicated grief. Despite these limitations, this study provides new information that extends the understanding of relatedness patterns and emotion flexibility in the context of complicated grief. Moreover, these findings may inspire future studies that examine expressive flexibility factors and other relational interactions that affect the grief process. The importance of a broader frame of relatedness in thanatological\_research presents a unique and interesting focus for future research.

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Table 1. *Sample Characteristics for Socio-Demographic Variables (N=64)*

Characteristic	Mean (SD) and percent
Age	Mean = 50.41(SD=10.24)
Gender	
Female	64% (N=41)
Male	36% (N=23)
Length of marriage	Mean = 19.1 (SD=12.64)
Race	
Caucasian	68.8 (N=44)
African-American	23.4 (N=15)
Hispanic-American	4.7 (N=3)
Asian-American	1.6 (N=1)
“Other”	1.5 (N=1)
Family Income	Mean = \$92,718 (SD=\$ 127,528)
Years of Education	
Bachelor’s or higher	68.7% (N=44)

Table 2. Means, Standard Deviation, and Univariate F-Tests for Study Variables (N=64)

	Total (N=64)	Bereaved without CG (N=40)	Bereaved with CG (N=24)	F	P-value
	Mean (SD)	Mean (SD)	Mean (SD)		
Attachment-related anxiety	3.15 (1.18)	3.00 (1.26)	3.39 (1.01)	1.61	.209
Attachment-related avoidance	3.61 (1.02)	3.47 (.95)	3.84 (1.10)	2.06	.156
<b>Dysfunctional detachment*</b>	<b>3.27 (0.63)</b>	<b>3.13 (.63)</b>	<b>3.50 (.58)</b>	<b>5.31</b>	<b>.025</b>
Destructive overdependence	2.68 (0.89)	2.71 (.91)	2.62 (.88)	.162	.689
<b>Healthy dependency*</b>	<b>3.54 (0.59)</b>	<b>3.69 (.57)</b>	<b>3.29 (.53)</b>	<b>7.87</b>	<b>.007</b>
Expressive Enhancement Ability	1.17 (0.94)	1.32 (.98)	.92 (.84)	2.84	.097
<b>Suppression Ability*</b>	<b>0.92 (1.00)</b>	<b>1.11 (.98)</b>	<b>.60 (.97)</b>	<b>4.16</b>	<b>.046</b>

Note: Significant between group differences (\* $p < .05$ ). Significant between group differences (\*\* $p < .01$ ).

Table 3. *Intercorrelations for Study Variables (N= 64)*

	1	2	3	4	5	6	7	8
1 Attachment-related anxiety	-							
2 Attachment-related avoidance	.398**	-						
3 Dysfunctional detachment	.253*	.621**	-					
4 Destructive overdependence	.456**	.122	.075	-				
5 Healthy dependency	-.519**	-.564**	-.416**	-.232	-			
6 Expressive Enhancement Ability	.058	-.224	-.303*	.147	.149	-		
7 Suppression Ability	-.195	-.113	-.073	-.021	.050	-.307**	-	
8 Complicated Grief (0=no; 1=yes)	.159	.179	.281*	-.051	-.336**	-.209	-.251*	-

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

Table 4. *Hierarchical Logistic Regression Modeling for Predicting Complicated Grief (Attachment Factors)*

	Model 1			Model 2			Model 3		
	B	Exp (B)	95% CI	B	Exp (B)	95% CI	B	Exp (B)	95% CI
Attachment Anxiety (ANX)	.222	1.249	.715-2.180	.226	1.253	.682-2.303	.219	1.245	.610-2.543
Attachment Avoidance (AVO)	.300	1.350	.761-2.395	.139	1.149	.605-2.183	.146	1.158	.570-2.351
Expressive Enhancement Ability(EXP)				-.551	.577	.303-1.095	-.401	.669	.329 – 1.363
Suppression Ability (SUP)				<b>-.612</b>	<b>.542*</b>	<b>.310-.947</b>	-.533	.587	.315-1.094
ANX * SUP							-.421	.656	.293-1.470
ANX * EXP							-.473	.623	.297-1.305
AVO * SUP							-.298	.742	.376-1.465
AVO * EXP							-.335	.716	.303-1.692
Step $\chi^2$ model fit	$\chi^2 (2) = 2.688, p=.261$			<b><math>\chi^2 (2) = 8.033, p=.018</math></b>			$\chi^2 (4) = 4.545, p=.337$		
Hosmer & Lemeshow test of model Fit	$\chi^2 (8) = 3.991, p=.858$			$\chi^2 (8) = 16.596, p=.035$			$\chi^2 (8) = 13.157, p=.107$		
Nagelkerke r <sup>2</sup>	.056			.210			.289		
Cox & Snell R square	.041			.154			.212		
Total Percentage Correct	59.4			73.4			76.6		

Exp(B) indicates that the odds ratio of meeting criteria for complicated opposed to not meeting complicated grief criteria as a function of a one-unit increase of the independent variable. \*p<.05. \*\*p<.01.

**Table 5. Hierarchical Logistic Regression Modeling for Predicting Complicated Grief (Dependence Factors)**

	Model 1			Model 2			Model 3			Model 4		
	B	Exp (B)	95% CI	B	Exp (B)	95% CI	B	Exp (B)	95% CI	B	Exp (B)	95% CI
Destructive overdependence	-.157	.855	.508-1.44	-.314	.730	.414-1.290	-.218	.804	.437-1.481	-.320	.726	.355-1.483
Dysfunctional detachment	.670	1.954	1.075-3.55	.452	1.571	.816-3.024	.350	1.419	.696-2.890	.469	1.598	.726-3.515
Healthy dependency (HD)				<b>-.749*</b>	<b>.473</b>	<b>.240-.932</b>	-.671	.511	.252-1.038	<b>-1.186*</b>	<b>.306</b>	<b>.119-.786</b>
Expressive Enhancement Ability (EXP)							-.386	.680	.342-1.350	-.125	.882	.395-1.972
Suppression Ability (SUP)							-.571	.565	.317-1.005	-.499	.607	.280-1.315
EXP_x_hd										<b>1.327*</b>	<b>3.772</b>	<b>1.308-10.878</b>
SUP_x_hd										.278	1.321	.436-4.001
Step $\chi^2$ model fit	$\chi^2 (2) = 5.613, p=.060$			<b><math>\chi^2 (1) = 5.226, p=.022</math></b>			$\chi^2 (2) = 5.259, p=.072$			<b><math>\chi^2 (2) = 8.570, p=.014</math></b>		
Hosmer & Lemeshow test of model Fit	$\chi^2 (8) = 3.678, p=.885$			$\chi^2 (8) = 11.765, p=.162$			$\chi^2 (8) = 14.480, p=.070$			$\chi^2 (8) = 5.303, p=.725$		
Nagelkerke r <sup>2</sup>	.114			.212			.303			.436		
Cox & Snell	.084			.156			.222			.320		
Total correctly classified	67.2			73.4			70.3			75.0		

Exp(B) indicates that the odds ratio of meeting criteria for complicated opposed to not meeting complicated grief criteria as a function of a one-unit increase of the independent variable. \*p<.05. \*\*p<.01.

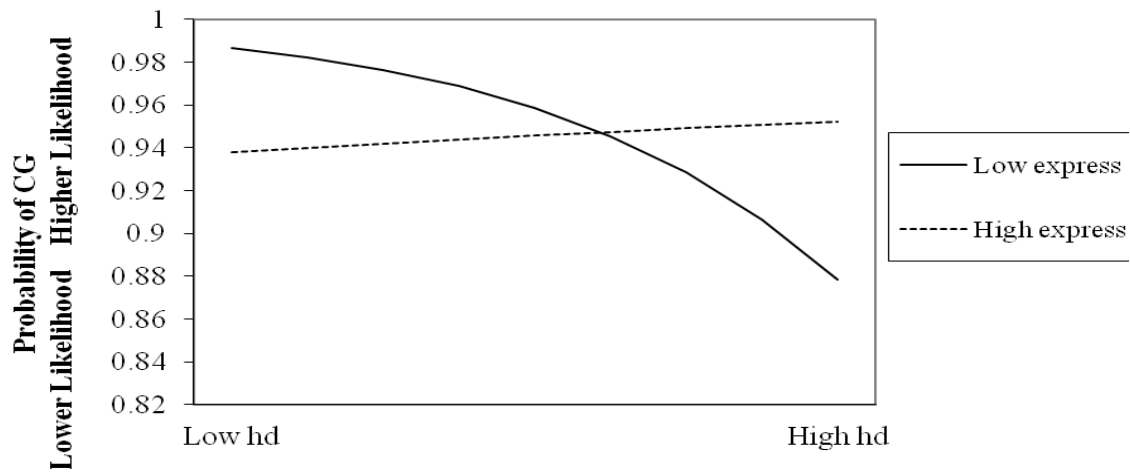


Table 6. *Hierarchical Logistic Regression Modeling for Predicting Complicated Grief (Dependence and Attachment Factors)*

	Model 1		
	B	OR	95% CI
Attachment-related Anxiety	.142	1.152	.612 – 2.085
Attachment-related Avoidance	-.427	.653	.302 – 1.445
Dysfunctional detachment	.664	1.942	.305 – 1.342
Destructive overdependence	-.388	.678	.840 – 9.123
<b>Healthy dependency</b>	<b>-.883*</b>	<b>.413</b>	<b>.055 - .945</b>
Step $\chi^2$ model fit		$\chi^2 (5) = 12.033, p=.034$	
Hosmer & Lemeshow test of model Fit		$\chi^2 (8) = 3.981, p=.859$	
Nagelkerke r <sup>2</sup>		.234	
Cox & Snell		.171	
Total % correct		70.3	

\*p<.05. \*\*p<.01. \*\*\*p<.001.

Figure 1. *Complicated grief predicted by the two-way interaction between expressive enhancement ability and healthy dependency – logistic regression.*



## Appendix A

## Phone Script

To screen for potential chronic grief participants:

We have a few more questions about how you are coping with the loss...

1) In the past month, did you think about \_\_\_\_ or about his/her death when you did not want to? Images? Did these thoughts/images come into your mind suddenly and vividly when you did not want them to? When there was nothing obvious to remind you of the loss? Did it happen **more days than not** in the past month?

2) In the past month, did you make a special effort to avoid thinking about the event? Or avoid talking about the event? Or avoid doing things or avoid people or places that reminded you of the event?

3) During the past month, have you had distressingly strong yearnings, wishing \_\_\_\_ was there? (As if all you wanted was for \_\_\_\_ to be alive again?). **More days than not?**

4) Have you felt during the past month that your life is empty, that there is no meaning without \_\_\_\_? **More days than not?**

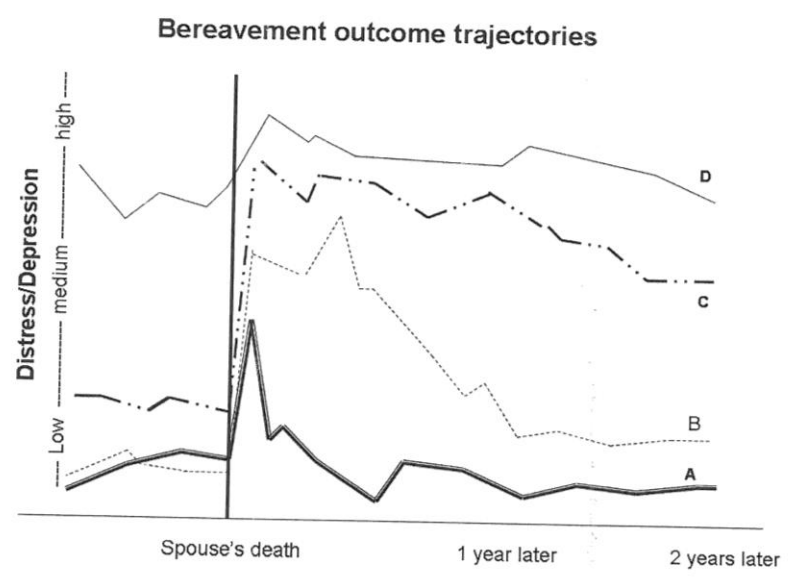
If participant meets criteria for **2-4 symptoms, arrange for them to be in the study.**

If participant meets criteria for *only 0-1* symptoms, say something like:

Ok, that's all for the questions. Unfortunately, it looks like this study isn't a good fit for you. We are in the last phase of our study and are looking for people who are struggling more and having an especially difficult time dealing with their loss. Thank you so much for taking the time to respond.

### Appendix B

### Self Reported Grief Trajectories



*Please Identify the Appropriate Trajectory on the Following Page*

## Appendix C

## Experiences in Close Relationships Scale (Revised)

Instructions: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Please rate the extent to which you agree or disagree with the statement using the following scale

1	2	3	4	5	6	7
					Strongly Disagree	Strongly Agree

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.

## Avoidance items

1. I prefer not to show a partner how I feel deep down.
2. I feel comfortable sharing my private thoughts and feelings with my partner.
3. I find it difficult to allow myself to depend on romantic partners.
4. I am very comfortable being close to romantic partners.
5. I don't feel comfortable opening up to romantic partners.
6. I prefer not to be too close to romantic partners.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I find it relatively easy to get close to my partner.
9. It's not difficult for me to get close to my partner.
10. I usually discuss my problems and concerns with my partner.
11. It helps to turn to my romantic partner in times of need.
12. I tell my partner just about everything.
13. I talk things over with my partner.
14. I am nervous when partners get too close to me.
15. I feel comfortable depending on romantic partners.
16. I find it easy to depend on romantic partners.
17. It's easy for me to be affectionate with my partner.
18. My partner really understands me and my needs.

## Appendix D

## Relationship Profile Test

Please use the following scale to rate each of the statements below. If a statement is *very true of you*, you'd circle a high number like 4 or 5. If a statement is *not at all true of you*, you'd circle a low number like 1 or 2.

1. Other people seem more confident than I am.
2. I am easily hurt by criticism.
3. Being responsible for things makes me nervous.
4. I am most comfortable when someone else takes charge.
5. Others don't realize how much their words can hurt me.
6. It is important that people like me.
7. I would rather give in and keep the peace than hold my ground and win an argument.
8. I am happiest when someone else takes the lead.
9. When I argue with someone, I worry that the relationship might be permanently damaged.
10. I sometimes agree with things I don't really believe so other people will like me.
11. Other people want too much from me.
12. When someone gets too close to me, I tend to withdraw.
13. I need to escape from it all every once in a while.
14. I wish I had more time by myself.
15. I prefer making decisions on my own, rather than listening to others' opinions.
16. I don't like to reveal too much personal information.
17. I'm sometimes wary of other people's motives.
18. I'm happiest when I'm working on my own.
19. Being independent and self-sufficient are very important to me.
20. When things aren't going right, I try to hide my feelings and be strong.
21. I believe that most people are basically good and well-meaning.
22. I am able to share my innermost thoughts and feelings with people I know well.
23. I am comfortable asking for help.
24. I don't worry about how other people see me.
25. Most of my relationships involve give-and-take, with both people contributing their share.
26. My relationships are pretty much the way I want them to be -- even if I could, I wouldn't change things.
27. I see myself as a capable person who copes well with disappointments and setbacks.
28. In my relationships, I am comfortable offering support when the other person needs it, and asking for support when I need it.
29. When I have a falling-out with someone, I am confident that the relationship will survive.
30. It is easy for me to trust people.

## Appendix E

### On Screen Instructions for ER Condition

The paragraph for the expression condition was as follows:

*The monitor is on. Shortly, you will be presented with a set of images. Please view each image carefully. While viewing the images, please do your best to express as fully as possible the emotions you feel while viewing the images. Remember that the person viewing you on the monitor can only see your head and part of your upper torso, and cannot hear you. It is important for the sake of this study that you do your best to communicate what you are feeling. So please do the best you can to behave in such a way that the person viewing you on a monitor will be able to guess what you are feeling while viewing the images. When you have viewed each image, you will be asked to rate the emotional reactions you had to the images.*

The suppression condition was described as follows:

*The monitor is on. Shortly, you will be presented with a set of images. Please view each image carefully. While viewing the images, please do your best to suppress as fully as possible any expression of the emotions you feel while viewing the images. Remember that the person viewing you on the monitor can only see your head and part of your upper torso, and cannot hear you. It is important for the sake of this study that you do your best to conceal what you are feeling. So please do the best you can to behave in such a way that the person viewing you on a monitor will not be able to guess what you are feeling while viewing the images. When you have viewed each image, you will be asked to rate the emotional reactions you had to the images.*

The third paragraph described the monitor-off condition:

*The monitor is off. Shortly, you will be presented with a set of images. Please view each image carefully. The person in the other room will not be able to see you while you view this set of images. Simply view the images in any way you would naturally do so. When you have viewed each image, you will be asked to rate the emotional reactions you had to the images.*



## Appendix F

### **Attachment-related Factors and Dependent Related Factors**

Simple multiple regression analyses were conducted to examine the relative impact of each of the dependence and attachment factors on complicated grief symptoms. Attachment-related anxiety, attachment-related avoidance, and destructive overdependence, dysfunctional detachment, and healthy dependency were forced into the single step of the model. The model was significant,  $F(5, 63) = 2.76, p = .027$ , and explained 12% of the variance in complicated grief symptoms. Healthy dependency emerged as the significant predictor of complicated grief symptoms, above and beyond the attachment related factors, and maladaptive dependence strategies,  $B=-1.68, p = .034$ . See Table 3.

### **Attachment Factors, Suppression Ability, and Expressive Enhancement Ability Predicting Complicated Grief**

A set of hierarchical regression analyses were conducted to examine expressive flexibility factors (suppression ability and expressive enhancement ability) in conjunction with attachment related factors (anxious and avoidant) as potential predictors of complicated grief symptoms.

The first model involved a single step in which complicated grief symptoms was regressed on attachment-related anxiety and attachment-related avoidance. Model 1 was significant,  $F(2, 63) = 3.46, p = .038$ , and explained 7% of the complicated grief symptoms variance. However, neither attachment-related anxiety nor attachment-related avoidance independently predicted complicated grief symptoms ( $ps > .15$ ). Suppression ability and expressive enhancement ability variables were added in Model 2. This model trended toward significance,  $F(4, 63) = 2.50, p = .052$ , but did not significantly increase the explanation of

variance in complicated grief symptoms, (0.87%,  $F$  change (2, 59) = 1.478,  $p$  = .236). Model 3 extended the previous model by including the interactions of attachment related anxiety and suppression ability, attachment related anxiety and expressive enhancement ability; attachment related avoidance and suppression ability, attachment related avoidance and expressive enhancement ability. This model was not significant,  $F$  (8, 63) = 1.543,  $p$  = .164 and did not significantly increase the explanation of variance in complicated grief symptoms, (0.65%,  $F$  change (4, 55) = .651,  $p$  = .629). None of the interaction terms emerged as significant predictors of complicated grief symptoms ( $p$ s >.20). The summary results of these hierarchical regressions are presented in Appendix F - Table 4.

### **Dependence, Suppression Ability, and Expressive Enhancement Ability Predicting Complicated Grief**

Hierarchical regression analyses were conducted to examine expressive flexibility factors, in conjunction with dependent related factors (destructive overdependence, dysfunctional detachment, and healthy dependency) as potential predictors of complicated grief symptoms. Notably, the results of Model 1 and 2 of these analyses confirm recent findings of (Denckla, Mancini, Bornstein, & Bonanno, 2011), which also distinguish maladaptive interpersonal as a significant predictor of increased prolonged grief.

The first model included a single step. Complicated grief was regressed on the two maladaptive interpersonal dependence variables (destructive overdependence and dysfunctional detachment). The model trended toward significance and explained 6% of the variance in complicated grief symptoms,  $F$ (2, 63) = 3.05,  $p$  = .055. Also, dysfunctional detachment emerged as a significant predictor of complicated grief symptoms,  $B$  = .1.351,  $p$  = .021. The second model included a second step, forcing healthy dependency into the equation. This model was

significant,  $F(3, 63) = 4.65, p = .005$ , and significantly increased the adjusted  $R^2$ ,  $F$  change  $(1, 60) = 7.25, p = .009$ , explaining an additional 8% of complicated grief symptoms variance. Also, healthy dependency emerged as a significant independent predictor of complication grief symptoms,  $b = -1.757, p = .009$ . In the third model, a third step was included forcing suppression ability and expressive enhancement ability into the equation. This model was significant,  $F(5, 63) = 3.416, p = .009$ , but did not significantly increase the explanation of variance in complicated grief symptoms,  $(0.3\%, F$  change  $(2, 58) = 1.453, p = .242$ ).

The interaction terms for healthy dependency and suppression ability and healthy dependency and expressive enhancement ability were added in a fourth and final step in Model 4. The model was significant,  $F(7, 63) = 3.566, p = .003$ , and accounted significantly for an additional 6% (22% total) of the variance in complicated grief symptoms ( $F$  change  $(2, 56) = 3.271, p = .045$ ). Additionally, the interaction between healthy dependency and expressive enhancement ability emerged as a significant predictor of complicated grief,  $B = 1.642, p = .020$ , denoting that expressive enhancement ability moderates the relationship between healthy dependency and complicated grief. See Table 5 for a summary of these results.

Appendix F cont...

*Hierarchical Linear Regression Model Predicting Complicated Grief Symptoms (Attachment Factors)*

Variable	Model 1 B Unstandardized	Model 2 B Unstandardized	Model 3 B Unstandardized
Attachment-related Anxiety (Att_Anx)	.428	.415	.661
Attachment-related Avoidance(Att_Avo)	.600	.452	1.347
Expressive Enhancement Ability (Exp)		-.465	1.742
Suppression Ability (Sup)		-.519	.691
Att_Anx * Sup			-.216
Att_Anx * Exp			-.007
Att_Avo* Sup			-.139
Att_Avo* Exp			-.624
R2 (adjusted)	.072	.087	.065
F	<b>(2,63)3.457*</b>	<b>(4, 63) 2.495 (ts)</b>	(8,63) 1.543 (ns)
Significant F Change	Model 1 (2,61)* .038	Model 2 vs. 1 (2,59) 2.36 (ns)	Model 3 vs. 2 (4, 55).629(ns)

Note. \* $p < .05$ , ts = trend toward significance ( $p=.052$ ).

## Appendix F cont...

*Hierarchical Linear Regression Model predicting Complicated Grief Symptoms (Dependency Factors and Expressive Flexibility)*

Variable	Model 1 B Unstandardized	Model 2 B Unstandardized	Model 3 B Unstandardized	Model 4 B Unstandardized
Destructive overdependence (DO)	.195	-.040	.010	-.023
Dysfunctional detachment (DD)	1.351(ts)	.693	.512	.553
Healthy dependency (HD)		-1.751*	-1.072*	-4.237*
Expressive Enhancement Ability (Exp)			-.291	-.6.055*
Suppression Ability (Sup)			-.567	-.470
Exp * HD				<b>1.642*</b>
Sup_x_HD				-.015
R2 (adjusted)	.061	.148	.161	.222
F	(2, 63) 3.046(ts)	(3, 63) 4.654*	(5, 63) 3.416*	(7,63) 3.566*
F Change		Model 2 vs. 1 (1, 60) 7.247*	Model 3 vs. 2 (2,58) 1.453(ns)	Model 4 vs. 3 (2, 56) 3.271*

ts = trend toward significance; \*p<.05. \*\*p<.01. \*\*\*p<.001.

Appendix F cont...

*Multiple Linear Regression for Relatedness Factors (Attachment and Dependence) Predicting*

*Complicated Grief Symptoms*

Variable	B
Attachment-related Anxiety	.176
Attachment-related Avoidance	-.110
Destructive overdependence	-.759
Dysfunctional detachment	.122
<b>Healthy dependency</b>	<b>-1.681*</b>
R <sup>2</sup> Adjusted	.122
F	(5,58).2.758*

*Note.* \* $p < .05$