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University of Southampton

Faculty of Environment and Life Sciences

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Exploring Dissociative Experiences in Grief

by

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Thesis for the degree of Doctor of Clinical Psychology

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University of Southampton

Abstract

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The first part of this thesis is a systematic review exploring the relationship between attachment insecurity and complicated grief in adults who have experienced the death of a loved one. A total of 21 cross-sectional and longitudinal studies (4946 participants), published between 2003 and 2019, met inclusion criteria and were selected for narrative review and quality assessment. There was consistent evidence found for an association between higher levels of attachment anxiety and symptoms of complicated grief across adults who represent a range of bereavement experiences. There was evidence found for association between higher levels of attachment avoidance and complicated grief, however this relationship demonstrated less consistency and suggests more complexity. The review poses implications for recognising individuals who may be at risk of intense psychological distress and complications in the grief process following the death of a loved one. The findings also suggest avenues for tailoring therapeutic intervention according to the attachment orientations for bereaved adults. Methodological limitations are discussed, with suggestions for future research.

Emerging evidence suggests that dissociation at the time of the death of a loved one (perilous dissociation), and persistent dissociation, are linked with higher levels of complicated grief, however the evidence base is limited by dearth and methodological flaws. Furthermore, factors that may moderate this proposed relationship have not yet been explored. The second part of the thesis therefore describes an empirical cross-sectional study which explored the potential moderating role of attachment insecurity on the relationship between perilous and persistent dissociation, and complicated grief among 237 adults who had experienced the death of a loved one. The findings indicate that perilous and persistent dissociation are both associated with increased symptoms of complicated grief. Attachment anxiety was positively associated with perilous and persistent dissociation, and complicated grief, however attachment avoidance was not associated with dissociation or grief. No moderating effect was found of attachment anxiety or avoidance, suggesting that the relationship between dissociation and complicated grief is not influenced by attachment insecurity. Methodological limitations and subsequent implications for interpretation of the findings of the study are explored. Implications of the findings and suggestions for future research are discussed.

Keywords: attachment; grief; bereavement; dissociation; coping; death

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Research Thesis: Declaration of Authorship

Print name: Victoria Russ

Title of thesis: Exploring Dissociative Experiences in Grief

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

This work was done wholly or mainly while in candidature for a research degree at this University;

Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

Where I have consulted the published work of others, this is always clearly attributed;

Where I have quoted from the work of others the source is always given. With the exception of such quotations, this thesis is entirely my own work;

I have acknowledged all main sources of help;

Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

None of this work has been published before submission.

Signature: Victoria Russ

Date: 06.08.2020

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Definitions and Abbreviations

AAS	Adult Attachment Scale
ANQ	Attachment Network Questionnaire
CB	Continuing Bonds
CBT	Cognitive Behavioural Therapy
DPM	Dual Process Model of grief
DSM	Diagnostic and Statistical Manual for Mental and Behavioural Disorders
ECR	Experiences in Close Relationships Questionnaire
ECR-R	Experiences in Close Relationships – Revised
ECR-RS	Experiences in Close Relationships – Relationship Structures
ECR-S	Experiences in Close Relationships – Short Form
ICG	Inventory of Complicated Grief
PG-13	Prolonged Grief Disorder-13
PGD	Prolonged Grief Disorder
PTSD	Post-Traumatic Stress Disorder
RAQ	Reciprocal Attachment Questionnaire
RSQ	Relationship Scales Questionnaire

Chapter 1 **Systematic Review: What is the relationship between attachment insecurity and complicated grief?**

1.1 Introduction

For most people love is the most profound source of pleasure in our lives, while the loss of those whom we love is the most profound source of pain. Hence, love and loss are two sides of the same coin. We cannot have one without risking the other. (Parkes, 2009, p. 1)

Bereavement is one of life's most painful experiences, and while most people demonstrate extraordinary resilience and adjust to the trauma of losing a loved one, for some people it brings overwhelming, chronic and debilitating grief. Bowlby (1980) proposed that the way people mourn, and whether it is adaptive, can be understood as a function of their attachment histories. Attachment theory therefore offers a way to understand individual differences in grief, and thus this review aims to bring clarity and understanding to this important clinically-relevant topic. First, the key terms of attachment and complicated grief will be defined, before providing an overview and critique of attachment-based models of complicated grief. Secondly, the empirical evidence will be systematically reviewed regarding the proposed relationship between attachment insecurity and complicated grief.

1.1.1 Complicated Grief

The death of a loved one is a highly stressful and painful event which is experienced uniquely by each individual. Initial reactions to a bereavement can include a huge range of thoughts, emotions and behaviours, but often manifests in intense sadness and yearning, intrusive images, temporary loss of interest and engagement in activities. For most people, these experiences subside with time and they are able to re-engage in activities, make meaning out of the loss and integrate the loss into their ongoing life (Shear & Shair, 2005). However, for around 10-20% of individuals, the experience of intense grief extends beyond

the time which is typically considered adaptive and has a significant impact on functioning in daily life (Shear & Shair, 2005).

Complicated grief¹ has been defined as a persistent form of intense grief characterised by intrusive thoughts or images, a persistent sense of emptiness, difficulty accepting the painful reality of the death, intense yearning and sorrow, and preoccupation with thoughts of the deceased (Boerner et al., 2013; Shear & Gribbin, 2016). For individuals experiencing complicated grief, there is a significant impact on daily functioning and relationships due to diminished interest and engagement in ongoing life, and avoidance of memories, people and places that may remind them of their lost loved one (Boerner et al., 2013; Shear & Shair, 2005).

Evidence from longitudinal studies suggests that complicated grief is associated with a range of potentially debilitating and distressing mental and physical health problems, including sleep disturbances, increased substance misuse, immunological dysfunction, increased risk of cancer, hypertension, and increased suicidality (Prigerson et al., 2009; for a review, see Lundroff et al., 2017). A systematic review by Lobb et al. (2010) identified key predictors of complicated grief including: factors related to the death (e.g. violent nature, close kinship, lack of preparation for death); coping factors (e.g. social support, cognitive appraisals), in addition to pre-loss factors (e.g. prior experience of trauma, previous mental health problems). The role of attachment styles as a crucial pre-loss factor has been theoretically proposed and empirically investigated to consider its' contribution to complicated grief.

¹ There has been considerable debate over recent years as the term, Prolonged Grief Disorder (PGD) has often been used interchangeably, with the assumption that PGD equates to complicated grief. However, Rando (2013) has since clarified that PGD is not simply another term for complicated grief, but represents one way that it may be manifested. For the purposes of this review, the umbrella term of 'complicated grief' will be utilised, with the understanding that PGD fits underneath this broad symptom category with its' own distinct expression of grief (Prigerson et al., 2009).

1.1.2 Attachment

Bowlby (1982) theorised that we are all born with an innate drive to seek proximity to supportive others in times of need, and refers to 'attachment' as the psychological connectedness between human beings. Bowlby proposed that this innate drive, which he called the attachment system, functions to regulate distress through relationships, initially through the infant bond with the primary caregiver. Depending on the responsiveness, availability and efficacy of caregiving in early relationships, infants develop a sense of feeling more, or less secure in attachments. By adulthood, this sense of security in attachments has been refined and built based on varying experiences in different kinds of relationships, e.g. from parental to romantic (Mikulincer & Shaver, 2016). The attachment system thus continues to be of vital importance throughout significant relationships in adulthood (Hazan & Shaver, 1987). However, there are considerable differences in individuals' attitudes, beliefs and behaviours within relationships and research has focused on mainly on these *attachment orientations* to describe a person's pattern of relating to others (Fraley & Shaver, 2000). These attachment orientations have implications for the likelihood of seeking proximity and safety to an attachment figure at times of distress as a way of coping with threats to well-being, such as the death of a loved one (Mikulincer & Shaver, 2016).

Early conceptualisations of attachment orientations used a categorical model to classify individuals into one of three- or four- attachment styles. There was one category of secure attachment, and three categories of insecure attachment: preoccupied, dismissing and disorganised. Categorical models map the attachment styles along dimensions of attachment security or insecurity, i.e., secure attachment refers to low attachment anxiety and low attachment avoidance; pre-occupied attachment refers to high attachment anxiety and low attachment avoidance; dismissing attachment refers to low anxiety and high avoidance; and disorganised pattern relates to high anxiety and high avoidance (Fraley et al., 2015).

However, more recently, researchers have found that the categorical model lacks reliability and validity, and a dimensional approach has been more widely adopted in which attachment orientations are measured along two continuous dimensions of *attachment anxiety* and *attachment avoidance* (Fraley & Shaver, 2000). *Attachment anxiety* refers to the

extent to which individuals worry that their partners will not be available at times of need and fears rejection and abandonment (Mikulincer & Shaver, 2007). Anxious attachment is thought to derive from previous experiences in which attachment figures have been inattentive, preoccupied or anxious themselves and the individual has therefore had to show 'protest' behaviour in order to get their needs met, i.e. exaggerated calling, crying, clinging (Bowlby, 1982). People with low levels of attachment anxiety are more secure about the perceived responsiveness of their partners (Gillath et al., 2016).

Attachment avoidance refers to the extent to which individuals seek to maintain autonomy and emotional distance from relationship partners, and the tendency to lack trust in others' goodwill (Fraley & Shaver, 2000). Individuals with high levels of attachment avoidance tend to show an excessive need for self-reliance and are reluctant to disclose their feelings and concerns to others (Wei et al., 2007). Attachment avoidance is thought to derive from previous experiences in which caregivers have been distant, rejecting or hostile and where attempts to seek help have been met with disapproval, withdrawal or anger (Mikulincer & Shaver, 2016). Hence, the individual learns to suppress or inhibit their normal attachment behaviours and develop high levels of self-reliance. People who score low on measures of attachment avoidance are more comfortable being intimate with others and are more secure depending upon and having others depend upon them (Gillath et al., 2016).

Attachment theory has emerged as one of the primary paradigms for understanding adjustment to grief (Stroebe et al., 2005; Shaver & Fraley, 2008). The loss of a loved one through death is an event that triggers activation of the attachment system, giving rise to emotional and behavioural responses that serve to relieve distress through seeking proximity to others.

1.1.3 An Attachment Perspective on Complicated Grief

An attachment theory view on adaptive, 'normative' bereavement centres on the premise that the death of a loved one, i.e. an attachment figure, will trigger predictable responses for most people, consisting of strong protest, anger, yearning, despair, intense sorrow, loneliness, and withdrawal. Over time, however, individuals are able to gradually reorganise their life by maintaining a symbolic bond to their deceased loved one, while integrating the

loved one into their own identity, restoring their sense of security and well-being and re-engaging with a new reality (Bowlby, 1980).

The attachment perspective is complemented by the Dual-Process model (DPM) of bereavement (Stroebe & Schut, 1999) whereby adjustment to loss requires an oscillation between loss-orientation (yearning, rumination, separation distress, re-appraisal of the meaning of the loss) and restoration orientation (doing new things, distracting oneself, forming new relationships). Shaver and Tancredy (2001) proposed that securely attached individuals are better able to move flexibly between the loss-oriented and restoration processes than individuals who are insecurely attached, resulting in a more adaptive response to bereavement.

Bowlby (1980) proposed that attachment insecurities can complicate the grief process. According to Bowlby, attachment anxiety may predict 'chronic mourning' which is characterised by overwhelming anxiety and sadness, prolonged difficulty in re-engaging with adaptive functioning and forming new relationships, preoccupation with the deceased, and experience significant difficulty accepting the loss. Anxiously attached individuals tend to experience chronic activation of the attachment system, leading to hyper-accessibility of thoughts of the deceased loved one which may perpetuate excessive yearning (Mancini & Bonnano, 2012). In relation to the DPM framework, individuals with an anxious attachment style are proposed to focus more on loss-orientation, resulting in little progress towards coming to terms with the loss and remaining 'stuck' in intense grief (Stroebe et al., 2005).

Attachment avoidance, on the other hand, is proposed to underlie 'delayed grief' whereby attachment-related thoughts and emotions are suppressed and urges to seek support are inhibited (Mikulincer & Shaver, 2007). Individuals high in attachment avoidance are thought to respond to grief with a de-activation of their attachment system, leading to a loss of access to thoughts and images of lost loved ones (Mikulincer et al., 2002). According to the DPM, individuals with an avoidant attachment style would be more likely to focus on restoration-orientation, denying the need to grieve (Stroebe et al., 2005). Attempts to suppress painful thoughts following a bereavement are likely to fail to reduce distress in the long term however, and suppressed pain may resurface when cognitive or emotional demands increase (Berant et al., 2008).

While attachment theory has offered meaningful insights to understanding individual differences in coping with life stressors, it also faces criticisms which will be briefly acknowledged here to better understand the context of the findings of this study. Firstly, it has been argued that attachment theory overestimates the impact of early relationships on later psychological functioning, being criticised for taking a reductionist approach ignoring other key early life predictors of psychological well-being, for example, socio-economic status (Kagan, 2009). Attachment theory has also received criticism for failing to adequately acknowledge the contextual and cultural variations of attachment relationships, drawing upon inherently Westernised views of adaptive and maladaptive attachment-related behaviours and attitudes (Keller, 2014). Thus, there have been calls for a shift away from the view that attachment is a universal human need that emerges in the same way across cultures, to a view that reflects that the fundamental differences in cultural conceptions and expressions of attachment behaviours, for example, from viewing attachment within a dyadic relationship to attachment within a network (Otto & Keller, 2014). Furthermore, given the cultural variation in grief expression, there is a clear need to ensure that attachment-based understandings of grief need to reflect cultural differences rather than biasing Westernised contexts.

1.1.4 Empirical evidence for Attachment Model of Grief

Empirical evidence has largely supported attachment anxiety having a positive association with complicated grief reactions (e.g. Boelen et al., 2011; Currier et al., 2015; Field et al., 2010; Mancini et al., 2009; Meier et al., 2013). For example, in their study of 656 bereaved adults, Meier et al. (2013) found that attachment anxiety uniquely predicted grief severity. Kho et al. (2015) replicated this finding among a sample of 89 older adults whereby individuals with an anxious attachment style experienced more yearning thoughts, leading to higher levels of emotional responses and higher levels of non-acceptance.

To date however, the literature regarding attachment avoidance and grief outcome has yielded conflicting results (Mikulincer & Shaver, 2013). Despite a theoretical rationale for a relationship between attachment avoidance and complicated grief, a number of studies have reported no significant association between attachment avoidance and grief severity

(e.g. Field & Sudin, 2001; Fraley & Bonnano, 2004; Wayment & Vierthaler, 2002). For example, in a study of 59 bereaved adults with either a secure attachment style or dismissing avoidant style (low attachment anxiety, high attachment avoidance), both exhibited low levels of grief symptoms at four and 18 months post-loss, highlighting a resilient response (Fraley and Bonnano, 2004). The authors concluded that adults with a dismissing avoidant style may effectively suppress their attachment system making them less vulnerable to situations that would otherwise activate attachment-related memories (e.g. bereavement). They also found that individuals with an avoidant attachment style are less likely to have developed a strong emotional attachment to loved ones and therefore may experience less grief.

However, the relationship between attachment avoidance and complicated grief appears complex as other studies have reported that attachment avoidance predicts elevated grief symptoms (e.g. Wijngaards-de Meij et al., 2007; Delespau et al., 2013). At a theoretical level, Bowlby (1980) suggested that avoidantly attached individuals could potentially mask their grief and lead people to assume they were managing effectively, “it is easy to overlook such people and to group them with those whose mourning is progressing in a *genuinely* favourable way” (p.211). Wayment and Vierthaler (2002) demonstrated this potential to ‘miss’ grief reactions in individuals with an avoidant attachment style, reporting that while attachment avoidance was not associated with higher levels of grief, avoidantly attached individuals demonstrated higher levels of somatic symptoms, suggesting that grief may have been expressed physically rather than emotionally.

To date therefore, there is a lack of consensus regarding the relationship between attachment avoidance and grief symptoms. While some studies argued that attachment avoidance may be adaptive for a bereaved individual to regulate feelings and behaviour, others have maintained that attachment avoidance presents complications in the grieving process (Yu et al., 2016).

Finally, given the inconsistencies in previous findings regarding the relationship between attachment insecurity and complicated grief, this systematic review will also consider the empirical evidence exploring potential mediators and moderators of this relationship. Understanding factors that may influence the relationship between attachment and

complicated grief may help to build a more nuanced conceptualisation, and may build our understanding of potential reasons for the inconsistencies in the research findings. Furthermore, it may help to better understand who may be more affected by complicated grief, and in what contexts. Understanding mediators and moderators can also be beneficial to provide targets for intervention, and knowing who is more likely to benefit from therapy.

Understanding individual differences in susceptibility to complicated grief from the attachment-based defensive strategies have important implications for delivering grief interventions. Firstly, there is the need to better identify who is more at risk of experiencing significant difficulties following a bereavement. Secondly, individuals with anxious and avoidant attachment orientations may require support in different ways, according to their different ways of coping with the grief in order to rebalance or encourage the oscillation between loss and restoration-oriented coping (Strobe et al., 2005).

1.1.5 Aims

To date, there has been no systematic comprehensive summary and evaluation of the literature on the relationship between attachment insecurity and complicated grief. Two previous reviews (Lobb et al., 2010; Burke & Neimeyer, 2013) have focused broadly on predictors of complicated grief, neither of which offer a comprehensive evaluation of the relationship between attachment style and complicated grief. In addition, these reviews did not include unpublished literature and therefore may have been subject to publication bias. This systematic review aims to address prior methodological limitations by including unpublished literature, and thoroughly examine and synthesise the evidence regarding attachment-related anxiety and avoidance and its' relation to complicated grief. This systematic review therefore aimed to answer the following questions:

- 1) Are higher levels of attachment anxiety and attachment avoidance associated with elevated symptoms of complicated grief?
- 2) What factors may mediate or moderate these proposed relationships?

- 3) What is the quality of the available empirical evidence and how does this impact our ability to draw reliable conclusions from the literature?

1.2 Method

1.2.1 Search Strategy

The protocol for this systematic review was published on Prospero (Prospero ID: CRD42019145677). Five electronic databases relevant to psychological research were searched in October 2019 (PsycINFO, MEDLINE, Web of Science, Health and Social Care Evidence Search, Cochrane Library). Table 1 shows the search terms and syntax that were used for the search strategy. The first set of terms were used to capture studies that focused on attachment styles or behaviours, and the second and third set were used to focus on studies regarding complicated, prolonged, persistent or complex grief, as opposed to 'typical' bereavement responses. The truncation symbol 'N' was used to capture slight variations of key terms. To capture British and American spellings, the truncation symbol '?' was used where necessary. All three sets of terms were combined using the Boolean operator 'AND' to yield the final results. The syntax was adapted as necessary for each platform. The search terms were defined collaboratively by the author, supervisor TM and a University librarian. The search strategy contained no limits, including date of publication or original language of article.

Table 1

Search terms and syntax for systematic review

	Attachment	Complicated (grief)	Grief
<i>Search terms</i>	"Parent* N2 attachment" OR "parent" bond*" OR "early OR first N1 relationship" OR "attachment behavior"	complicat* OR traumatic* OR prolong* OR persist?nt* OR abnormal OR "persistent complex grief" OR "persistent complex bereavement"	grief OR griev* OR bereavement OR mourn*

1.2.2 Eligibility Criteria

The following inclusion criteria were developed through scoping searches and applied in the systematic literature search (see Table 2).

Table 2

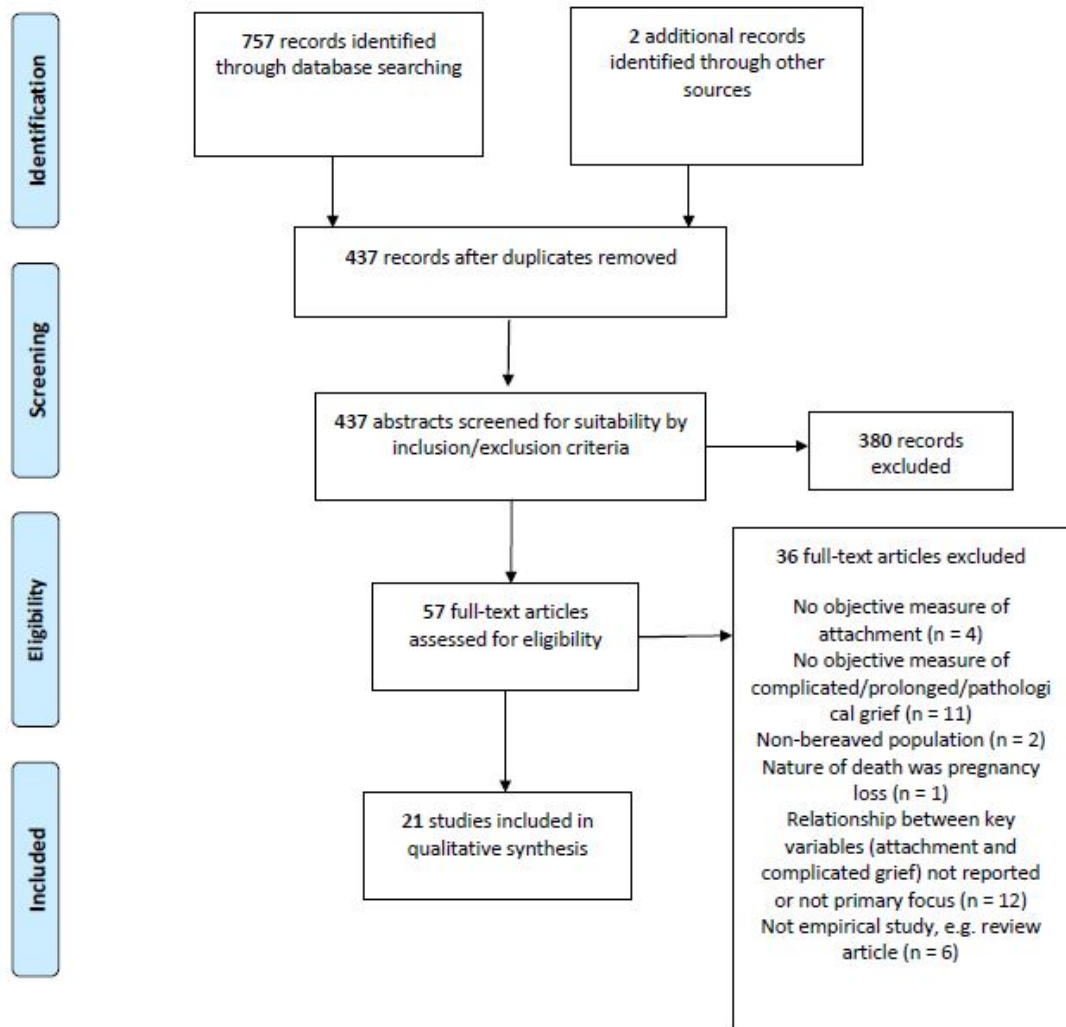
Eligibility Criteria

	Inclusion	Exclusion
Types of study and publication type	Published and unpublished empirical studies. All study designs.	Conference posters, abstracts, reviews and proposals.
Participants	Participants were adults, i.e. 18 years and over. Participants had experienced a bereavement through the death of a human (not a pet)	Participants whose loss was characterised as non-death, i.e. job loss, relationship breakdown.
Focus of study	The link between attachment insecurity and pathological grief was explored empirically.	Due to the limited scope of the review, and to increase homogeneity, studies were excluded if the nature of the death was miscarriage.
Outcomes	A measure of attachment was included as a primary or secondary outcome in the study. A measure of complicated, prolonged, pathological or traumatic grief was included as a primary or secondary outcome in the study.	Studies that measured typical responses to bereavement only (rather than complicated, pathological, prolonged or traumatic grief).

1.2.3 Study Selection

After conducting the main search, citations were collated into a referencing software package and duplicates were removed. All remaining records were screened by their title and abstract against inclusion and exclusion criteria to determine eligibility for review. After excluding unsuitable papers, the full-text versions of remaining papers were obtained and further screened against the eligibility criteria. Articles written in a language

other than English were translated by colleagues within the department (i.e. Berenguer-et al., 2018). From this screening stage, eligible papers were identified to be included in the final synthesis (see Figure 1).



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Figure 1

PRISMA diagram for systematic review of literature.

1.2.4 Data Extraction

Relevant information from each of the final studies was extracted to address the primary aims of the review and provide context to the study and participants. Data extraction included: study aims, participant characteristics (age, gender, nature of bereavement experience), design, outcome measures and the key findings. Data was then synthesised using a narrative approach whereby study findings were collated into a coherent textual narrative, describing differences in the characteristics and context of the studies, and making use of tables and graphs to complement the narrative (Popay et al., 2006). A narrative approach was deemed more appropriate than a meta-analysis due to the significant heterogeneity of study characteristics (including variance in measures used) and participant characteristics (including wide range of bereavement experiences).

1.2.5 Quality Assessment

The quality of the final selected studies was assessed using the QualSyst tool (Kmet et al., 2004). This tool consists rating several components of the study, including: clarity of objectives; study design; sampling methods; reporting of sample characteristics; outcome measures; analysis; reporting of results; and conclusions drawn. Each of the 14 standards are rated according to a 0 – 2 scale (0 = standard not met; 1 = partially met; 2 = standard met). The total score for each paper is calculated as a percentage of the total possible score. Quality assessment was undertaken by two raters to increase reliability (the author and an independent rater). The raters assessed each paper independently, and inter-rater agreement was calculated at 67%. Where scores were incongruent, agreement was reached through reviewing and discussing the paper together.

1.3 Results

1.3.1 Search

The present review identified 21 studies exploring the relationship between attachment style and complicated grief symptoms that met inclusion criteria. Table 3 summarises the

extracted data and includes: aims of the study, location of research (country), sample characteristics, design, key outcome measures, and key statistical findings.

Table 3

Summary of studies selected for review

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Berenguer-Perez, Barreto-Martin, & Perez-Marin (2018) ⁱ	To investigate how attachment dimensions facilitate or hinder overcoming loss.	Spain <i>(translated from Spanish to English)</i>	50 bereaved psychology undergraduate students (68% female). Age = 20 - 40 years (M = 22.97 years).	Cross-sectional	El Cuestionario de Apego Adulto (Adult Attachment Questionnaire); Inventory of Complicated Grief (Spanish version)	No significant association between attachment style (secure [$r = -0.13$], anxious [$r = 0.20$], or avoidant [$r = -0.10$]) and CG; all $ps > .17$;
Boelen & Klugkist (2011)	To explore linkages between attachment anxiety, and attachment avoidance in PGD severity.	The Netherlands	348 bereaved adults recruited from general population (90.5% female). Age = 18 - 74 years (M = 42.4 years).	Cross-sectional	Inventory of Complicated Grief; Relationship Questionnaire	Attachment anxiety ($c' = 0.72$) and avoidance ($c' = 0.45$) positively correlated with PGD all $ps < .05$;
Campisano Bagnon (2003)	To explore links between representations of adult attachment style and adjustment to conjugal bereavement	USA	75 bereaved adults (64% female) whose partner had died 3-6 months prior. Age = 21 - 55 years (M = 45.1 years)	Cross-sectional, correlational survey	Texas Revised Inventory of Grief; Reciprocal Attachment Questionnaire	Insecure adult attachment patterns (compulsive self-reliance [$r = -0.09$]; compulsive care-seeking [$r = 0.18$]; angry withdrawal [$r = 0.02$]) not significantly associated with CG.

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Currier, Irish, Neimeyer, & Foster (2015)	To examine the effects of attachment insecurities and continuing bonds on CG.	USA	195 students, bereaved in the past two years (80% female). Age = 18 - 49 years (M = 21 years).	Cross-sectional	Experiences in Close Relationships - Relationship Structures; Inventory of Complicated Grief - Revised	Attachment avoidance and attachment anxiety associated with higher levels of CG ($B = 0.14, p < .05$; $B = 0.19, p < .01$ respectively).
Delespaux, Ryckebosch-Dayez, Heeren & Zech (2013)	To investigate the mediation of appraisal and oscillation process on anxious and avoidant attachments and grief.	Belgium	321 bereaved adults recruited from general population (89% female) who had experienced death of a romantic partner. Age = 17 - 88 years (M = 41 years).	Cross-sectional	Experiences in Close Relationships; Inventory of Traumatic Grief (French version).	Avoidant attachment negatively correlated with grief severity ($r = 0.19, p < .01$). Anxious attachment positively associated with grief severity ($r = -.021, p < .01$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Edelson (2009)	To investigate the association between attachment style with PGD	USA	402 bereaved adults (94% female). Age = 18 - 78 years (M = 49.34 years)	Cross-sectional, correlational survey	Relationship Questionnaire; Relationship Scales Questionnaire; Prolonged Grief Disorder-13	Participants with fearful (OR = 4.01, $p < .0011$), preoccupied (OR = 4.07, $p < .05$) or dismissing (OR = 4.59, $p < .001$) attachment styles more likely to be classified with PGD. Securely attached participants were less likely to screen positively for PGD ($F = 12.85$, $p = .0001$). Participants with PGD were more likely to report higher levels of anxious ($F = 24.43$, $p < .001$) and avoidant attachment ($F = 32.27$, $p < .001$).
Field & Filanosky (2009)	To examine continuing bonds (CB) expression in relation to influence of anxious and avoidant attachment on CG.	USA	502 bereaved adults recruited from general population (84% female). Mean age = 34.45 years (range not reported).	Cross-sectional	Relationship Questionnaire; Inventory of Complicated Grief - Screen	Anxious attachment and avoidant attachment positively associated with CG when controlling for time since death and relationship closeness (anxious, $r = 0.21$, $p < .001$; avoidant, $r = 0.18$, $p < .001$).
Hyu, Kim, Lee, & Chae (2017)	To examine the effects of different attachment types on the grief responses and the moderating role of coping strategies.	Korea	81 bereaved parents (54.3% female) recruited from survivors of major ferry disaster. Mean age = 47.96 years (range not reported).	Cross-sectional	Experiences in Close Relationships Questionnaire - Short Form; Inventory of Complicated Grief	Avoidant attachment positively correlated with CG ($r = 0.26$, $p < .05$). Attachment anxiety not correlation with CG ($r = 0.11$, $p > .05$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Jerga, Shaver & Wilkinson (2011)	To examine variables related to attachment insecurities that might identify at-risk individuals following the death of a significant other.	USA	368 bereaved undergraduate students (67% female). Age = 17 - 49 years (M = 19.6 years).	Cross-sectional	Experiences in Close Relationships Scale; Experiences in Close Relationships - Short Form; Attachment Network Questionnaire; Prolonged Grief Disorder - 13	General and specific attachment anxiety, and general avoidant attachment associated with prolonged grief (general anxiety, $B = .12, p < .01$; specific anxiety, $B = .13, p < .01$; general avoidance, $B = .22, p < .01$). Specific avoidance not associated prolonged grief ($r = -0.03, p > .05$).
Levi-Belz & Lev-Ari (2019)	To explore the moderating effect of social support and self-disclosure on the relationship between attachment styles and complicated grief.	Israel	156 adults bereaved through suicide (81.4% female). Age = 18 - 70 years (M = 40.7 years).	Cross-sectional	Relationships Questionnaire; Inventory of Complicated Grief	Secure attachment style was negatively correlated with CG ($r = -0.22, p < .01$). Disorganised, avoidant and anxious attachment not significantly associated with CG ($r = 0.13; r = 0.13; r = 0.02$ respectively; all $ps > .05$).
Maccullum & Bryant (2018)	To examine the relationship between attachment style and bereavement outcomes.	Australia	285 bereaved adults (79.1% female) recruited from general population. Mean age = 48.89 years (range not reported).	Cross-sectional	Prolonged Grief Disorder-13; Experiences in Close Relationships	Attachment anxiety and avoidance significant predictor of membership to group with high levels of PGD (Attach anxiety, $B = -1.58, p < .001$; Attach avoid, $B = -0.73, p < .001$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Mancini, Robinaugh, Shear & Bonanno (2009)	To examine whether marital quality moderates the relationship between attachment pattern and spousal bereavement outcome.	USA	50 conjugally bereaved adults (62% female). Mean age = 51.81 years (range not reported).	Longitudinal - 4 month and 18 month post-loss.	Structured Clinical Interview for DSM-III-R for PTSD and complicated grief (CG); Relationship Scales Questionnaire	Avoidant and anxious attachment patterns were significantly correlated with CG symptoms at 4 months ($r = 0.40, p < .01$ [avoidant]; $r = 0.44, p < .01$ [anxious]) and 18 months ($r = 0.30, p < .05$ [avoidant]; $r = 0.43, p < .01$ [anxious]).
Meert et al. (2010)	To investigate the extent of complicated grief symptoms and associated risk factors among parents whose child died in a paediatric intensive care unit.	USA	261 bereaved parents (69% female) whose child died in a paediatric intensive care unit six months earlier. Mean age = 37.2 years (range not reported).	Cross-sectional	Inventory of Complicated Grief; Relationship Scales Questionnaire	Complicated grief scores were positively correlated with attachment-related anxiety ($r = 0.47, p < .001$) and attachment-related avoidance ($r = 0.37, p < .001$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Meert et al. (2011)	To investigate the change in the extent of CG symptoms among parents between 6 and 18 months post-death and identify factors predicting improvement.	USA	138 bereaved parents whose child died in a paediatric intensive care unit 18 months earlier (72% female). Age range not reported (M = 38.0 years).	Longitudinal - 6 month and 18 month post-loss.	Inventory of Complicated Grief; Relationship Scales Questionnaire	Attachment related anxiety and attachment related avoidance was not associated with improvement in complicated grief symptoms ($r = 0.08, p = .27$ [anxiety]; $r = 0.30, p = .79$ [avoidance])
Meier, Carr, Currier & Neimeyer (2013)	To examine whether attachment anxiety and avoidance contributes to prolonged grief symptoms.	USA	656 undergraduate students bereaved within the last 2 years (81.4% female). Mean age = 21.67 years (range not reported).	Cross-sectional	Experiences in Close Relationships - Relationship Structures Questionnaire; Inventory of Complicated Grief	Attachment anxiety was significant positively correlated with PGD ($B = 0.30, p < .001$). Attachment avoidance was not correlated with PGD ($B = 0.05, p > .05$).
Milman, Neimeyer, Fitzpatrick, MacKinnon, Muis, & Cohen (2019)	To examine whether rumination moderates the role of meaning-making in mediating the impact of risk factors.	North America and Europe	171 adults bereaved within last 2 - 12 months (71.9% female). Age = 18 - 90 years; M = 44.30 years).	Longitudinal, 7-10 month follow up	Experiences in Close Relationships - Short form; Prolonged Grief Disorder-13;	Anxious and avoidant attachment positively correlated with prolonged grief symptoms ($r = 0.22, p < .01$; $r = 0.48, p < .01$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Takacs (2008)	To explore variables which increase an individual's probability of experiencing traumatic grief.	USA	124 conjugally bereaved adults (58.9% female). Age = 26 - 86 years (M = 49.82).	Cross-sectional, survey	Inventory of Traumatic Grief; Relationship Questionnaire	Insecure attachment style (OR = 23.05, $p < .01$), particularly fearful attachment style (OR = 1.93, $p = .005$), were significant predictors of traumatic grief.
Wjiingaard-de Meij, Stroebe, Schut, Stroebe, van der Bout, van der Heijden & Dijkstra (2007)	To compare the ability of attachment insecurity to predict bereavement outcome.	The Netherlands	219 bereaved parent couples (gender ratio not reported). Age = 26 - 68 years (M = 42.2. years).	Longitudinal - 6, 13 and 20 months post-loss.	Adult Attachment Scale; Inventory of Complicated Grief; Symptom Checklist - 90	Anxious attachment and avoidant attachment positively associated with complicated grief symptoms ($r = 0.27$, $p < .01$ [anxious]; $r = 0.27$, $p < .01$ [avoidant]).
Van der Houwen, Stroebe, Stroebe, Schut, van der Bout & Wijngaards-de Meij (2010)	To investigate the impact of potential risk factors on grief.	The Netherlands	195 adults who experienced the death of first-degree relative within the last three years (92.3% female). Age = 19 - 79 years (M = 41.50 years).	Longitudinal (Baseline, three months, six months)	Experiences in Close Relationships - Revised; DSM-V criteria for Complicated Grief	Attachment avoidance significantly contributed to the prediction of complicated grief, with higher levels of attachment avoidance being related to increased complicated grief symptoms ($B = 0.06$, $p < .001$). Attachment anxiety was not a significant predictor of grief ($B = 0.03$, $p > .05$).

Study reference	Aims	Location	Sample	Design	Key outcome measures	Key findings and significance values
Xu, Fu, He, Schoebi & Wang (2015)	To explore whether attachment anxiety and attachment avoidance moderates the relationship between grief and post-traumatic growth.	China	240 bereaved adults (56.2% female) of whom a family member died due to cancer Mean age = 39.52 (range not reported).	Cross-sectional	Prolonged Grief Questionnaire - 13; Experiences in Close Relationships	Attachment avoidance positively correlated with grief ($r = 0.22, p < .001$). Attachment anxiety positively correlated with grief ($r = 0.32; p < .001$).
Yu, He, Xu, Wang & Prigerson (2016)	To examine the mechanisms underlying the impact of attachment dimensions on bereavement adjustment.	China	247 bereaved individuals (58.3% female). Age = 16 - 80 (M = 39.14 years).	Cross-sectional	Experiences in Close Relationships (Chinese version); Prolonged Grief Questionnaire	Attachment anxiety associated with increased grief symptoms ($r = 0.33, p < .001$). Attachment avoidance associated with increased grief symptoms ($r = 0.20, p < .01$). Attachment anxiety and attachment avoidance positively predicted grief symptoms ($r = 0.33, p < .001$ [anxiety]; $r = 0.21, p < .001$ [avoid]).

NOTES: This study also included a non-bereaved group and for the purposes of this review, this group has been excluded.
Abbreviations in table: CG = Complicated Grief; PGD = Prolonged Grief Disorder; CB = Continuing Bonds.

1.3.2 Quality Assessment of Studies

All 21 studies were assessed using the QualSyst tool (Kmet et al., 2004) and rated on each of the 14 components related to methodological rigour (see Table 4). 11 studies received a quality rating over 90% and the remaining 10 studies scored between 82-89%. Across the review, 19 of the 21 studies clearly described their objectives and all of the studies demonstrated an appropriate design to address the research questions. 20 studies reported their sample characteristics adequately, and for the majority of studies (76%), the sample sizes were appropriate. The majority of studies appropriately justified their use of analytic methods, reported their results in sufficient detail and drew appropriate conclusions from the findings.

However, method of participant recruitment and selection was an area of concern for over half of the studies (11 out of 21), mainly due to the use of student populations which are unlikely to be representative of the target population. In addition, all the papers reported a self-selecting sample, which may bias results. The lack of clarity in how potentially confounding variables were controlled for within the analysis of data was also a problematic area across 11 (out of 21) studies.

Quality summary scores across the final papers ranged from 82% - 95% indicating the research was of relatively high quality (see Figure 2), although there is some variation in the quality of evidence presented in this review which enables contrasting and comparing across studies. Despite common areas for concern, all studies received a quality score above the inclusion cut-off of 75% as suggested by the authors (Kmet et al. 2004) and therefore are warranted to be retained in this systematic review (see Figure 2).

Table 4. Quality Assessment ratings for all studies in final search.

Reference	Question/objective sufficiently described?	Study design evident and appropriate?	Method of subject/group selection is described and appropriate?	Subject and comparison group characteristics described sufficiently?	If interventional and random allocation possible, was it described?	If interventional and blinding of investigators possible, was it reported?	If interventional and blinding of subjects possible, was it reported?	Outcome measures well defined and robust to measurement bias?	Sample size appropriate?	Analytic methods described/justified and appropriate?	Some estimate of variance is reported for the main results?	Controlled for confounding?	Results reported in sufficient detail?	Conclusions supported by the results?	Summary Score (%)
Berenguer-Perez et al. (2018)	1	2	1	2	N/A	N/A	N/A	2	1	2	1	2	2	2	82
Boelen & Klugkist (2011)	2	2	1	2	N/A	N/A	N/A	2	2	1	2	2	2	2	91
Campisano Baugnou, V. (2003).	2	2	2	1	N/A	N/A	N/A	1	1	2	2	2	2	2	86
Currier et al. (2015)	2	2	1	2	N/A	N/A	N/A	2	2	1	2	2	2	2	91
Delespaux et al. (2013)	2	2	1	2	N/A	N/A	N/A	2	2	2	2	1	2	2	91
Edelson (2009)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	1	2	2	95
Field & Filanosky (2009)	1	2	1	2	N/A	N/A	N/A	1	2	2	2	2	2	2	86
Hyu et al. (2017)	2	2	2	2	N/A	N/A	N/A	1	1	2	2	0	2	2	82
Jerga et al. (2011)	2	2	1	2	N/A	N/A	N/A	1	2	2	1	2	2	2	86
Levi-Belz & Lev-Air (2019)	2	2	2	2	N/A	N/A	N/A	2	2	2	1	1	2	2	91
Maccullum & Bryant (2018)	2	2	1	2	N/A	N/A	N/A	2	2	2	2	0	2	1	82
Mancini et al. (2009)	2	2	1	2	N/A	N/A	N/A	1	1	2	2	1	2	2	82
Meert et al. (2010)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	0	1	2	86
Meert et al. (2011)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	0	1	2	86
Meier et al. (2013)	2	2	1	2	N/A	N/A	N/A	2	2	2	2	2	2	1	91
Milman et al. (2019)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	0	2	2	91
Tacaks (2008)	2	2	2	2	N/A	N/A	N/A	2	1	2	2	1	2	2	91
van der Houwen et al. (2010)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	2	2	1	95
Wijngaards-de Meij et al. (2007)	2	2	1	2	N/A	N/A	N/A	1	2	2	1	2	1	2	82
Xu et al. (2015)	2	2	1	2	N/A	N/A	N/A	2	2	2	2	2	2	2	95
Yu et al. (2016)	2	2	2	2	N/A	N/A	N/A	2	2	2	2	0	2	2	91

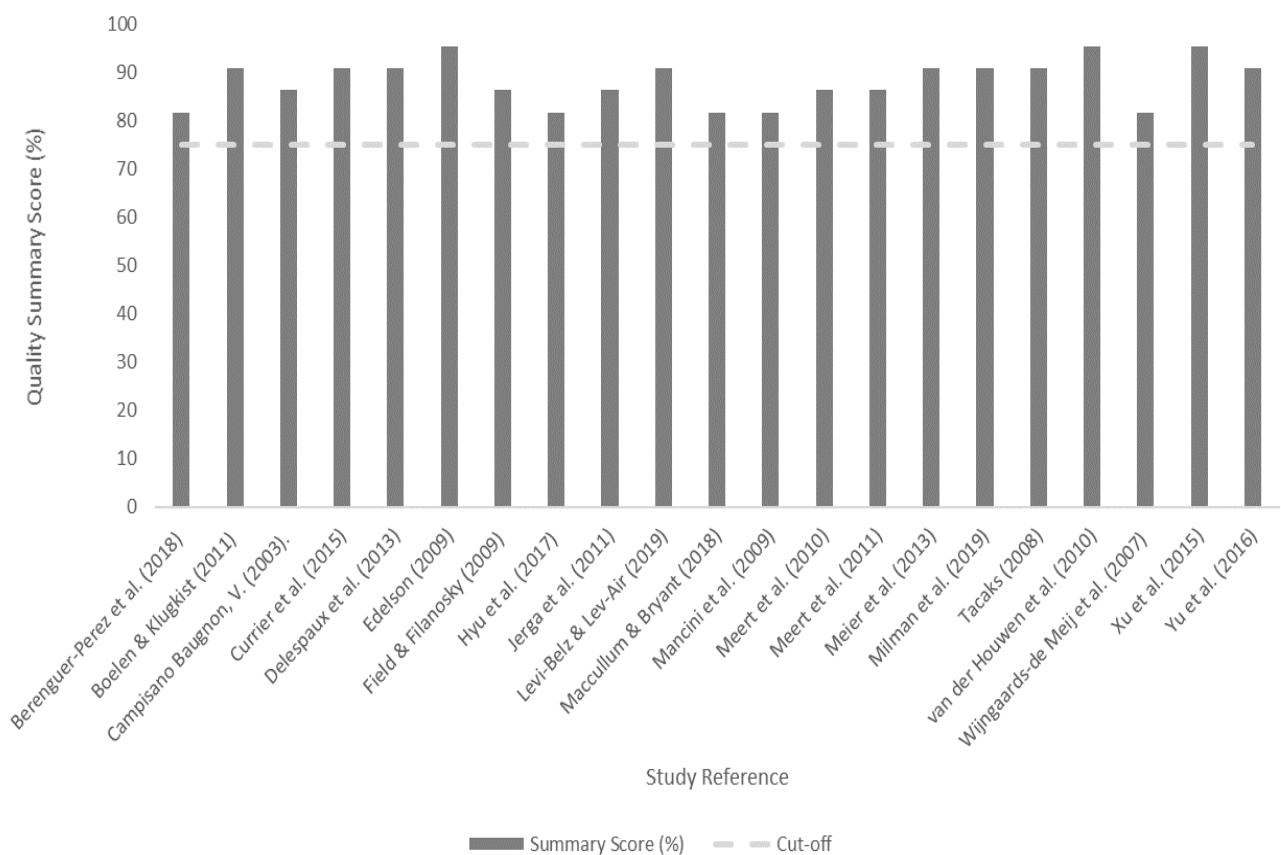


Figure 2

Quality assessment summary scores for each paper.

1.3.3 Study Characteristics

All but one study was carried out between 2007 and 2019 (exception of Campisano Baugnon, 2003). This is likely to reflect the increased interest in research around attachment theory to understand how individuals differ in their experience of psychological distress. In addition, methodological improvements in measuring and conceptualising attachment styles have facilitated further research.

The majority of studies ($n=18$) were published in peer-reviewed journals, and the remaining three studies were unpublished doctoral theses (Campisano Baugnon, 2003; Edelson, 2009; Takacs, 2009). The potential contribution of including unpublished literature is increasingly being recognised; for example, to address potential publication bias, increase

comprehensiveness and foster a more balanced overview of evidence (Paez, 2017). There can be concerns regarding the methodological rigour and quality of unpublished papers; however, this review addressed this by performing a standardised quality assessment on all studies.

The studies were conducted in various countries and represented Northern, Eastern, Southern and Western hemispheres across the world (see Figure 3). However, the studies only represented developed countries and thus have limited generalisability across different socio-economic groups. None of the studies were conducted in the United Kingdom despite ample research resources, particularly amongst the university cities, and hence caution is warranted when considering how the findings generalise to the UK population.

The higher numbers of studies carried out in the USA and The Netherlands is partly explained by experts in grief research being based in these countries, hence some researchers or research groups account for several of the final papers, for example Neimeyer (2013; 2015; 2019) in the USA, and Stroebe et al. in the Netherlands (2007; 2010). Authorship is important to consider when interpreting the results as undoubtedly different authors will bring different interests, perspectives and theoretical orientations. Cultural factors regarding the willingness to talk about death and bereavement may have also influenced the lack of research in certain countries. The continents of South America and Africa were not represented and hence caution must be taken when considering likelihood of cultural differences in grief experiences.

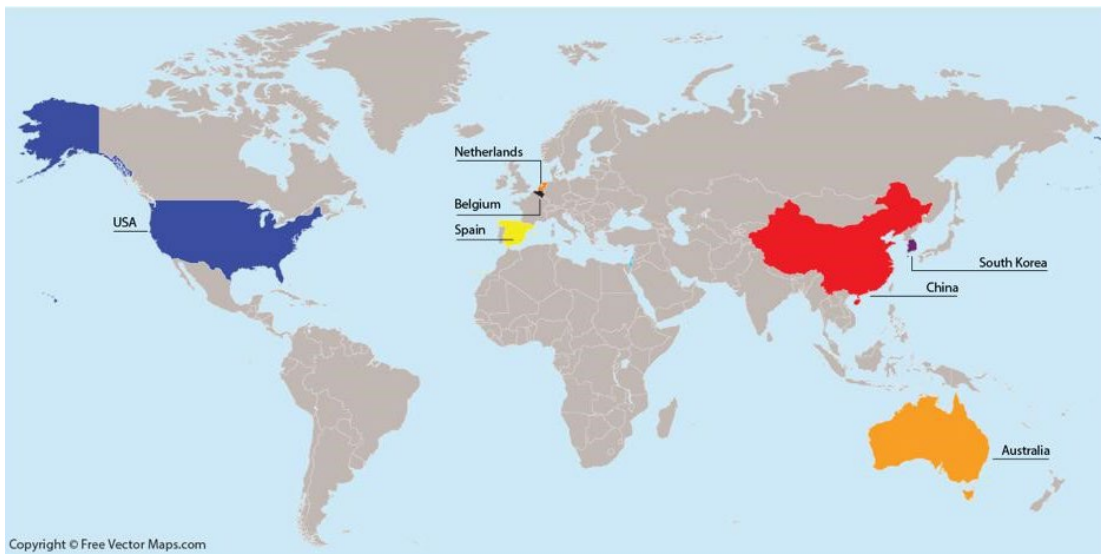


Figure 3

Map showing countries' origin of final papers.

The majority of studies ($n = 16$) utilised a cross-sectional design that analysed data from a bereaved population at a specific point in time, either within a restricted timeframe (e.g. within three years of bereavement), or with no restrictions on time since loss. The reliance on cross-sectional data means that one must take caution when inferring causation. This is particularly relevant as while the focus of the studies was to explore the association of attachment style on complicated grief, it is also possible that the experience of grief could influence how an individual reflects on their attachment style (Davila & Cobb, 2003). The remaining five studies utilised a longitudinal design whereby data was collected at multiple time points to measure change in grief symptomatology (e.g. four and 18-months post-loss), and thus, these studies can infer causation. None of the studies utilised an experimental design, although it is possible to manipulate attachment security through priming, and hence this would be an interesting direction for future research (e.g. Rowe & Carnelly, 2003). There were no intervention-based designs which is logical as research into therapeutic grief interventions are unlikely to measure attachment style as a predictor or outcome, however it would be interesting to consider a possible moderating effect of attachment on outcome of grief severity following interventions.

1.3.4 Participant Characteristics

4946 participants were represented collectively in the final 21 papers.² The mean sample size across the final studies was 235 (range = 50 – 656). The mean age of participants was 43.16 years, ranging from 17 – 90 years, although eight studies did not report age ranges. The majority of studies recruited from the general population, or specific bereavement populations (e.g. parents of children who died in intensive care), however four studies recruited utilised a student population and hence the cohorts of participants in these studies is much younger in comparison. In addition, use of a student population is likely to have limited external validity when generalising to the typical bereaved population. In addition, a systematic review by Lundroff et al. (2017) found that age was positively associated with a higher prevalence of complicated grief, and hence a younger sample may therefore not capture the relevant population for whom complicated grief is more likely to be a problem.

Across the 20 studies that reported ratios of gender representation, females accounted for a mean of 71.4% of the participants, with all studies reporting a higher ratio of females taking part than males. One study (Wijngaards-de Meij et al., 2007) did not report gender ratio of participants.

1.3.5 Bereavement Experiences

The reviewed studies reflect a range of bereavement experiences, relating to the relationship with the deceased, the nature of the death, and the time elapsed since loss. The key characteristics of the bereavements are described in Table 5.

² Participants from Meert et al.'s (2011) follow-up study have been excluded from the final count as participants were included in the original 2010 cohort.

Table 5

Bereavement experiences of participants.

Study reference	Relationship of deceased	Nature of death	Time since loss
Berenguer-Perez, Barreto-Martin, & Perez-Marin (2018) ⁱ	Grandparent (54%); aunt/uncle (22%); parent (8%); other (6%)	Illness (76%); advanced age (12%); accident (10%); other (2%)	Not reported
Boelen & Klugkist (2011)	Partner (33.6%); parent (31.0%); child (15.8%); other (18.7%)	Illness (51.7%); violent (10.3%); unexpected medical cause (23.9%); other (13.25)	Time since loss - Mean = 24.9 months (range 1-120 months)
Campisano Bagnon (2003).	Partner	Not reported	Within past six months
Currier, Irish, Neimeyer, & Foster (2015)	Immediate family (15.2%), extended family member (73.1%), close friend (14.7%)	Violent deaths only - suicide (22.3%), homicide (18.8%), fatal accident (58.9%)	In past two years
Delespaux, Ryckebosch-Dayez, Heeren & Zech (2013)	Partner	Disease (45%); accident (27%); others (28%)	Time since death - range between 6 days to 38 years (Mean = 2.84 years)
Edelson (2009)	Child (45%); partner/spouse (29%); parent (15%)	Illness (37%); accident (33%); natural cause (9%); suicide (9%); homicide (4%)	Mode time since death = over 4 years
Field & Filanosky (2009)	Parent (45%); friend (33%); sibling (11%); partner (9%); child (3%)	Not reported	Mode time since loss = 2 -5 years
Hyu, Kim, Lee, & Chae (2017)	Child	2014 ferry disaster	Mean time since death = 18 months

Study reference	Relationship of deceased	Nature of death	Time since loss
Jerga, Shaver & Wilkinson (2011)	Grandparents (54.1%); friends (13%); parents (12.8%); other relatives (4.3%); other losses (4.3%); siblings (1.9%) and partners (1.6%)	Not reported	Not reported
Levi-Belz & Lev-Ari (2019)	Parent (18%); children (16%); sibling (30%); partner (8%); second-degree relative (8%); close friend (20%)	Suicide	Time since suicide (Mean = 120 months; range 3 - 480 months)
Maccullum & Bryant (2018)	Partner (28.5%); parent (38.9%); child (18.9%); sibling or other close relative (13.7%)	Medical condition (77.3%); accident (12.2%); suicide (9.4%); homicide (1%)	Mean time since loss = 3.59 years
Mancini, Shear & Bonanno (2009)	Partner	Disease (90%); suicide (5%); accident (2%)	Not reported
Meert et al. (2010)	Child	Cardiac (26%); multiple organ failure/sepsis (16%); neurological (14%); malignancy (13%); respiratory failure (11%); trauma (7%); other (14%)	Six months prior

Study reference	Relationship of deceased	Nature of death	Time since loss
Meert et al. (2011)	Child	Cardiac (37%); multiple organ failure (21%); neurological (18%); respiratory failure (17%); trauma (11%); other (12%)	18 months prior
Meier, Carr, Currier & Neimeyer (2013)	Nuclear family (14%); Extended family (61.3%); close friend (23.1%)	Natural anticipated (42.9%); natural sudden loss (20.6%); violent death (17%); homicide (6%); suicide (5.4%); other (8.1%)	Within past 2 years
Milman, Neimeyer, Fitzpatrick, MacKinnon, Muis, & Cohen (2019)	Parent (34.5%); partner (21.1%); other (35.7%)	Illness (63.7%); natural, sudden (20.5%); suicide (7%); accident (4.1%); other (4.1%)	Within last 2 - 12 months
Takacs (2008)	Partner	Long illness (43.5%); sudden illness (34.7%); accident (12.9%); war/undiagnosed medical conditions/suicide/unknown (8.9%)	Mean time since loss = 37.58 months
van der Houwen, Stroebe, Stroebe, Schut, van der Bout & Wijngaards-de Meij (2010)	Partner (36.9%); child (35.4%); parent (20.5%); sibling (7.2%)	Natural (66.7%); accident/homicide (22.6%); suicide (10.8%)	Within last three years
Wijngaards-de Meij, Stroebe, Schut, Stroebe, van der Bout, van der Heijden & Dijkstra (2007)	Child	Neonatal/stillbirth (16.3%); through illness or disorder (47.7%); accident, SIDS, suicide or homicide (36.1%)	Not reported

Study reference	Relationship of deceased	Nature of death	Time since loss
Xu, Fu, He, Schoebi & Wang (2015)	Parent (46.7%); grandparent (33.8%); partner (6.7%); other (6.3%); sibling (3.8%); child (1.3%)	Cancer	Mean time since loss = 92 months
Yu, He, Xu, Wang & Prigerson (2016)	Parent (45.3%); grandparents (34.0%); other (8.1%); partner (6.1%); sibling (3.6%); child (1.2%)	Medical (93.1%); Traumatic (4.0%)	Time since loss: Mean = 7.70 years, range 0.5 - 30 years

ⁱThis study included a group bereaved through loss of relationship. For the purposes of this systematic review, only the bereaved through death group has been included.

While the majority of papers reported on a variety of relationships, some studies focused on specific relationships, i.e. bereaved through death of their partner (Delespaux et al., 2013; Mancini et al., 2009; Takacs, 2008) or death of their child (Hyu et al., 2017; Wijngaards-de Meij et al., 2007; Meert et al., 2010, 2011). In studies that utilised a student population, participants most commonly reported losing a grandparent (Jerga et al., 2011), whereas studies that recruited from the general population tended to be grieving the loss of a partner or parent. These differences are likely to be reflective of the grief experiences at different life stages of students versus typical adult population.

The minority of studies focused on one specific cause of death whereas, most studies represented a range of causes of death, e.g. illness, accident, homicide, suicide. Illness was the most commonly reported cause of death in all studies, which is reflective of the most common causes of death globally (World Health Organisation, 2016). Three papers did not report cause of death, despite collecting this information through demographic questionnaires (Field & Filanosky, 2009; Jerga et al., 2011; Campisano Bagnon, 2003). Collecting, but not reporting on, information gathered from participants raises ethical concerns as data should only be collected on a 'need-to-know' basis, that is, data which is necessary and relevant to the research questions (European Commission, 2018).

Collectively, the studies reflected a breadth of time since loss (range = 6 days – 30 years), and so recall reliability is likely to vary between those who are more recently bereaved compared to those whose bereavement occurred decades previously. However, several studies recruited participants specifically on the basis of their bereavement being within a certain timeframe (e.g. within past 2 – 12 months, Milman et al., 2019) which may increase the reliability of how participants recall their experiences at the time of their bereavement. Milman et al. (2019) further suggests that restricting the timeframe to the 'early stages' of grief allows the targeting of groups who are at risk of developing complicated grief which can therefore facilitate better development of preventative interventions. Furthermore, the criteria for complicated grief states that a diagnosis cannot be made within the first six months of loss, reflecting the variety of ways that 'typical' grief is expressed in the first few months, giving a rationale for excluding participants who have experienced a very recent bereavement. Despite this exclusion criteria, some studies included individuals who had

been bereaved less than six months previously (e.g. Delespaux et al., 2013; Levi-Belz & Levi-Ari, 2019), and this calls into question whether their experiences were truly representing complicated grief versus typical bereavement-related distress. There is however an argument for not restricting maximum length of time since loss, as unlike typical grief or depression, the symptoms of complicated grief have been found to persist despite the passing of time (Prigerson et al., 1995). For these reasons, given the focus on the current review is complicated grief, one should be cautious of studies that include individuals bereaved within six months, but also hold in mind the variability in time since loss across the studies.

With the exception of gender, the studies reflect a highly heterogeneous sample, with great variability in age, differences in types of death experienced, relationships to the deceased and length of time since death. These challenges have been found to be consistent among grief research and creates limitations with regard to making generalisable conclusions across contexts (Lobb et al., 2010).

1.3.6 Measures of Attachment

Table 6 shows that across the 21 studies, there were nine different instruments used to measure attachment style reflecting the significant variability in conceptualising attachment. However, there were consistencies among the instruments which allows for more reliable generalisations across the studies to be made. All of the measures adopt a dimensional view of attachment, assessing two fundamental domains referred to as attachment anxiety and attachment avoidance (Brennan et al., 1998). The dimensional approach of understanding attachment styles has become more widely preferred for research use as the categorical approach is seen as reductionist, assuming mutual exclusivity between categories and often yields less power in statistical analysis (Fraley & Shaver, 2000; Ravitz et al., 2010; Collins & Read, 1990).

Most of the measures focus specifically on measuring the adult's attitudes and experiences in romantic relationships, as opposed to measuring the parent-child attachment. When measuring adult attachment, this method may be a more reliable way of measuring attitudes and behaviours as it does not rely on retrospectively recalling memory of a

parental relationship. However, patterns of attachment may differ for the same individual in different relationships, and therefore when exploring associations with grief, findings may be different depending on whether the deceased was a romantic partner, versus another family member.

All of the measures used in the studies rely on self-report, consistent with much of the research into adult attachment (Gillath et al., 2016). Self-report measures of attachment seek to assess *conscious* attitudes and behaviours relating to experiences of separation, loss, intimacy, dependence and trust, whereas interview methods tend to explore *unconscious* processes and narrative coherence. Limitations of self-report measures include potential for bias in reporting, and some researchers argue that these 'passive' questionnaires do not activate the attachment system which is needed to accurately connect with attachment-related attitudes and behaviours (Ravitz et al., 2010). However, for the purposes of this review, the reliance of all studies on self-report measures increases the likelihood of making robust comparisons between studies.

With regard to psychometric properties of the measures used, nine studies used either the original or variances of the Experiences in Close Relationships - Revised, Short Form, or Relationship Structures (Maccullum & Bryant, 2018; Delespaux et al., 2013; Xu et al., 2015; Yu et al., 2016; Huh et al., 2017; Milman et al., 2019; Van der Houwen et al., 2010; Currier et al., 2010; Jerga et al., 2011; Meier et al., 2013). The ECR scales have excellent reliability (Gillath et al., 2016), excellent discriminant and predictive validity, and excellent convergent validity with other attachment scales (Ravitz, et al., 2010). The ECR scales have been used extensively in empirical research and are recommended by Gillath et al. (2016) following their review of adult attachment measures. The excellent psychometric properties of these scales mean that conclusions can be more confidently drawn regarding the findings in the studies.

On the other hand, the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) demonstrates only adequate test re-test reliability and convergent validity (Ravitz et al., 2010). Interpreting findings from the studies using the RSQ may therefore require caution (Levi-Belz & Levi-Ari, 2019; Boelen & Klugkist, 2011; Field & Filanosky, 2009; Mancini et al., 2009; Meert et al., 2010, 2011; Takacs, 2008; Edelson, 2009). The remaining

instruments used in the included studies are all standardised and demonstrate acceptable reliability with Cronbach's alphas ranging from $\alpha = .69 - .93$ (Collins & Read, 1990; Trinke, 1993; West et al., 1992).

In summary, although all the instruments exhibit acceptable psychometric properties, and mostly conceptualise attachment using the same dimensions, the use of several different instruments to measure adult attachment could pose a challenge for comparison across studies.

Table 6

Overview of measures of attachment used in the studies within the review

No. of studies used	Attachment Measure	Author(s)	Type	Relationship focus	Dimensions	Categories
7	Relationships Scales Questionnaire (RSQ)	Griffin & Bartholomew (1994)	30-item, self-report questionnaire	Partner	Attachment anxiety; attachment avoidance	Secure; preoccupied; fearful; dismissing
5	Experiences in Close Relationships (ECR)	Brennan et al. (1998)	36-item, self-report questionnaire	Partner (or others)	Attachment anxiety; attachment avoidance	-
3	Experiences in Close Relationships - Short Form (ECR-S)	Wei et al. (2007)	12-item, self-report questionnaire	Partner (or others)	Attachment anxiety; attachment avoidance	-
1	El Cuestionario de Apego Adulto (Adult Attachment Questionnaire - Spanish)	Melero & Cantero (2008)	40 item, self-report questionnaire	Partner	Emotional expressiveness and comfort with intimacy [secure]; Low self-esteem, need for approval and fear of rejection [anxious]; Emotional self-sufficiency and discomfort with intimacy [avoidant]	-
1	Adult Attachment Scale (AAS)	Collins and Read (1990)	21-item, self-report questionnaire	Partner	Attachment anxiety; attachment avoidance	-

1	Experiences in Close Relationships - Revised (ECR-R)	Fraley & Shaver (2000)	36-item, self-report questionnaire	Partner (or others)	Attachment anxiety; attachment avoidance	-
1	Experiences in Close Relationships - Relationship Structures (ECR-RS)	Fraley et al. (2011)	36-item, self-report questionnaire	Mother; father; romantic partner; and best friend	Attachment anxiety; attachment avoidance	-
1	Attachment Network Questionnaire (ANQ)	Doherty & Feeney (2004)	Free-text to list all significant relationships; ranking task	Relationship to significant other	Safe haven; secure base; proximity seeking; separation protest	-
1	Reciprocal Attachment Questionnaire (RAQ)	West & Sheldon-Keller (1994)	15-item, self-report questionnaire	Specific romantic relationship	Compulsive care seeking [anxious]; compulsive self-reliance [avoidant]; angry withdrawal [disorganised]	-

1.3.7 Measures of Complicated Grief

Table 7 highlights that, compared to attachment measures, there was less variation in the measures of complicated grief.

All measures were self-report questionnaires, which reflects the common use of self-report data across cross-sectional research due to being easier to administer and cost-effective, which is particularly helpful when recruiting large sample sizes. In contrast, Mancini et al., (2009) utilised an idiosyncratic structured clinical interview of eight questions to assess the presence of symptoms of complicated grief based on previous research, e.g. strong yearning for the deceased, preoccupation with thoughts about loss, pervasive sense that life is meaningless. Interrater reliability was reported to be high in this study ($\alpha = .93$); however, this protocol was unique to this study and therefore it is not clear how consistently it measures the construct of complicated grief, compared with other validated measures.

The ICG and ICG-R (Prigerson et al., 1995; Prigerson & Jacobs, 2001) are the most widely used measures of complicated grief in empirical research, and this increases confidence when comparing the results of the studies in this review, compared with other literature. Prior research has demonstrated the measures have high internal reliability (Cronbach's $\alpha > 0.90$), good test re-test reliability (0.80) and the clinical cut-off score of 25 has since been well-validated in distinguishing individuals with 'complicated' versus 'uncomplicated' grief (Prigerson et al., 1995).

The Prolonged Grief Disorder – 13 (PG-13; Prigerson et al., 2009) has demonstrated good reliability (Cronbach's $\alpha > .80$), convergent validity with proposed complicated grief criteria and discriminant validity with depression, post-traumatic stress disorder and generalised anxiety disorder (Prigerson et al., 2009). Factor analysis studies have found that both the ICG (and ICG-R) and the PG-13 measure the same underlying construct of complicated grief (Prigerson et al. 1995; Pohlkamp et al., 2018), which should facilitate reliable comparison across the studies, despite using different measures. However, the variability in ways to measure this same construct may well have important implications when comparing results. In a systematic review of 14 studies, Lundroff et al. (2017) found that the prevalence of

complicated grief varied significantly depending on the measure used to assess grief symptoms.

Table 7

Overview of measures of complicated grief used in the studies within the review.

No. of studies used	Grief Measure	Author(s)	Type	Construct	Clinical cut-off
10	Inventory of Complicated Grief (ICG)	Prigerson et al. (1995)	19 items, self-report questionnaire	Complicated grief	Scores over 25
6	Prolonged Grief Disorder – 13 (PG-13)	Prigerson et al. (2009)	13-item, self-report questionnaire or semi structured interview	Prolonged Grief Disorder	-
3	Inventory of Complicated Grief – Revised (ICG-R)	Prigerson & Jacobs (2001)	37-item, self-report questionnaire	Complicated grief	-
1	DSM-V criteria for Complicated Grief	Used in Van der Houwen et al. (2010) - Not a published measure	Nine items based on proposed criteria for DSM-V criteria for Complicated Grief, self-report questionnaire	Complicated grief	-
1	Adapted Structured Clinical Interview for DSM-III-R (based on symptoms of Complicated Grief and PTSD)	Used in: Mancini et al. (2009) - not a published measure	Structured Clinical Interview	Complicated grief	-

1.3.8 Evidence of Association between Attachment Style and Complicated Grief

1.3.8.1 Categorical Models

Table 8 shows that of the four studies that investigated the categorical construct of 'secure' attachment, two studies found a significant negative correlation with complicated grief, in that higher levels of secure attachment were associated with lower levels of complicated grief (Levi-Belz & Levi-Ari, 2019; Edelson, 2009). The two cross-sectional studies represented a range of bereavement experiences. Levi-Belz and Levi-Ari (2019) focused on 156 adults who were bereaved by suicide in Israel and reported that individuals with a secure attachment style self-reported fewer symptoms of complicated grief. Edelson (2009) recruited over 400 adults who had lost either a child, partner or parent through a variety of causes (illness, accident, suicide, murder). In this study, securely attached adults were less likely to experience complicated grief. However, the sample was mainly female (94%) and it is not clear whether the findings also generalise to males.

In contrast, one study reported no association between secure attachment style and complicated grief (Berenguer-Perez, et al., 2018). The reliability of the findings from this study may be questionable; however, as the study was assessed to be of lower quality than the other studies, and the sample size was relatively small, hence the study may not have been sufficiently powered to detect statistically significant results. The current review therefore indicates that the evidence for a significant association between secure attachment and lower levels of complicated grief is relatively consistent. Secure attachment style may be a protective or resilience factor against complicated grief.

Only one study in the current review used the broad category of insecure attachment style (versus secure), and this study reports a significant positive association with complicated grief (Takacs, 2009). In this study, 124 bereaved adults were recruited whose partners had most commonly died through illness (approximately 80%). The author reported that participants with an insecure attachment style were over 23 times more likely to meet criteria for complicated grief than those who had a secure attachment style.

Four studies used the three-category model of insecure attachment (preoccupied; fearful/disorganised; dismissing) and Table 8 demonstrates that the findings across these papers are mixed. Two studies (Edelson, 2009; Takacs, 2009) report a positive association with all three insecure attachment styles and complicated grief. Furthermore, both studies found that, in particular, the fearful attachment style (high avoidance, high anxiety) was the most significant attachment style predictive of complicated grief, compared with the other insecure groups. Both of these studies are unpublished doctoral theses which may warrant caution when interpreting the findings as they have not undergone peer-review publication process, however, the quality assessment demonstrated that both studies were of high quality achieving scores of over 90%.

Table 8 highlights that two studies (Campisano Bagnon, 2003; Levi-Belz & Levi-Ari, 2019) report no significant association between the insecure attachment categories and complicated grief. One of the studies (Campisano Bagnon, 2003) recruited 75 adults whose partner had died, although the study does not report the nature of the death and the relatively small sample size means that the study may have lacked sufficient power to detect statistically significant results. In addition, all individuals had been bereaved within the past three to six months, which means the measure of complicated grief is unlikely to be valid, given that diagnostic criteria states that a minimum of six months must have passed before considering experiences prolonged, pathological, or atypical. Hence, it is not appropriate to say that the bereaved adults' experiences reflect complicated grief as they may be representative of typical acute grief.

The other study (Levi-Belz & Levi-Ari, 2019) reporting no association was conducted in Israel and so raises the question of whether cultural factors may partially account for differences in how one expresses grief in relation to their attachment behaviours, and may limit generalisability globally. In addition, this study was focused on survivors of suicide loss and the findings may therefore be specific to this population, rather than generalisable across other forms of loss.

However, perhaps the most likely explanation for the mixed findings is the known problems with using the categorical model for researching attachment insecurity. Research has shown that individual differences are less consistent using a categorical model and can

fundamentally distort our understanding of the dynamics of attachment. Subsequently, it has been recommended that researchers should conceptualise attachment using dimensional models (Fraley et al., 2015). Hence, it may be reasonable to conclude that the findings of these four studies are less reliable and that conceptualising attachment using categories is not an appropriate or valid way to understand attachment constructs.

1.3.8.2 Dimensional Models

Table 8 highlights that the majority of the studies adopted a dimensional model of attachment and the evidence for an association with attachment avoidance and anxiety is largely consistent. 11 studies found a significant association between higher levels of attachment anxiety and elevated symptoms of complicated grief. This finding was consistent despite heterogeneity in study and sample characteristics (i.e. age, study design, measures used), and nature of bereavement (nature of death, relationship to deceased, time since loss). For example, Field and Filanosky (2009) recruited 502 bereaved adults, most of whom had experienced the death of a parent. They found that anxious attachment was positively associated with complicated grief when controlling for time since death and relationship closeness. However, despite the large sample size, the sample was significantly underrepresented by males, and attachment was measured with the RSQ, which as previously discussed has only adequate psychometric properties. Nevertheless, the positive association was replicated by Hyu et al. (2017) in their study of 81 parents who lost children in a major ferry disaster in South Korea. Hyu et al. (2017) also extended the evidence base by identifying that use of emotion- or problem-focused coping strategies did not influence the significant relationship between anxious attachment and complicated grief. However, potential confounding variables were not controlled for, and hence the strength of relationship may be accounted for by factors other than attachment style.

Four of the five longitudinal studies identified attachment anxiety as a significant predictor of complicated grief (Milman et al., 2019; Wijngaards-de Meij et al., 2007; Mancini et al., 2009; Meert et al., 2011), a relationship which was held at 18 months post-loss in both the Mancini et al. (2009) and Meert et al. (2011) study. However, a consistent limitation of the longitudinal studies is that potentially confounding variables, such as cause of death, were

not controlled for, and hence further research is required which controls for key variables in order to test the replicability of these findings. Van der Houwen et al. (2010) partly addresses this limitation in their longitudinal study and identified that attachment anxiety was no longer a significant predictor of complicated grief when it was examined together with social support.

In contrast, just one cross-sectional study found no significant association between attachment anxiety and complicated grief (Berenguer-Perez et al., 2018). This study recruited 50 undergraduate students across Spain. Most individuals in the study (54%) had experienced the death of a grandparent or aunt/uncle (22%) and therefore the failure to find significant results may reflect the fact that the bereavements may have been less impactful compared with studies where participants had lost a first-degree relative such as a child, parent or spouse. This study yielded lower quality in comparison to the other studies (82%), particularly due to its' relatively small sample size, and hence, the study may have lacked sufficient power to detect statistically significant results. This study was also the only one conducted in Spain, so it is possible that cultural differences in grief expression may partly account for the contrasting finding.

Twelve studies reported a positive association between attachment avoidance and complicated grief, contrasting with two studies (one of which reports no association and the other which reports a negative association). This relationship demonstrated consistency across a wide age range of participants, various countries, and bereavement experiences. In addition, the quality assessment demonstrated that attachment and complicated grief were measured with a variety of validated and reliable measures. For example, Currier et al. (2015) recruited 195 students bereaved through suicide in the past two years and found that higher levels of attachment avoidance were associated with higher levels of complicated grief. These findings were replicated by Boelen and Klugkist (2011) in a more heterogenous sample of 348 bereaved adults who represented a range of bereavement experiences, i.e. loss of partner, parent, child, or other family member, and as a result of a range of causes, i.e. expected illness, violent nature, or unexpected medical cause. This study received a high rating in the quality assessment (see Table 3) and was strengthened particularly by the large sample size, use of well-validated and psychometrically sound

measures, and the control of confounding variables. Hence, this provides greater assurance that these findings are reliable.

In contrast, Berenguer et al. (2018) reported no significant association; however, as described above, the study may have lacked sufficient power to detect significant results. The study reporting a negative association between attachment avoidance and complicated grief identified that this relationship was mediated by negative appraisals of bereavement-related stressors and use of restoration-focused, rather than loss-oriented coping strategies (Delespau et al., 2013).

Most studies were cross-sectional in design meaning that causation cannot be inferred; however, five studies utilised a longitudinal design whereby conclusions regarding the predictive nature of attachment on complicated grief symptoms could be assessed. All of the longitudinal studies consistently found that attachment avoidance was a significant predictor of complicated grief symptoms when measured between four and 20 months later. Meert et al. (2011) further reported that attachment related avoidance was not associated with improvement in complicated grief symptoms and thus concluded that, in their study of bereaved parents, avoidant attachment orientations presented as a risk factor for persistent grief related distress.

In summary, the majority of studies report a positive association between insecure attachment style and complicated grief, however the results are more consistent for studies that measure attachment using the dimensional versus categorical model, i.e. attachment anxiety and avoidance.

Table 8. Overview of evidence regarding association between attachment style and complicated grief.

Attach style	Positive association with complicated grief				No or negative association with complicated grief			
Secure					Levi-Belz & Levi-Ari (2019) (negative) Edelson (2009) (negative) Berenguer-Perez et al. (2018)			
Insecure	Takacs (2009)							
	Anxious	Delespoux et al. (2013) Xu et al. (2015) Yu et al. (2016) Boelen & Klugkist (2011) Van der Houwen et al. (2010) Field and Filanosky (2009) Jerga et al. (2011) Mancini et al. (2009) Meert et al. (2010, 2011) Meier et al. (2013) Edelson (2009) Milman et al. (2019)	Preoccupied	Edelson (2009) Takacs (2009)	Anxious	Berenguer-Perez et al. (2018)	Preoccupied	Levi-Belz & Levi-Ari (2019) Campisano Bagnon (2003)
			Fearful/ disorganised	Edelson (2009) Takacs (2009)			Fearful/disorganised	Levi-Belz & Levi-Ari (2019)
	Avoidant	Xu et al. (2015) Yu et al. (2016) Huh et al. (2017) Boelen & Klugkist (2011) Wijngaards-de Meij et al., (2007) Van der Houwen et al. (2010) Field and Filanosky (2009) Jerga et al. (2011) Mancini et al. (2009) Meert et al. (2010; 2011) Meier et al. (2013) Edelson (2009) Milman et al. (2019)	Fearful/ disorganised	Edelson (2009) Takacs (2009)	Avoidant	Delespoux et al. (2013) (negative) Berenguer-Perez et al. (2018)	Fearful/ disorganised	Levi-Belz & Levi-Ari (2019) Campisano Bagnon (2003)
			Dismissing	Edelson (2009) Takacs (2009)			Dismissing	Levi-Belz & Levi-Ari (2019) Campisano Bagnon (2003)

1.3.9 Mediating and Moderating Factors in the Relationship between Attachment Style and Complicated Grief

Some of the included studies explored factors that may account for (mediators) or change the strength of the relationship (moderators) between attachment anxiety and avoidance and grief, revealing more complexity within these associations. Research has focused on relationship factors with the deceased, and coping strategies that may be adopted following a bereavement.

So far, there is emerging evidence that the association between attachment insecurity and complicated grief may occur through the use of certain coping strategies.

Externalised forms of continuing bonds, i.e. an ongoing inner relationship with the deceased that involves hallucinations and illusions, was identified as a mediator by Yu et al. (2016). In this study, individuals high in attachment anxiety and attachment avoidance were more likely to cope through using externalised continuing bonds, which in turn predicted elevated grief symptoms (Yu et al., 2016).

Boelen and Klugkist (2011) and Milman et al. (2019) identified that cognitive processes i.e., high levels of rumination, catastrophic misinterpretations about grief, and negative thoughts about the future acted as significant mediators between higher attachment anxiety and avoidance, and complicated grief symptoms. In addition, individuals high in attachment anxiety and avoidance were more likely to cope by using avoidance strategies which mediated the relationship with higher level of complicated grief symptoms (Boelen & Klugkist, 2011). To the author's knowledge, these are the only two studies to examine cognitive factors as potential mediators in the relationship between attachment and complicated grief, and therefore to make more firm conclusions, further research is warranted to replicate these findings.

With regard to moderators, higher levels of self-disclosure, and lower use of continuing bonds (in individuals high in attachment anxiety only) were found to weaken the relationship between attachment insecurity and complicated grief (Levi-Belz & Levi-Ari, 2019; Currier et al., 2015). However, the use of continuing bonds strategies as a moderator has received mixed findings, and therefore it is not clear whether these strategies are adaptive or maladaptive in coping with grief in the context of different

attachment styles (Field & Filanosky, 2009). Furthermore, in light of the dearth of evidence regarding continuing bonds as a mediator, the role of continuing bonds require more detailed consideration through empirical research. It may be that externalised or internalised continuing bonds may be adaptive in the short-term for different individuals depending on their attachment orientation, but have problematic longer term outcomes.

Relationship factors have been found to be important in understanding how attachment styles may interact differently with grief response. Jerga et al. (2011) identified that high levels of conflict and care in the relationship with the deceased accounted for the association between higher levels of attachment anxiety and complicated grief. Mancini et al. (2009) explored marital quality, and reported that high marital quality predicted lower levels of grief only in individuals with a dismissing avoidant style (high avoidance, low anxiety). In the other three categories of attachment (preoccupied, fearful and secure) high marital quality predicted increased grief symptoms. This study highlights the importance of understanding how an individual's attachment history may interact with other key factors in predicting response to grief.

While these studies help to build a more nuanced understanding of the relationship between attachment insecurity and complicated grief, none of the findings have been replicated and thus there is a need for further research to consolidate knowledge. The findings of these studies may provide clinical implications for therapeutic interventions, if replicated, as they suggest that externalised continuing bonds, rumination, adaptive meaning-making, cognitions about grief, avoidance behaviours could be targeted for adaptive change in therapy. While levels of relationship conflict and care, and marital quality cannot be retrospectively changed through therapeutic intervention, a target for change may be the interpretations and meaning-making of the relationship in order to manage distress following bereavement.

1.4 Discussion

Given the distressing and traumatic experience that losing a loved one can be, a clearer understanding of associations with attachment styles in complicated grief is important to inform therapeutic intervention and future empirical research. To this end, the aim of this

systematic review was to explore the literature on the relationship between attachment styles and complicated grief in bereaved adults.

1.4.2 Overview of Findings

This review found that the weight of the evidence demonstrates higher levels of attachment anxiety and attachment avoidance are both positively associated with complicated grief symptoms. Longitudinal studies supported the notion that attachment insecurity (anxiety and avoidance) is predictive of complicated grief up to 20 months post-loss. The relationship between attachment insecurity and complicated grief may be influenced by other internal or external factors, such as higher marital quality and social support having a buffering effect. Whereas rumination, catastrophic misinterpretations, externalised continued bonds (i.e. hallucinations about the deceased) could heighten the maladaptive relationship between attachment insecurity and complicated grief.

The findings of this review are consistent with theoretical formulations by Bowlby (1980) who stated that the way people manage their grief can be understood as a function of their attachment histories. Bowlby proposed that individuals with insecure attachment orientations, compared with secure, are likely to experience complications in the grieving process as the lack of security in relationships interfere with the ability to adaptively seek safety and comfort in others. The conclusions of this review replicate the consistent finding that attachment anxiety is associated with higher levels of complicated grief (e.g. Boelen et al., 2011; Currier et al., 2015; Field et al., 2010; Mancini et al., 2009). In attachment theory, this association is explained by a hyper-activation of the attachment system whereby the bereaved individual is likely to regulate their emotions by signalling or expressing their needs and fears, exaggerating their distress and presenting themselves as extremely vulnerable to pain (Shaver & Mikulincer, 2002).

The findings of this review suggest a relatively clear association between avoidant attachment and complicated grief, which is in contrast to previous reviews which have been inconclusive with regard to the linkages (e.g. Lobb et al., 2010; Burke & Neimeyer, 2013). Previous reviews have focused more broadly on risk and resilience factors of complicated grief however, and therefore the current review is likely to have been a more thorough exploration of the evidence-base specifically relating to attachment styles and

complicated grief. Additionally, previous reviews have not included unpublished studies and therefore may not have representative of the evidence base.

The positive association between avoidant attachment and complicated grief are supported by psychological theory and literature relevant to grief and psychological distress in general. According to attachment theory, individuals with an avoidant orientation are likely to deal with distress and threat by deactivating their attachment system, forgoing support seeking, and relying on themselves to deal with threats (Mikulincer & Shaver, 2016). Although some theorists have proposed that avoidance may sometimes be adaptive, offering a buffer to overwhelming emotions, the findings of this review would suggest that, in the long run, these strategies do not lead to adjusting adaptively following the death of a loved one. Previous research has demonstrated the fragility of avoidant defences, particularly when cognitive or emotional load increases (e.g. Kohn et al., 2012; Fraley & Shaver, 1997). Hence, this provides further clarity as to why research into the adaptive or maladaptive nature of avoidant-attachment orientations may have yielded inconclusive results until now. This is consistent with Bowlby's concerns (1980) that people with an avoidant attachment style may easily be overlooked and their lack of overt distress may be misconstrued as genuine resilience.

1.4.3 Strengths

There are a number of strengths of the studies examined in this review. The quality assessment showed that the studies were all deemed to be high quality research and this means that conclusions can be drawn more confidently given the methodological rigour of the studies.

Most of the studies utilised measures of attachment and complicated grief that demonstrate good psychometric properties and have been well-validated in previous research. In addition, the majority of studies utilised the dimensional model of attachment which has shown in prior research to be a more conceptually valid and reliable way to measure individual differences in attachment compared with the categorical model. In addition, most of the studies recruited appropriate sample sizes which is likely to reflect an adequately powered study. Collectively, the studies also represent a heterogeneous group of individuals of a wide age group (17 – 90 years), who

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have experienced a range of bereavements, differing in the relationship to the deceased, the nature of the death and time since loss.

In addition, this systematic review carries strength in its inclusion of unpublished research, studies written in any language and not restricted by year of publication. These inclusive factors are likely to have reduced the risk of publication bias and have yielded a more representative examination of the literature.

1.4.4 Limitations

The reliance on self-report measures across all the studies means that there is a risk of various forms of bias, including recall and social desirability bias. In addition, all the studies relied on a self-selecting sample which carries risk of bias in terms of whether people who volunteer to take part in a study about grief are truly representative of the bereaved population. A consistent limitation across all studies was the unequal gender ratio in the samples, with an underrepresentation of males in all the research. Although this is a consistent problem in grief research, if we are to make confident conclusions regarding the way that men experience grief, there needs to be more concerted efforts to make research more accessible for men. Furthermore, none of the studies compared outcome by gender and thus there is a need for further understanding of whether there are differences in the relationship between attachment and complicated grief in men and women.

The evidence base consisted mostly of cross-sectional, correlational designs which although is appropriate in answering research questions regarding the relationship between two variables, conclusions regarding the direction of the effect are not able to be made. Research has shown that adverse life events can influence the way that one perceives their attachment styles and relationships (Davila & Cobb, 2004), and therefore the experience of bereavement may have affected how people perceived their attachment histories. Longitudinal studies that measure attachment prior to a bereavement would allow for these methodological limitations to be addressed, and clarity regarding the direction of the relationship.

Most studies included in the review were conducted in the USA, with a lack of representation from Africa, South America and the UK. Hence, caution is warranted when considering how the findings generalise across cultures. If cultural factors have an impact on priorities for research then this could have implications for being able to better understand grief experiences and thus deliver more effective support.

This systematic review also carries limitations which need to be held in mind. A meta-analysis was not conducted as part of the review due to the heterogeneous nature of the measures of attachment and complicated grief, and the heterogeneity among samples, however a meta-analysis would be able to better account for differences in study quality when drawing conclusions. In addition, screening of the literature was undertaken by one reviewer and so reliability of applying the eligibility criteria is not known. The quality assessment tool used (QualSyst; Kmet et al., 2004) has shown only adequate psychometric properties and therefore the quality ratings assigned to the studies may be limited by reliability and validity. Furthermore, the QualSyst was designed to be used for intervention studies and so many of the items were not applicable to the studies in this review. However, in reviewing possible alternatives, there was a distinct lack of adequate and validated tools more suited for non-intervention based research.

1.4.5 Implications

The findings contribute to a greater understanding of how individuals may respond more or less adaptively depending on their attachment orientations. Individuals with high levels of attachment-related anxiety or high levels of attachment avoidance may be at greater risk of complicated grief following the death of a loved one, compared to individuals who report a more secure attachment style. Attachment-related security may therefore act as a protective factor, enabling individuals to adjust more adaptively following a bereavement. The findings of this review offer clarity with regard to the role of attachment avoidance and although individuals with an avoidant attachment style may not overtly express psychological distress and may potentially 'mask' their grief, clinicians need to be aware that this group of individuals are likely to be at risk of complicated grief.

Therapeutic interventions to support individuals experiencing complicated grief may benefit from taking into account their attachment orientations. Individuals with anxious

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or avoidant styles are likely to require support in different ways. The DPM may provide a useful framework when considering how to adapt therapeutic support (Stroebe & Schut, 1999). For example, it is likely that individuals high in attachment anxiety will be focusing more on loss-oriented coping, and intervention may therefore be most beneficial if the bereaved person is supported to direct their attention towards restoration-focused tasks. Bereaved individuals high in attachment avoidant on the other hand, may well be suppressing loss-orientation needs, and thus therapy may specifically facilitate an individual to attend to the loss within the context of a supportive therapeutic relationship.

Clinicians will also benefit however from considering the role of potential mediators and moderators which may influence the delivery of therapeutic interventions. This review identified a number of mediating factors in the relationship between attachment insecurity and complicated grief which may be amenable to change, i.e. externalised continuing bonds, meaning-making, anxious and avoidant behaviours, negative thoughts about the future, and catastrophic misinterpretations of grief.

Clinicians should consider the value of targeting these mediating factors in grief interventions, as the literature suggests these mechanisms may at least partially account for the relationship between attachment and complicated grief. Existing grief interventions that seek to target these mediating factors, e.g. Cognitive Behavioural Therapy (CBT), may therefore prove valuable, particularly for individuals with insecure attachment styles.

Identified moderators may help clinicians consider who is likely to benefit most from therapeutic intervention, for example, individuals with insecure attachment styles who demonstrate little self-disclosure, and individuals with secure or anxious attachment orientations who perceived their marriage to be of high quality. For individuals with a dismissing attachment style (high avoidance, low anxiety), perceived high marriage quality may act as a protective factor against risk of complicated grief and therefore this group may not require specialist grief intervention.

In light of the role of attachment insecurity in complicated grief, a number of grief interventions incorporate attachment-informed goals or tasks into therapy. For example,

in CBT for grief, attention is paid to integrating the loss with the mental representations of the relationship with the deceased so that thoughts and images of the lost loved one no longer results in intense separation distress (Boelen et al., 2013).

1.4.6 Future Research

Future research could address the methodological concerns raised in this systematic review by adopting a longitudinal design and measuring attachment orientation prior to a bereavement. This would enable more confident conclusions regarding the direction of the relationship. In addition, there is a need for research to be conducted across a wider range of countries to investigate whether the results generalise across cultures.

Furthermore, addressing the lack of equal representation of males in grief research is also needed in order to more confidently determine whether the relationship between attachment insecurity and complicated grief exists across genders. Further exploration of moderators is warranted to establish factors that may exacerbate or reduce the risk of complicated grief for bereaved adults with high levels of attachment insecurity.

Moderating factors can then be targeted in therapeutic intervention to aid positive outcome. Given the evidence that attachment is important in understanding individual differences in grief, attachment insecurity as a potential moderating factor is worthy of considering in future research which explores other potential predictors of complicated grief. It may be overly simplistic to assume a linear relationship between predictors and complicated grief, and therefore attachment insecurity may be one factor that influences key associations.

1.5 Conclusion

This systematic review identified and examined 21 studies that empirically explored the relationship between attachment insecurity and complicated grief. The findings of these high-quality studies suggest that attachment anxiety and attachment avoidance are both positively associated with increased symptoms of complicated grief. The review poses implications for recognising individuals who may be at risk of intense psychological distress and complications in the grief process following the death of a loved one. The

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findings also suggest avenues for tailoring therapeutic intervention according to the attachment orientations for bereaved adults.

Chapter 2 **Empirical Paper: Exploring Dissociative Experiences in Grief**

2.1 Introduction

There is growing evidence that dissociation in the early stages of grief, and dissociation that persists over time, is linked with a higher risk of experiencing complicated grief (Boelen et al.,2012). However, the current evidence base is limited and has methodological limitations that need to be addressed to further understand the relationship between dissociation and complicated grief. Furthermore, there is no UK research on dissociation and grief and the current study aims to begin building a UK evidence base. This study also has a unique contribution, as to date none of the research on dissociation and complicated grief has examined the role of attachment security or insecurity in moderating the link between dissociation and grief despite their potential relevance in understanding individual differences in grief responses. This chapter therefore describes the current study which aims to explore the relationship between dissociation and complicated grief, and the potential moderating influence of insecure attachment dimensions, in a large sample of bereaved adults reflecting a wide range of bereavement experiences.

2.1.2 Grief

The experience of grief is the natural response to the loss of someone or something meaningful. For most people, the death of a loved one is one of the most distressing experiences that they will ever face. Grief is the psychological response to bereavement, usually consisting of intense yearning and sadness, along with thoughts, memories and images of the deceased person. One of the most widely known models of the grief process is the five-stage model by Kübler-Ross (1969), and although it is now widely acknowledged the stages are not experienced in sequential order, research has supported the notion that a grieving individual may show an array of thoughts, feelings and behaviours associated with the five stages; emotional numbness, yearning, anger, despair and acceptance (Maciejewski et al., 2007). Kessler (2019) has more recently

conceptualised a sixth stage of grief which he calls 'making meaning' whereby one attempts to make sense of, learn from, and take lessons from the person that has died.

Despite the immense psychological pain of grief, the majority of bereaved individuals will demonstrate significant resilience and cope adaptively with their grief (Zisook & Shear, 2009). Prospective, cross-sectional and longitudinal research into responses to bereavement has demonstrated that most people exhibit either high levels of psychological distress which subsides over time, or experience a short period of variability in distress following the death of a loved one, and that these two patterns are associated with being able to function adaptively in everyday life (Bonnano, 2005). However, for some people, instead of decreasing, the intensity of grief-related distress and the associated intense emotional pain persists over time, becomes increasingly debilitating and has significant impact on functioning in daily life. This prolonged and intense separation distress after bereavement has similarities with a chronic stress response syndrome and has become known as complicated grief (Shear et al., 2014).

2.1.3 Complicated Grief

Individuals with complicated grief experience frequent preoccupying thoughts and memories of the person who died, ongoing difficulty comprehending the death, feelings of disbelief, intense yearning and longing for the person who died, guilt, anger and bitterness related to the death (for a review see Lobb et al., 2010). Complicated grief is also experienced as recurrent pangs of painful emotions, a sense of estrangement and emotional loneliness, debilitating avoidance behaviours and difficulty imagining a meaningful future without their lost loved one (Horowitz et al., 1997). For individuals experiencing complicated grief, daily functioning is significantly impaired and symptoms persist for at least 12 months post-loss (Prigerson et al., 2009).

Epidemiological studies suggest around 7-10% of bereaved individuals experience complicated grief (e.g. Kersting et al., 2011). A systematic review of 40 studies identified three key predictors of complicated grief: pre-bereavement factors, the nature of the death, and post-bereavement experiences (Lobb et al., 2010).

Pre-bereavement factors included; female gender, previous experience of trauma and bereavements, insecure attachment style and closeness of the relationship to the

deceased were all associated with increased risk of complicated grief. Regarding the nature of the loss; higher perceived importance of the person who died is associated with increased severity of complicated grief symptoms, with death of spouses, parents or children resulting in a higher risk of complicated grief than the death of friends or co-workers (Lobb et al., 2010). Suddenness of death was also associated with more severe grief reactions (Lobb et al., 2010). Post-bereavement factors that were associated with higher risk of complicated grief included; lack of social support; concurrent stressors, co-occurring anxiety and depression (Lobb et al., 2010; Melham, Shear, Day, Reynolds & Brent, 2004).

Longitudinal studies have demonstrated that complicated grief is associated with a range of potentially debilitating and distressing mental and physical health problems, including sleep disturbances, increased substance misuse, immunological dysfunction, increased risk of cancer, hypertension, and increased suicidality (Prigerson et al., 2009; for a review, see Lunderff et al., 2017). Hence, complicated grief is a worthy area of research to better understand the factors related to its development and maintenance.

This study aims to further understanding of the role of psychological responses at the time of a bereavement, as well as persistent responses, and the potential relationship with complicated grief. Bereavement can be a traumatic experience, particularly when a loved one dies suddenly or as a result of a violent event, such as murder or a human-caused accident (Hyh et al., 2017). A key psychological response known to frequently occur in traumatic events is dissociation, and this study focuses on the role of dissociation in complicated grief. Prompted by cognitive theories of PTSD, this study aimed to explore the role of dissociative experiences following the death of a loved one and its' relation to complicated grief.

2.1.4 Dissociation

Dissociation is characterised by alterations in consciousness as a response when individuals are in highly stressful situations. Dissociative experiences include depersonalisation (feeling detached from one's body), derealisation (feeling the environment is unreal), and numbing of emotions (Kennedy, 2013). Dissociation presents along a spectrum of severity, ranging from transient, functional and 'normal' to sudden,

pathological, unpleasant and chronic. Dissociation is best understood within the literature and clinical field of PTSD; however, it is now widely recognised that dissociation occurs across a breadth of psychological problems, including panic disorder, eating disorders, psychosis, anxiety, as well as being a normal, everyday experience in the form of day-dreaming or 'tuning out'.

Kennerley's dichotomous model (2009) of dissociation states that any specific presentation of dissociation can be experienced along a continuum of severity. A review of the empirical evidence on dissociation has identified two major subtypes; detachment and compartmentalisation (Holmes et al., 2005). Detachment refers to an altered state of consciousness characterised by a sense of separation from sensory input or connectedness to the world. Detachment might be typically felt as though events are occurring without really feeling as though they are happening.

Compartmentalisation describes a sense of loss of control or awareness of specific mental, physical or sensory processes because of deficits in integrating functioning (Van der Hart et al., 1998). Elements of an experience that are usually integrated are stored in isolated fragments. Compartmentalisation can explain the sense of having a flashback of the traumatic event, whereby the 'time stamp' of the event is not integrated into the sensory experience, and hence, an individual may re-experience the event as if it is happening again *right now*. Compartmentalisation also refers to amnesias, and somatoform symptoms, i.e. physical functions that are no longer amenable to control (Holmes et al., 2005).

The role of dissociation in coping with traumatic events has been theoretically and empirically explored with some degree of conflicting conclusions. It has been suggested that transient detachment may have an adaptive, protective function during a traumatic event to buffer against overwhelming psychological pain and distress. Van der Kolk (1987) argued that dissociative processes allow relatively normal functioning while a traumatic event is happening, and that there are no lasting negative effects on the individual's personality and sense of self. Fine (2007) described dissociation as, "the ace your brain keeps up its sleeve for when the chips are down" (p. 45). Fisher (2001) agrees that dissociation as a mechanism is meant to be protective, "the system was designed for

survival, not destruction” (p. 15). Similarly, compartmentalisation affords distance from overwhelming events (Fisher, 2001).

In contrast with the view that dissociation may be adaptive at times of intense stress, empirical studies have found that dissociation is one of the most significant predictors of PTSD following a traumatic event. For example, in a meta-analysis of 68 studies, dissociation at the time of a trauma (peri-traumatic dissociation) was the strongest predictor of subsequent PTSD symptoms over and above prior characteristics such as, family history of psychopathology, prior psychological wellness, and trauma history (Ozer, Best, Lipsey, & Weiss, 2003). Thus, dissociative responses that occur at the time of a trauma have been identified as a major risk factor for subsequent PTSD.

According to cognitive theories of PTSD, the relationship between peritraumatic dissociation and later problems adjusting to the trauma is explained through dissociation interfering with the encoding and immediate processing of traumatic memories (Ehlers & Clark, 2000). During trauma, dissociation prevents processing of stimulus material and hence memories are fragmented, lack chronological order, hold intense sensory and emotional content, and lack a coherent narrative (Kennedy et al., 2004; Peltonen et al., 2017). The fragmented and ‘dissociated’ nature of these memories increases the eventual likelihood of PTSD by blocking the processing of the event in a coherent manner (Ehlers and Clark, 2000). Furthermore, trauma memories fail to be stored appropriately within the autobiographical memory structure (Briere et al., 2005). Hence, memories are not available to be freely accessed and intrusive images or ‘flashbacks’ may be experienced as if they are re-occurring in the here and now (Kennedy, 2013).

2.1.5 Dissociation and Grief

Given the role of dissociation in blocking adaptive recovery from traumatic events, it is important to gain a better understanding of dissociation in the aftermath of bereavement. However, as much of the empirical research into the role of dissociation as a response to traumatic or stressful events has been conducted within the field of PTSD, there is very little understanding of how dissociation presents in grief, and its’ contribution to the complication of the grief process.

2.1.5.1 Periloss Dissociation and Grief

Empirical evidence is emerging that highlights how dissociation in the acute phase of bereavement (periloss dissociation) may complicate the natural grieving process and be linked with more severe grief reactions later on. In non-clinical and clinical samples of bereaved adults, periloss dissociation has been found to predict current and later symptoms of complicated grief, even when controlling for key loss-related variables such as relationship to deceased, time since loss, suddenness (Boelen et al., 2012; Bui et al., 2013; Boelen, 2015). Furthermore, Bui et al. (2013) identified by factor analysis that periloss dissociation is a distinct construct from 'typical' bereavement responses, despite the potential overlap between the 'emotional numbness' in the denial phase of the Kübler-Ross model of grief. This phase is characterised by shock, avoidance, confusion and a numbing of emotions (Kübler-Ross, 1969), compared with the distinctive characteristics of dissociation relating to the disruption of usually integrated functions of consciousness, memory, identity or perception (APA, 2000). Furthermore, dissociation is not currently part of the accepted definition of complicated grief (see Prigerson et al., 2009 for definition). In addition, Boelen (2015) found that periloss dissociation mediates the relationship between the violent and sudden nature of death and symptoms of complicated grief, further evidencing the key role of dissociation in adapting after a traumatic bereavement. Although these previous studies provide important emerging evidence of the role of dissociation in grief, the research is limited by the dearth of research being conducted in this area, and by methodological flaws. Firstly, studies have only been conducted in the Netherlands and USA thereby limiting generalisability across nations. In addition, the only study to utilise a clinical sample (Bui et al., 2013) focused on treatment seeking individuals and therefore little is known regarding dissociative experiences among the non-treatment seeking population who may be experiencing debilitating levels of complicated grief. Studies have also only focused on individuals bereaved relatively recently (within the past three years) and therefore there is a lack of research on whether dissociative experiences persist over longer periods of time.

2.1.5.2 Persistent Dissociation and Grief

Drawing on the PTSD literature, research has suggested that dissociation at the time of a trauma may be less important in predicting psychopathology compared with dissociation

that persists over time. For example, in their study of over 300 trauma-exposed adults, Briere et al. (2005) found that peri-traumatic dissociation was no longer a significant predictor of PTSD when persistent dissociation was accounted for. Hence, they concluded, “the primary risk for PTSD is less whether one dissociates during the traumatic event, than whether such dissociation persists over time” (p. 2299). It is therefore important to measure dissociative experiences both at the time of a traumatic event and after substantial time has passed to establish their unique contributions to complicated grief.

The only study to explore the role of persistent dissociation in grief comes from Hasson-Ohayon et al. (2017), who found that persistent dissociation was positively related to complicated grief symptoms in a non-clinical sample of 66 adults who had experienced the death of a loved one within the past three years. Mediation analysis showed that this effect may have occurred through impairment of the ability to integrate the memory of the loss into general autobiographical memory. Impairment in the ability to integrate the memory was measured through the Integration of Stressful Life Experiences Scale (ISLES, Holland et al., 2010); a questionnaire measuring the integration of a stressful life experience into the self-narrative. The authors concluded that dissociative tendencies may act as a barrier to an individual fully acknowledging their loss and may lead to a struggle in making sense of this experience, thus contributing to elevated complicated grief symptoms. This study was limited in terms of its’ generalisability, however, because of its’ reliance on a non-clinical population with low levels of self-reported psychopathology. Thus, it is not clear whether a similar relationship exists between persistent dissociation and complicated grief in adults reporting more severe symptoms and who may potentially seek support. In addition, this study did not measure perillness dissociation and so the relationship between perillness and persistent dissociation remains to be explored in a grief-context.

2.1.6 Current Theories of Complicated Grief

Despite this emerging empirical evidence that perillness dissociation is implicated in complicated grief by preventing these memories from being adaptively integrated with existing, autobiographical knowledge and maintaining acute grief reactions (Bryant,

2007), current psychological theories of complicated grief fail to take into account the potential role of periloss dissociation in the development and maintenance of complicated grief. In both the attachment-based biobehavioural model and the CBT model of complicated grief, complicated grief occurs from a failure to integrate the permanent loss of an attachment figure into existing schemas (Shear et al., 2007). Hence, dissociation in the aftermath of a bereavement, i.e. periloss dissociation, may play a key role in at least partly explaining this poor integration of the death with existing knowledge.

In cognitive models of PTSD, persistent dissociation serves as a cognitive avoidance mechanism. Avoidance maintains PTSD by interfering with the natural recovery process as it prevents trauma survivors from becoming habituated to the trauma memory. In turn, this avoidance prevents change in the appraisals or memory and contributes to catastrophic beliefs that trauma memories are dangerous and thus one should avoid thinking about what happened (Ehlers & Clark, 2000). Drawing from the cognitive model of PTSD, in the CBT model of complicated grief, avoidance strategies are also implicated as a key maintenance factor by directly causing symptoms of complicated grief, preventing changes in negative beliefs, and interfering with the integration of the death with existing knowledge (Boelen et al., 2006). However, dissociation is not explicitly mentioned as a potential avoidance strategy within the CBT model, despite emerging evidence that it may be an important unconscious avoidant strategy that could maintain intense grief.

2.1.7 Rationale for Current Study

Existing studies, although providing important emerging evidence of the role of dissociation in grief, is limited by methodological flaws. Limitations include the restricted variability in complicated grief symptoms, with studies conducted largely with non-clinical populations, or focused on those at the higher end of the spectrum of severity (i.e. high levels of complicated grief symptoms and seeking treatment/therapy). The current study seeks to address methodological limitations by recruiting adults who reflect a range of non-clinical and clinically significant complicated grief symptoms, and by measuring both periloss and persistent dissociation among these bereaved adults. To the author's

knowledge, this study represents the first UK study to explore dissociation among bereaved adults.

2.1.8 The Role of Attachment

Attachment theory, as initially conceptualised by Bowlby (1982), proposes that we are all born with an innate drive to seek proximity to support others in times of need. Bowlby proposed that this innate drive, the attachment system, functions to regulate distress through relationships developed initially through the infant bond with the primary caregiver. Depending on the responsiveness, availability and efficacy of caregiving in early relationships, infants develop a sense of feeling more or less secure in attachment relationships. Individuals who develop a secure attachment style are typically comfortable being intimate with others, trust that others will be responsive to their needs, and are comfortable depending upon others, and having others depend on them (Gillath, Karantzas, & Fraley, 2016).

In contrast, individuals who develop an insecure attachment style typically have experienced prior relationships in which caregivers have been distant, rejecting, hostile, inattentive, preoccupied, or anxious, thus resulting in an individual perceiving a sense of insecurity in relationships (Mikulincer & Shaver, 2016). Insecure attachment style has been conceptualised by two dimensions; attachment anxiety, and attachment avoidance. Attachment anxiety refers to the extent to which individuals fear rejection and abandonment and worry that loved ones will not be there at times of need (Mikulincer & Shaver, 2007). Attachment avoidance describes the extent to which individuals seek to maintain emotional distance from loved ones, mistrust others' goodwill, and are excessively self-reliant (Fraley & Shaver, 2000).

With regard to dissociation and attachment, developmental models of dissociation propose that in early disrupted attachment experiences, dissociation provides protection against psychological distress (Liotti, 1992). Research has supported this notion and shown that dissociative experiences are more prevalent among individuals with prior childhood trauma and attachment insecurity (Liotti, 2006; Lyons-Ruth, 2008;). Thus, it is commonly understood that early trauma and attachment difficulties are likely causal factors for dissociation (Schoore, 2009). Furthermore, Liotti (2006) proposed that

dissociation is likely to occur in response to situations that activate the attachment system. Hence, dissociation is particularly relevant to consider following the death of a loved one, arguably one of the most significant triggers of the attachment system.

In the field of PTSD research, it has been considered overly simplistic to assume a linear relationship between a traumatic event, peri-traumatic dissociation and development of PTSD. Therefore, an in-depth understanding of dissociation and grief should seek to take account of factors that may influence this relationship. Djelantik et al. (2017) argued that the degree to which other variables moderate the association between trauma symptoms and grief remains to be studied. As attachment theory has been recognised as a key paradigm in understanding individual differences to bereavement, the current study seeks to extend the understanding of dissociation in grief by exploring the potential moderating influence of attachment insecurity.

Exploring the potential moderating role of attachment insecurity on dissociation and complicated grief may provide a better understanding of whether increased dissociation is consistently linked with increased complicated grief, or whether differences in attachment orientation may explain any nuances in this relationship. Holding in mind theorists who suggest that dissociation can sometimes be adaptive, it is important to explore moderators which seeks to explain under what conditions the relationship between dissociation and complicated grief may hold, or may weaken. Exploring attachment as a moderator can seek to gain clarity on who may respond better or worse following dissociative experiences during a bereavement. Ultimately, further understanding moderating factors could help clinicians to understand who may be more in need of therapeutic intervention, i.e. perhaps dissociation is particularly maladaptive if it is in the presence of high levels of attachment insecurity.

Current conceptualisations of complicated grief use an attachment-based framework whereby the experience of grief is a reflection of an activated attachment system, e.g. longing for the deceased, preoccupying thoughts, seeking connection, intense distress at the separation (Shear, 2010). An attachment theory view on adaptive, 'normative' bereavement centres on the premise that the death of an attachment figure triggers predictable responses for most people; strong protest, anger, yearning, despair, intense sorrow, loneliness, and withdrawal. Over time, however, individuals gradually reorganise

their life by maintaining a symbolic bond to their deceased loved one, while integrating the loved one into their own identity, restoring their sense of security and re-engaging with a new reality (Bowlby, 1980). However, attachment insecurities can complicate the grief process and interfere with attachment reorganisation (Bowlby, 1980).

Mancini and Bonnano (2012) highlighted that for individuals high in attachment anxiety, bereavement tends to trigger hyper-activation of the attachment system, leading to what Bowlby (1980) described as 'chronic mourning', characterised by overwhelming anxiety and sadness, prolonged difficulty in re-engaging with adaptive functioning and forming new relationships, preoccupation with the deceased, and significant difficulty accepting the loss. Empirical evidence has largely supported adult attachment anxiety having a positive association with complicated grief reactions (e.g. Boelen et al., 2011; Currier et al., 2015; Field et al., 2010; Mancini et al., 2009; Meier et al., 2013).

Attachment avoidance, on the other hand, is proposed to underlie 'delayed grief' whereby attachment-related thoughts and emotions are suppressed and urges to seek proximity or support are inhibited (Mikulincer & Shaver, 2007). Individuals high in attachment avoidance are thought to respond to grief with a de-activation of their attachment system, leading to a loss of access to thoughts and images of lost loved ones (Mikulincer et al., 2002). Numerous studies have demonstrated a significant relationship between attachment avoidance and increased likelihood of complicated grief (e.g. Wijngaards-de Meij et al., 2007; Delespaulx et al., 2013), although a number of studies have reported no such relationship (e.g. Field & Sudin, 2001; Fraley & Bonnano, 2004; Wayment & Vierthaler, 2002). While some studies argued that attachment avoidance may be adaptive to regulate feelings and behaviour, others maintain that attachment avoidance presents complications in the grieving process (Yu et al., 2016).

Understanding individual differences in dissociation and complicated grief from an attachment-informed perspective has important implications for delivering grief interventions. Firstly, it will help to understand whether dissociation is likely to be more, or less, problematic for individuals depending on their attachment security. Secondly, it may provide important perspectives that enable clinicians to better tailor grief interventions based on an individual's attachment orientation.

2.1.9 Aims and Hypotheses

This study aims to examine whether dissociation at the time of the death of a loved one (perilous dissociation), and persistent dissociation, are related to higher levels of self-reported complicated grief. The study also aims to examine whether attachment insecurity (anxiety and avoidance) moderates this proposed relationship. The following hypotheses will be tested:

1. Higher levels of perilous dissociation will be associated with higher levels of complicated grief.
2. Higher levels of persistent dissociation will be associated with higher levels of complicated grief.
3. Higher levels of attachment anxiety and avoidance will be associated with higher levels of perilous dissociation.
4. Higher levels of attachment anxiety and avoidance will be associated with higher levels of persistent dissociation.
5. Higher levels of attachment anxiety and avoidance will be associated with higher levels of complicated grief.
6. Attachment insecurity will moderate the proposed relationship between dissociation and complicated grief.
 - a. The relationship between perilous dissociation and complicated grief will be stronger among people high in attachment anxiety or attachment avoidance.
 - b. The relationship between persistent dissociation and complicated grief will be stronger among people high in attachment anxiety or attachment avoidance.

2.2 Method

2.2.2 Design

The study used a cross-sectional correlational design by conducting a survey with clinical and non-clinical populations. An a-priori power analysis for multiple linear regression with at least nine predictor variables was calculated in G*Power version 3 (Faul et al., 2007) to determine the required sample size using a significance level greater than $p=.05$, with power greater than .8, and a large effect size similar to that achieved by Bui et al. (2013; $r = 0.42$). Based on the aforementioned assumptions the required sample size was calculated as at least 166.

2.2.3 Inclusion/Exclusion criteria

Participants were included if they were at least 18 years old and had experienced the death of a loved one or close friend. Complicated grief is not identified within six months of the death of a loved one (Prigerson et al., 2009), and in line with this timeframe, no participants identified their bereavement as occurred less than six months prior. Participants were asked to indicate that they possessed a proficient level of English to read and complete the questionnaires by ticking a box to this effect on the information and consent page.

To increase homogeneity among the sample, individuals who had experienced bereavement through pet death or miscarriage were excluded. Loss through non-human related circumstances i.e. such as job loss, finance loss, etc were also excluded.

2.2.4 Participants

Participants were recruited through a variety of sources. Adverts were posted on social media platforms (Facebook, Twitter, Instagram, LinkedIn) on relevant bereavement or mental health related pages, groups or forums. In addition, various bereavement and hospice organisations agreed to display the study advert in their newsletter, social media, or around their buildings. Posters were placed around the local community, e.g. university, local supermarkets and the study was also advertised on the university's

research platform for Psychology students. Finally, the study was publicised on the research portal, 'Call for Participants'.

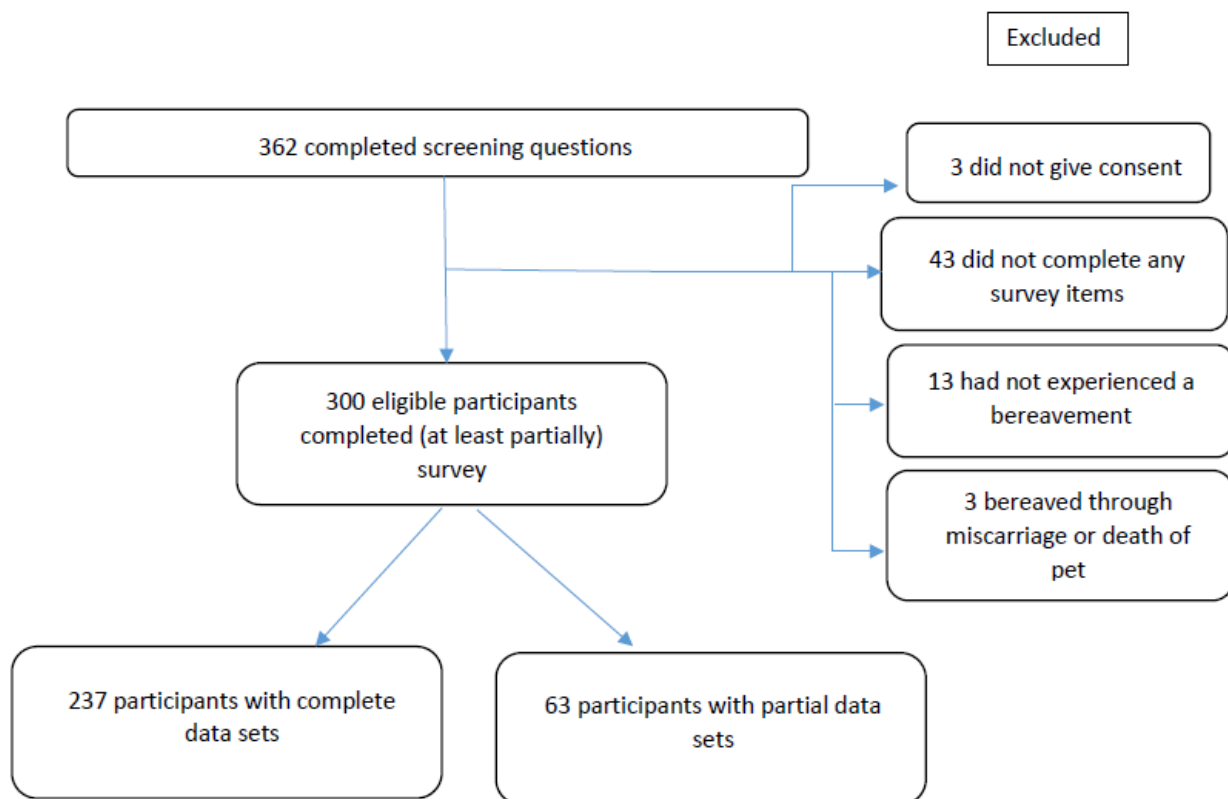


Figure 4

Diagram of final sample.

Of the 362 who completed the screening questionnaire, 62 responses were ineligible for reasons detailed in Figure 4. Table 9 shows the demographic and bereavement characteristics for the final sample which consisted of 300 bereaved adults (89.3 % female), aged 18 – 83 years ($M = 34.68$ years, $SD = 16.02$). Most individuals identified as being of White or White British ethnicity (89.3%). Individuals had mainly experienced the death of a parent (27.3%) and time since death ranged between seven months to 56 years. The cause of death was most commonly through illness or disease (71.3%). The majority of participants reported that the death was very or somewhat sudden (59.3%). Most participants rated the person who died as being extremely important to them (74%). Most participants did not seek professional support after their loved one died (71.7%).

Table 9

Demographic and bereavement characteristics of the participants who completed the survey (N = 300).

Characteristics	Mean	SD
Age (years)	34.68	16.02
Years since death	6.60	8.76
	N	%
Gender		
Male	31	10.3
Female	268	89.3
Prefer not to say	1	0.4
Ethnicity		
White or White British	268	89.3
Black or Black British	6	2.0
Asian or Asian British	21	7.0
Mixed ethnicities	3	1.0
Other ethnic group	2	0.7
Relation of deceased		
Parent	111	37.0
Grandparent	82	27.3
Close friend	37	12.3
Spouse	31	10.3
Sibling	17	5.7
Child	9	3.0
Work colleague	2	0.7
Other (aunt, uncle, cousin)	11	3.7
Cause of death		
Illness/disease	214	71.3
Accident	24	8.0
Suicide	21	7.0
Murder	6	2.0
Unknown	13	4.3
Other	22	7.3
Suddenness		

of death		
Very sudden	111	37.0
Somewhat sudden	67	22.3
Somewhat expected	76	25.3
Expected	46	15.3
Importance of person		
Extremely important	222	74.0
Very important	58	19.3
Moderately important	18	6.0
Slightly important	2	0.7
Type of professional support sought		
Bereavement-specific counselling	12	4.0
Generic talking therapy/counselling	27	9.0
Medication	1	0.3
GP support	2	0.7
Unspecified	43	14.3
None	215	71.7

2.2.5 Measures

The following measures were used to explore key associations.

2.2.5.1 The Inventory of Complicated Grief - Revised (ICG-R; Prigerson & Jacobs, 2001)

This self-report questionnaire contains 19 items which measure symptoms of complicated grief, i.e. maladaptive grief-related thoughts and behaviours. Example questions include, “I have lost my sense of security or safety since the death of ___”. Participants are asked to rate each item using a five-point Likert scale (0-4) ranging from “Never” to “Always”. Items are summed to produce a total score (range = 0 - 76). Higher scores indicate greater levels of complicated grief symptoms. Scores over 25 have been identified as clinically significant (Prigerson et al., 2001). Internal consistency has shown to be excellent in previous research with bereaved adults ($\alpha = .94$; Prigerson et al., 1995). In this sample, the ICG-R demonstrated excellent internal consistency, $\alpha = .92$.

2.2.5.2 The Peritraumatic Dissociative Experiences Questionnaire-10 Self-Report Version (PDEQ-10SRV; Marmar et al., 1997)

This self-report questionnaire consists of 10 items which ask participants about their experiences of dissociative episodes at the time of a traumatic event, i.e. peritraumatic dissociation. For this study, the traumatic event was specified as the death of a loved one, i.e. periloss dissociation. If a participant had experienced multiple losses, they were asked to focus on the most salient or significant bereavement. Participants are asked to rate on a five-point Likert scale (1-5), from “not at all true” to “extremely true”, the degree to which they experienced depersonalization, derealisation, amnesia, out-of-body experiences and altered time perception. Example questions include, “My sense of time changed. Things seemed to be happening in slow motion.” Items are summed to produce a total score (range = 10 – 50). Higher scores indicate greater levels of periloss dissociation. A score greater than or equal to 22 suggests clinically significant periloss dissociation (Birmes et al., 2001). The internal consistency is reported as good to excellent in various studies with different populations, e.g. French-speaking sample ($\alpha = .75$, Birmes et al., 2005); female victims of rape ($\alpha = .75$; Griffin et al., 1997); complicated grief population ($\alpha = .91$). In this sample, the PDEQ demonstrated excellent internal consistency, $\alpha = .92$.

2.2.5.3 The Wessex Dissociation Scale (WDS; Kennedy, et al., 2004)

This self-report measure consists of 40 items which asks participants about *current* (i.e. persistent) dissociative experiences. Participants are required to respond to each item according to a six-point Likert scale (0-5) from “never” to “all the time”. Example questions include, “unwanted thoughts come into my head”. A total score is produced by calculating the mean of all items (range = 0 – 5). Higher scores indicate higher frequency of dissociative experiences. The WDS has been validated in clinical and non-clinical samples. A clinical cut-off of scores above 1.9 has been identified (Kennedy et al., 2004). The WDS has demonstrated adequate internal consistency and good convergent validity with the other standardised measures of dissociation. In previous research, internal consistency for general population was excellent ($\alpha = .90$; Kennedy et al., 2004). In this sample, the WDS demonstrated excellent internal consistency, $\alpha = .96$.

2.2.5.4 The Experiences in Close Relationships Revised Measure (ECR-R; Fraley et al., 2000)

This 36-item self-report questionnaire measures levels of avoidant attachment and anxious attachment. Example questions include, “I worry about my partners getting too close to me”. Participants are asked to respond to each item on a 7-point Likert scale (1-7) to describe their feelings towards intimate partners in general (rather than towards a specific partner). Two subscale scores are produced by calculating the means of the items corresponding to avoidant and anxious attachment (range = 1 – 7). Higher scores indicate higher levels of attachment anxiety or avoidance. The ECR-R has excellent reliability, excellent discriminant and predictive validity, and excellent convergent validity with other attachment scales (Ravitz, et al., 2010; Gillath et al., 2016). Internal consistency of both subscales has demonstrated excellent properties with general population samples, $\alpha = .91$ for Anxiety; $\alpha = .94$ for Avoidance (Brennen et al., 1998). In this sample, the ECR-R demonstrated excellent internal consistency for the Anxiety subscale ($\alpha = .90$) however it was questionable for the avoidance scale ($\alpha = .60$).

The following measures were used to account for already established relationships with complicated grief and dissociation.

2.2.5.5 The Adverse Childhood Experiences Questionnaire (ACES; Dube et al., 2003)

The self-report measure consists of 10 questions which ask participants if they have experienced forms of abuse, neglect or household dysfunction in their first 18 years of life, e.g. “Did a parent or other adult in the household often push, grab, slap, or throw something at you?” Participants are asked to rate each item according to a ‘Yes’ or ‘No’ response. A score of 1 is given for each item answered ‘Yes’. Previous studies have shown that the ACES has good to excellent test–retest reliability and good internal consistency ($\alpha = .88$; Dube et al., 2003). A score of four or more is considered as the threshold marking high adverse childhood experience exposure (range = 0 – 10; Dube et al., 2003). Given the substantial evidence that exposure to childhood traumatic experiences is a significant predictor for persistent dissociation (e.g. van Ijzendoorn & Schuengel, 1996), ACES scores will be controlled for in the analysis. In this sample, the ACES demonstrated acceptable internal consistency, $\alpha = .68$.

2.2.5.6 The Hospital Anxiety and Depression Scale (HADS; Zygmond & Snaith, 1983)

This is a 14 item self-report questionnaire measuring current anxiety and depression symptoms. Participants are asked to respond using a four-point Likert scale (0 – 3), from “not at all” to “most of the time”, the degree to which they have felt symptoms of anxiety and depression, for example, “I have felt tense or wound up”. Scores for each scale are summed to produce a total score for anxiety, and a total score for depression (range = 0 - 21). Higher scores indicate higher levels of anxiety or depression. Cut-off scores of 8 for each subscale demonstrate good sensitivity and specificity (Bjelland et al., 2002). The HADS has extensive clinical and research use and has been validated in clinical and non-clinical samples. The HADS has demonstrated good internal reliability in prior research with general population samples ($\alpha = .83$ [Anxiety] and $\alpha = .82$ [Depression], e.g. Bjelland et al., 2002). In this sample, the HADS demonstrated excellent internal consistency, $\alpha = .87$ (Anxiety) and $\alpha = .85$ (Depression).

2.2.5.7 Posttraumatic Diagnostic Scale for DSM-5 (PDS-5; Foa, et al., 2016)

This 24-item self-report questionnaire measures symptoms of PTSD in the last month according to DSM-5 criteria. The PDS-5 contains two screening questions which requires participants to indicate whether they have experienced a traumatic event from a multiple choice list. Participants are then asked questions assessing the presence and severity of PTSD symptoms in relation to the index trauma, for example, “Reliving the traumatic event or feeling as if it were actually happening again”. Participants rate each item on a five-point scale (0-4) of frequency and severity ranging from “not at all” to “severe”. An additional four items ask about distress and interference, as well as onset and duration of symptoms. A total score is produced by summing all items (range = 0 - 51). Higher scores indicate greater degree of PTSD symptoms. The optimal cut-off score for identifying probable PTSD diagnosis is 28, with sensitivity 79% and specificity 78% (Foa et al., 2016). For the purpose of this analysis, scores were coded as falling above or below the cut-off in order to control for the likely presence of clinical-level PTSD. Previous research has demonstrated excellent test-retest reliability and internal consistency ($\alpha = .96$; Foa et al., 2016). In this sample, the PDS5 demonstrated excellent internal consistency, $\alpha = .95$.

To gain a better understanding of the psychosocial profiles for the sample, the following measure was used.

2.2.5.8 WHO Quality of Life-Brief (WHOQOL-Brief; World Health Organisation, 2004)

This 26-item self-report questionnaire measures four domains associated with quality of life, i.e. physical health, psychological health, social relationships, and environment. Respondents are asked to consider their quality of life and health in the last two weeks and rate items according to a 5-point Likert scale (1-5) from “Not at all/Very poor/very dissatisfied” to “An extreme amount/Very good/Very satisfied”. The mean scores from the items of each domain are calculated to produce four domain scores. Mean scores are then multiplied by four to make domain scores comparable, converting scores to a range between 4 – 20. Higher scores indicate higher quality of life. Prior research has demonstrated that the WHOQOL-BREF domain scores show good discriminant validity, content validity, internal consistency ($\alpha = .89$) and test–retest reliability (World Health Organisation, 2004). In this sample, the WHOQOL-BREF demonstrated good internal consistency, $\alpha = .89$.

2.2.6 Ethics

Ethical approval for the study was granted by the ethics committee for the University of Southampton (ERGO ID: 48058; see Appendix A). Key ethical issues that were considered included: potential to cause a temporary increase of psychological distress as a result of taking part in the study; secure storage of personal data; and risk of psychological distress to the researcher.

To address ethical concerns and minimise risk, the following precautions were taken: provision of comprehensive information sheet prior to seeking consent; optional mood repair tasks offered at the end of the survey; appropriate signposting to relevant support services; voluntary withdrawal at any point; and password encrypted, anonymised storage of data. To minimise risks to the primary researcher, regular supervision was provided.

2.2.7 Procedure

Participants completed the measures via an online survey hosted by the Qualtrics platform. Web-links to the survey were provided via the adverts. The survey consisted of an information sheet and consent form (see Appendix B), the measures (see Appendix C –

K), option to enter the prize draw (see Appendix L) and a debrief sheet (see Appendix M) upon completion. According to Qualtrics metadata, the survey took an average 50 minutes to complete. At the end of the survey, participants were offered a variety of 'mood repair' tasks in case participants felt they had become distressed through completing the study (see Appendix N). These tasks were also available if a participant withdrew from the study early. Participants were given the option of entering into a prize draw for a £20 Amazon voucher or a £20 donation to a charity of their choice as reimbursement for their time.

2.2.8 Data Analysis Plan

The following data analysis plan aimed to address the study aims; to examine whether dissociation at the time of the death of a loved one (perilous dissociation), and dissociation that persists over time, are related to higher levels of self-reported complicated grief. In addition, data analysis aimed to examine whether different types of attachment insecurity (anxiety and avoidance) moderated this proposed relationship.

Based on previous research comparing differences between completers versus non-completers (e.g. Warschburger & Kroller, 2016), in the first step, differences between completers and non-completers were analysed using Chi-Square and independent samples *t*-tests on a range of demographic and psychological variables. In the second step, logistic regression was carried out to explore the variables that were associated with higher risk of dropping out of the study on a multivariate level. Variables were entered simultaneously.

To test the main hypotheses, multiple linear regression was conducted to examine the relationships between key variables, while accounting for known existing associations from previous literature. To test the hypothesised moderating impact of attachment insecurity, moderated multiple linear regression was conducted using an interaction between dissociation and attachment anxiety and avoidance, while accounting for known existing associations from previous literature.

Variables were entered hierarchically. Existing associated variables were entered first, with new variables of interest being entered next to establish the additional variance

explained by these new variables. Bootstrapping was performed on 2000 samples as recommended by (Field, 2018) and Mersenne Twister seed was set. For moderation analyses, mean centering was applied for measures of periloss dissociation (PDEQ) and attachment dimensions (ECR-R) as the minimum value was greater than 0.

When complicated grief was entered as the outcome variable, the following variables were entered into the model to control for them: Adverse childhood experiences, depression, anxiety, importance of deceased, suddenness of death, suicide (as cause of death), gender (female), and PTSD (for a review see, Lobb et al., 2010).

When periloss dissociation was entered as the outcome variable, the following variables were entered into the model to control for them: female gender (McDonald et al., 2013); age (Fullerton et al., 2001), depression (Fullerton et al., 2000), anxiety (Lewis et al., 2014), violent nature of death (Boelen, 2015), and suddenness of death (Boelen, 2015). Due to the paucity of literature on predictors of periloss dissociation, research on peritraumatic dissociation was drawn upon to inform the rationale for confounding variables.

When persistent dissociation was entered as the outcome variable, the following variables were entered into the model to control for them: Adverse childhood experiences (e.g. Draijer & Langeland, 1999; Schauer, & Elbert, 2010), depression (Maaranen et al., 2005), anxiety (Evren et al., 2013), PTSD and periloss dissociation (Briere et al., 2005).

Statistical analysis software (SPSS version 26) was used for data entry, parametric assumption checking and to complete statistical analyses. In all analyses, $p < .05$ was considered statistically significant.

2.3 Results

2.3.2 Data Preparation

Outliers were identified through inspection of histograms, box-plots and by analysing standardised residuals for each variable. Outliers were inspected and found to be valid and genuinely high responses, rather than incorrect. As scores are likely to be representative of individuals with markedly low or high levels of psychological distress, it

was not deemed appropriate to remove the cases. Inspections of histograms and Q-Q plots revealed that two variables were non-normally distributed (ACES [positive skew], ECR Avoidance [negative skew]). Bootstrapping (set at 2000 samples) was deemed to be the most appropriate method to correct for outliers and non-normality (Field, 2018). The assumptions for linear and logistic regression of linearity, independence of errors, multicollinearity and overdispersion were satisfied.

Missing Value Analysis (MVA) highlighted that a substantial amount of data was missing (see Table 10). Little’s MCAR test suggested that the data could not be assumed to be missing completely at random, $\chi^2 = 3652.88 (3468), p = .014$. Further inspection of the pattern of missing data identified that missingness may be due to attrition over the course of the survey (drop out).

Table 10
Missing Values for key variables.

Measure	Missing Values	
	Count	%
Complicated Grief	0	0
Periloss Dissociation	8	2.7
Persistent Dissociation	17	5.7
Adverse Childhood Experiences	22	7.3
Depression	34	11.3
Anxiety	34	11.3
Attachment anxiety	43	14.3
Attachment avoidance	48	16.0

Note. PTSD data was excluded from missing data analysis as the PSD5 questionnaire is a screening tool, hence if a participant has not experienced a traumatic event, this questionnaire is left blank and so does not indicate missing data.

Completers (i.e. participants with complete data sets) and non-completers (participants with missing data) were compared on demographic and psychological variables to identify whether there were key differences in the groups (see Table 11 for descriptive statistics).

Table 11

Descriptive statistics for completers versus non-completers on demographic and psychological variables

Variables	Completers (N = 237)		Non-completers (N = 63)	
	Mean (SD)	% above clinical cut-off	Mean (SD)	% above clinical cut-off
Age	33.45 (15.64)	-	39.48 (16.69)	-
Years since death	6.15 (7.87)	-	8.25 (11.43)	-
Complicated grief	25.30 (13.80)	48.9	23.59 (12.32)	38.1
Periloss dissociation	28.29 (10.43)	51.9	25.58 (10.44)	30.9
Persistent dissociation	1.29 (0.75)	18.1	1.40 (0.76)	15.2
ACES (Adverse childhood experiences)	2.02 (1.95)	14.3	1.41 (1.76)	7.3
PTSD	21.68 (15.45)	18.1	20.27 (18.38)	6.3
Depression	9.16 (1.78)	62.4	9.10 (1.50)	65.5
Anxiety	10.48 (2.42)	78.1	10.59 (2.94)	72.4
Attachment anxiety	3.67 (1.20)	-	2.64 (1.79)	-
Attachment avoidance	4.37 (0.54)	-	3.70 (1.49)	-
QOL Physical Health	12.17 (2.09)	-	11.91 (2.29)	-
QOL Psychological	12.63 (2.49)	-	12.37 (2.47)	-
QOL Social relationships	13.48 (3.81)	-	12.77 (4.67)	-
QOL Environment	15.28 (2.69)	-	15.21 (3.07)	-

Chi square analyses were conducted to compare completers versus non-completers on categorical variables. Expected frequencies assumption was not met as some of the values were below five and subsequently, some categories within variables were collapsed where this made theoretical sense, as recommended by Field (2018). Ethnicity was collapsed into White/White British and Black, Asian and minority ethnicities (BAME). Cause of death was collapsed into violent (suicide, murder, accident) versus non-violent deaths (illness). Relationship to deceased was collapsed into close family relationship (parent, child, sibling, spouse) versus extended family and friend (grandparent, work colleague, friend). Gender was analysed with two categories only (male versus female) as

the third category (Prefer not to say) had only one count and therefore it was not possible to run statistical analyses on this category.

Chi square analysis showed that there was no statistically significant association between completers and non-completers on gender $\chi^2(1) = 0.285, p = .593, \Phi = .03$, ethnicity $\chi^2(1) = 0.321, p = .571, \Phi = .03$, relationship to deceased $\chi^2(1) = 3.682, p = .055, \Phi = -.11$, cause of death $\chi^2(1) = 0.288, p = .591, \Phi = -.03$. All phi coefficient effect sizes indicated all relationships were very weak.

Independent samples t-tests were conducted to examine differences between completers and non-completers on continuously measured variables. Levene's test showed that the variances for some of the variables was not equal; time since death, $F(298) = 5.11, p = .03$, attachment anxiety, $F(255) = 10.22, p = .002$, and attachment avoidance, $F(250) = 49.46, p < .001$. When interpreting analysis of these variables, equality of variance was therefore not assumed. For all other variables, Levene's test showed that the assumption of equality of variance was not violated, all $ps > .05$.

There was a statistically significant difference in age of completers and non-completers, $t(296) = 2.65, p = .009, d = 0.37$. Completers were younger ($M = 33.45$ years; $SD = 15.64$) than non-completers ($M = 40.11$ years; $SD = 16.46$).

There was also a significant difference in scores of attachment anxiety between completers and non-completers, $t(20.47) = -2.54, p = .019, d = 0.68$. Scores on attachment anxiety was higher for completers ($M = 3.67, SD = 1.20$) than non-completers ($M = 2.64, SD = 1.79$).

There was no statistically significant difference between completers and non-completers on time since death $t(298) = 1.37, p = .09$, expectedness of death, $t(298) = -0.13, p = .89$, perceived importance of the deceased, $t(298) = -1.36, p = .17$, frequency of direct contact with the deceased, $t(298) = -1.59, p = .11$, frequency of indirect contact with the deceased, $t(298) = -0.93, p = .35$, complicated grief, $t(298) = -0.89, p = .37$, perils of dissociation $t(290) = -1.74, p = .08$, persistent dissociation $t(281) = -0.98, p = .33$, adverse childhood experiences $t(276) = 3.4-1.86, p = .06$, PTSD $t(156) = -0.32, p = .75$, depression $t(264) = -0.17, p = .87$, anxiety $t(264) = 0.22, p = .82$, attachment avoidance $t(250) = -3.96, p = .11$, quality of life – physical health $t(255) = -0.52, p = .60$, quality of life –

psychological $t(254) = -0.44, p = .66$, quality of life – social relationships $t(254) = -0.77, p = .44$, quality of life – environment $t(255) = -0.11, p = .92$.

2.3.3 Predictors of Attrition

A binary logistic regression was carried out to examine whether attrition (completed versus non-completed) could be predicted by age or attachment anxiety, as these variables were significantly different between completers and non-completers. The assumptions of linearity, independence of errors, multicollinearity and overdispersion were satisfied. Variables were entered simultaneously.

The logistic regression model was statistically significant, $\chi^2(2) = 9.90, p = .007$. The results of the regression indicated that age and attachment anxiety explained 9.0% of the variance in attrition. Further analysis of each variable indicated that only attachment anxiety significantly predicted completion of the study (Wald = 7.51, $p = .006$). The odds ratio for attachment anxiety (OR = 0.582, 95% CI = [0.40, 0.86]) indicates that if attachment anxiety increased by one point, then the odds of completing the study increased. Age was not a significant predictor of attrition in the regression model (Wald = .92, $p = .34$). To test the study hypotheses, participants with complete data sets made up the final sample ($N = 237$).

Table 12

Logistic regression for predictors of non-completion.

Hypothesised associated variables	B	SE	Wald	df	p	Odds Ratio Exp(B)	95%CI (B)	
							Lower	Upper
Age	0.01	.01	0.92	1	.339	1.01	0.99	1.04
Attachment anxiety	-0.54	.20	7.51	1	.006	0.58	0.40	0.86
Constant	-1.26	.86	2.15	1	.143	0.29		

2.3.4 Descriptive Statistics for Final Sample

Table 11 presents descriptive statistics on measures of psychological aspects of wellbeing for the 237 bereaved adults in the final sample (those with complete data). Just under half of individuals (48.9%) scored above the clinical cut-off for complicated grief.

Individuals who scored above the clinical cut-off for complicated grief symptoms were younger (Mean age = 33.10 years in complicated grief group versus 36.08 years in non-complicated grief group), and the bereavement was more recent (Mean time since death = 5.60 years compared to 7.47 years). There were proportionately more females in the clinical group (92.1% vs. 86.9%) and there was a higher prevalence of cause of death by accident, suicide or murder in the complicated grief group (22.2% vs 12.6%). Cause of death by illness or disease was less prevalent compared to those in the non-clinical group (63.6% vs 78.1%). A higher percentage of people in the complicated grief group sought support following the death of their loved one (40% vs. 18.1%).

Just over half of the sample scored above the clinical cut-off for periloss dissociation (51.9%). 17.7% of the samples scores on self-reported persistent dissociation fell above the clinical level. Most participants (85.7%) had experienced fewer than four types of adverse childhood experiences. Most of the participants (81.9%) did not meet criteria for PTSD according to the screening measure, however most of the sample scored above the clinically significant levels for depression and anxiety (62.4% and 78.1% respectively). Mean scores for attachment avoidance were higher than scores for attachment anxiety across the sample.

2.3.5 Association between Periloss Dissociation and Complicated Grief

Periloss dissociation was significantly positively associated with complicated grief, $B = 0.49$, $SE = 0.08$, $p < .001$, demonstrating a large effect size, $\beta = 0.37$, even when accounting for established predictors (see Table 13). Including periloss dissociation into the model resulted in R^2 change = 0.10 and explained an additional 10% of the variance in complicated grief. This represented a statistically significant change, $p < .001$.

Table 13

Final regression model examining association between periloss dissociation and complicated grief while accounting for established predictors.

Variables in the model	<i>B</i>	<i>SE</i>	β	Bootstrapped 95% CI
Step 1 Established predictors				
Suicide	2.72	2.86	0.05	-2.91, 8.36
Suddenness of death	0.82	0.67	0.07	-0.50, 2.51
Importance of deceased	-2.12	1.12	-0.10	-4.32, 0.09
PTSD	0.11	0.05	0.18*	0.02, 0.21
Depression	1.00	0.40	0.13**	0.21, 1.77
Anxiety	1.19	0.30	0.21***	0.60, 1.78
Adverse childhood experiences	-0.16	0.37	-0.02	-0.87, 0.58
Step 2 Hypothesised associated variable				
Periloss dissociation	0.49	0.08	0.37***	0.34, 0.64
Constant	8.82	7.31		-5.58, 23.21

Total $R^2 = .65$; Step 1: $R^2 = .55$, $F(8, 265) = 14.13^{***}$; Step 2: R^2 change = $.10$, $F(9, 265) = 19.32^{***}$
 * $p < .05$, ** $p < .01$, *** $p < .001$.
 Note: Outcome variable = Complicated Grief.

2.3.6 Association between Persistent Dissociation and Complicated Grief

Persistent dissociation was significantly positively associated with complicated grief, $B = 9.33$, $SE = 1.22$, $p < .001$, demonstrating a large effect size, $\beta = .50$, while accounting for established predictors (see Table 14). Including persistent dissociation into the model resulted in R^2 change = 0.13 , explaining an additional 13% of the variance in complicated grief. This represented a statistically significant change, $p < .001$.

Table 14

Final regression model examining association between persistent dissociation and complicated grief while accounting for established predictors.

Variables in the model	<i>B</i>	<i>SE</i>	β	Bootstrapped 95% CI
Step 1 Established predictors				
Suicide	2.19	-0.05	2.37	-2.53, 6.81
Suddenness of death	2.01	0.02	0.63***	0.80, 3.22
Importance of deceased	3.61	-0.06	1.00***	1.80, 5.64
PTSD	-0.01	0.01	0.06	-0.12, 0.11
Depression	0.88	0.01	0.41*	0.07, 1.70
Anxiety	-0.58	-0.01	0.33	-1.24, 0.04
Adverse childhood experiences	-0.25	0.01	0.35	-0.94, 0.43
Step 2 Hypothesised associated variable				
Persistent dissociation	9.33	1.22	0.50***	6.93, 11.72
Constant	28.37	6.74		15.51 – 42.32

Total $R^2 = .42$; Step 1: $R^2 = .29$, $F(9, 265) = 14.33^{***}$; Step 2: R^2 change = $.13$, $F(8, 257) = 23.06^{***}$

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note: Outcome variable = Complicated Grief.

2.3.7 Attachment Anxiety and Avoidance

2.3.7.1 Association between Attachment Insecurity and Periloss Dissociation

In the final model, including attachment anxiety and avoidance in the model increased the variance explained in periloss dissociation by 3%, which was a significant change, $p = .019$ (see Table 15). However, only attachment anxiety was significantly positively associated with periloss dissociation, $B = 1.35$, $SE = 0.54$, $p = .01$, demonstrating a medium effect size, $\beta = 0.15$, while accounting for established predictors (see Table 16).

Attachment avoidance was not significantly associated with periloss dissociation, $B = -1.12$, $SE = 1.03$, $p = .28$, demonstrating a small effect size, $\beta = -0.06$, while accounting for established predictors.

Table 15

Final regression model examining association between attachment insecurity and perilous dissociation while accounting for established predictors.

Variables in the model	<i>B</i>	<i>SE</i>	β	Bootstrapped 95% CI
Step 1 Established predictors				
<i>Female</i>	1.51	2.10	0.04	-2.16, 6.67
Age	0.03	0.04	0.04	-0.04, 0.12
Depression	0.62	0.36	0.10	-0.05, 1.28
Anxiety	1.10	0.26	0.26**	0.32, 1.42
Suddenness of death	2.09	0.60	0.22***	0.82, 3.32
Suicide	2.31	2.56	0.05	-2.07, 6.63
Murder	0.98	4.09	0.01	-7.70, 8.95
Step 2 Hypothesised associated variables				
Attachment anxiety	1.35	0.54	0.15**	0.20, 2.44
Attachment avoidance	-1.12	1.03	-0.06	-3.31, 1.02
Constant	21.33	8.26		5.05, 37.60

Total $R^2 = .44$; Step 1: $R^2 = .41$, $F(7, 250) = 7.05^{***}$; Step 2: R^2 change = $.03$, $F(9, 250) = 6.52^{***}$

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note: Outcome variable = Perilous Dissociation.

2.3.7.2 Association between Attachment Insecurity and Persistent Dissociation

Including attachment anxiety and avoidance in the model increased the variance explained in persistent dissociation by 3.5%, which was a significant change, $p < .001$ (see Table 16). However, only attachment anxiety was significantly positively associated with persistent dissociation, $B = 0.16$, $SE = 0.03$, $p < .001$, demonstrating a medium effect size, $\beta = 0.27$, while accounting for established predictors. Attachment avoidance was not significantly associated with persistent dissociation, $B = -0.06$, $SE = 0.05$, $p = .37$, demonstrating a small effect size, $\beta = -0.05$, while accounting for established predictors.

Table 16

Final regression model examining association with attachment insecurity and persistent dissociation while accounting for established predictors.

Variables in the model	<i>B</i>	<i>SE</i>	β	Bootstrapped 95% CI
Step 1 Established predictors				
PTSD	0.76	0.09	0.01***	0.57, 0.95
Depression	0.03	0.02	0.07	-0.06, 0.06
Anxiety	0.09	0.02	0.29***	0.06, 0.12
Adverse childhood experiences	0.02	0.02	0.05	-0.14, 0.05
Step 2 Hypothesised associated variables				
Attachment anxiety	0.16	0.03	0.27***	0.11, 0.22
Attachment avoidance	-0.06	0.05	-0.05	-0.16, 0.02
Constant	1.73	0.33		1.08, 2.38

Total $R^2 = .80$; Step 1: $R^2 = .77$, $F(5, 251) = 70.82^{***}$; Step 2: R^2 change = .03, $F(7, 251) = 60.64^{***}$

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note. Outcome variable = Persistent Dissociation.

2.3.7.3 Association between Attachment Insecurity and Complicated Grief

Only attachment anxiety was significantly positively associated with complicated grief, $B = 1.62$, $SE = 0.67$, $p = .017$, demonstrating a medium effect size $\beta = 0.14$ while accounting for established predictors. Attachment avoidance was not significantly associated with complicated grief, $B = -0.85$, $SE = 1.15$, $p = .46$, demonstrating a small effect size, $\beta = -0.04$. Including attachment anxiety and avoidance in the model resulting in R^2 change = .02, explaining an additional 2.2% of the variance in complicated grief which was a statistically significant change ($p = .04$; see Table 17).

Table 17

Final regression model examining association between attachment insecurity and complicated grief while accounting for established predictors.

Variables in the model	<i>B</i>	<i>SE B</i>	β	Bootstrapped 95% CI
Step 1 Established predictors				
Suicide	2.60	3.13	0.05	-3.57, 8.77
Suddenness of death	1.87	0.73	0.15*	0.44, 3.31
Importance of deceased	3.42	1.19	0.16**	1.07, 5.77
PTSD	0.19	0.05	0.22***	0.09, 0.30
Depression	1.28	0.44	0.16**	0.43, 2.14
Anxiety	1.24	0.34	0.22***	0.57, 1.91
Adverse childhood experiences	-0.43	0.42	-0.60	-1.25, 0.39
Step 2 Hypothesised associated variables				
Attachment anxiety	1.62	0.67	0.14*	2.04, 4.72
Attachment avoidance	-0.85	1.15	-0.04	-3.66, 1.39
Constant	14.67	8.15		-1.38, 30.73

Total $R^2 = .58$; Step 1: $R^2 = .56$, $F(8, 265) = 13.73^{***}$; Step 2: R^2 change = $.02$, $F(10, 265) = 11.85^{***}$
 * $p < .05$, ** $p < .01$, *** $p < .001$.
 Note: Outcome variable = Complicated Grief.

2.3.8 Interaction between Attachment Insecurity and Periloss Dissociation on Complicated Grief

In the final model, while accounting for a broad range of previously identified associated factors, the relationship between periloss dissociation and complicated grief was not significantly moderated by attachment anxiety, $B = 0.03$, $SE = 0.01$, $\beta = 0.06$, $p = .55$, or attachment avoidance, $B = 0.07$, $SE = 0.01$, $\beta = 0.11$, $p = .48$. Adding potential moderators into the model did not lead to significant additional variance being explained (additional variance = 0.2%, $p = .63$; see Table 18).

Table 18

Final moderated regression model examining interaction between periloss dissociation and attachment insecurity on complicated grief.

Variables in the model	B	SE B	β	Bootstrapped 95% CI
Step 1 Established associated variables				
Suicide	2.32	-.21	2.52	-2.52, 7.20
Suddenness of death	0.90	0.02	0.68	-0.46, 2.24
Importance of deceased	1.86	0.08	1.06	-4.09, 0.09
PTSD	0.09	0.01	0.06	-0.02, 0.20
Depression	1.06	-0.01	0.41**	0.29, 1.86
Anxiety	-0.98	0.03	0.35**	-1.64, -0.27
Adverse childhood experiences	-0.40	0.39	-0.61	-1.20, 0.29
Step 2 Hypothesised associated variables				
Periloss dissociation	0.49	-0.01	0.08***	0.33, 0.66
Attachment anxiety	1.19	0.06	0.67	-0.09, 2.58
Attachment avoidance	-0.06	-0.03	1.26	-2.37, 2.67
Step 3 Hypothesised moderators				
Periloss X Attachment anxiety	0.03	0.01	0.06	-0.08, 0.15
Periloss X Attachment avoidance	0.07	0.01	0.11	-0.13, 0.32
Constant	24.28	-0.24		11.57, 35.48

Total $R^2 = .65$; Step 1: $R^2 = .55$, $F(9, 251) = 11.73^{***}$; Step 2: R^2 change = $.10$, $F(12, 251) = 14.13^{***}$; Step 3: R^2 change = $.002$, $F(14, 251) = 12.13^{***}$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note: Outcome variable = Complicated Grief.

2.3.9 Interaction between Attachment Insecurity and Persistent Dissociation on Complicated Grief

In the final model, after accounting for established associated relationships, the relationship between persistent dissociation and complicated grief was not significantly moderated by attachment anxiety, $B = -1.38$, $SE = 0.74$, $\beta = 0.02$, $p = .06$. The relationship between persistent dissociation and complicated grief was not significantly moderated by

attachment avoidance, $B = 0.34$, $SE = 1.23$, $\beta = 0.03$, $p = .79$. Adding attachment anxiety and avoidance as potential moderators into the model did not lead to significant additional variance being explained (additional variance = 0.1%, $p = .15$; see Table 19).

Table 19

Final moderated regression model examining interaction between persistent dissociation and attachment insecurity on complicated grief.

Variables in the model	<i>B</i>	<i>SE B</i>	β	Bootstrapped 95% CI
Step 1 Established associated variables				
Suicide	1.43	2.77	0.03	-4.11, 6.48
Suddenness of death	2.07	0.63	0.16***	0.80, 3.37
Importance of deceased	-3.68	1.06	-0.17***	-5.76, -1.74
PTSD	0.02	0.06	0.03	-0.11, 0.15
Depression	0.89	0.39	0.11*	0.10, 1.70
Anxiety	0.41	0.33	0.07*	0.29, 1.10
Adverse childhood experiences	-0.24	0.37	-0.03	-0.96, 0.46
Step 2 Hypothesised associated variables				
Persistent dissociation	13.00	6.50	0.74*	0.01, 27.49
Attachment anxiety	3.08	1.73	-0.05	-0.40, 6.30
Attachment avoidance	-1.50	2.78	-0.04	-7.49, 3.98
Step 3 Hypothesised moderators				
Persistent dissociation X Attachment anxiety	-1.38	0.74	0.02	-2.83, 0.23
Persistent dissociation X Attachment avoidance	0.34	1.23	0.03	-1.94, 2.92
Constant	-12.65	16.03		-44.23, 18.93

Total $R^2 = .69$; Step 1: $R^2 = .58$, $F(9, 251) = 13.92^{***}$; Step 2: R^2 change = .11, $F(10, 251) = 20.81^{***}$; Step 3: R^2 change = .001, $F(12, 251) = 17.26$

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note: Outcome variable = Complicated Grief.

2.4 Discussion

2.4.2 Summary of Findings

This study of 237 bereaved adults is the first empirical research of the role of periloss *and* persistent dissociation in complicated grief, and the first to consider the influence of dimensions of attachment insecurity in this proposed relationship. The findings supported the hypotheses that both periloss and persistent dissociation are significantly positively associated with increased levels of self-reported complicated grief symptoms. This study also identified that only attachment anxiety (not attachment avoidance) is associated with increased dissociative experiences (periloss and persistent) and higher levels of complicated grief symptoms. Moderation analyses found that neither attachment anxiety nor attachment avoidance significantly influenced the relationship between dissociation (periloss and persistent) and complicated grief.

In this study, factors that have previously been associated with complicated grief (e.g. suicide as cause of death, importance of relationship) were included to establish whether the hypothesised variables explained any additional variance. In this sample, some previously established factors were not consistently associated with complicated grief (i.e. suicide as cause of death, female gender, importance of deceased, depression symptoms). However, some of the studies reporting these associations were focused on specific populations, e.g. bereaved parents (Huh et al., 2017), those bereaved through suicide (e.g. Levi-Belz & Levi-Ari, 2019; Melhem et al., 2004), or those bereaved within the past 12 months (e.g. Currier et al., 2015). Therefore, this reflects the multi-faceted and heterogenous experiences of bereavement and highlights the need for a nuanced understanding of grief.

2.4.2.1 Periloss Dissociation

Among the sample of bereaved adults, dissociative experiences at the time of the death of their loved one was relatively high; over half of the sample reporting clinically-significant levels of periloss dissociation, i.e. experiences of blanking out, being on 'automatic pilot', a sense of unrealness, feelings of disorientation and disconnection. In this study, levels of periloss dissociation (mean PDEQ scores = 28.29) were comparable to

those reported in the other studies of people with complicated grief (e.g. Mean = 29.9; Boelen et al., 2012; Mean = 31.9, Bui et al., 2013). The results presented here are also consistent with two other studies on periloss dissociation and complicated grief (Boelen et al., 2012; Bui et al., 2013). Although still relatively few, this converging evidence suggests that periloss dissociation may play an important role in impairing the processes that normally promote adaptive adjustment following the death of a loved one. Additionally, taken together, the findings are consistent with broader trauma literature, where systematic reviews have concluded that dissociation at the time of a trauma is one of the most significant predictors of later PTSD (e.g Ozer et al., 2003).

2.4.2.2 Persistent Dissociation

The findings provide novel evidence that persistent dissociation may be an important experience and process in complicated grief. In this sample, over 17% of bereaved individuals reported experiencing clinically significant levels of persistent dissociation. Given the discrepancy between prevalence of periloss and persistent dissociation, this suggests that for many people, dissociative experiences dissipate over time following a bereavement. However, higher levels of persistent dissociation were linked to higher levels of complicated grief and therefore may be an important factor to be aware of among bereaved individuals. Compared to the validation study of the Wessex Dissociation Scale, self-reported persistent dissociation among the bereaved sample was generally lower (Mean = 1.28) than the clinical population tested in prior research, i.e. individuals referred to a local Clinical Psychology service (Mean = 1.90; Kennedy et al., 2004). Mean scores among the current sample were higher than the scores found among the general population sample (Mean = 0.88; undergraduate students; Kennedy et al., 2004). This suggests that along the spectrum of dissociative experiences, bereaved individuals may tend to sit between the non-clinical and clinical range, although the higher levels of persistent dissociation are linked with increased complicated grief symptoms.

In this study, the relationship between persistent dissociation and complicated grief held even when accounting for nature of death, suddenness, importance of the deceased, and current psychological wellbeing. The findings are in line with prior trauma research that has identified that persistent dissociative experiences predict PTSD severity even when controlling for other key variables (Halligan et al., 2003). The proposed relationship

between persistent dissociation and complicated grief may therefore mirror the contributory and maintenance role of persistent dissociation in PTSD (Werner & Griffin, 2012). The findings are consistent with the only other study that has explored the role of persistent dissociation in complicated grief (Hasson-Ohayon et al., 2017). Together, these two studies provide emerging evidence that persistent dissociation may interfere in the natural, adaptive grieving process, however, one must remain cautious in assuming causality among the associated relationships. It is possible that the relationship may even be bi-directional (both a symptom and maintaining factor), and thus further research is warranted.

2.4.2.3 The Role of Attachment

As attachment theory has been recognised as a key paradigm in understanding how individuals respond to the death of a loved one, this study explored whether attachment styles influenced the relationship between dissociation and grief. Attachment anxiety was positively associated with perils and persistent dissociation, and complicated grief. The findings fit within the existing literature showing that attachment anxiety is implicated in problematic outcomes following a bereavement, including increased likelihood of experiencing complicated grief, e.g. (Boelen et al., 2011; Currier et al., 2015).

These findings fit within an attachment-based framework whereby the death of a loved one activates the attachment system, and for individuals high in attachment anxiety, this tends to trigger hyper-activation of the attachment system and results in persistent longing and intense distress despite time passing (Mancini & Bonnano, 2012). Consistent with prior research (e.g. Lobb et al., 2010), the current study adds to the literature base regarding the link between attachment anxiety and complicated grief. This study also provides evidence that bereaved individuals who are high in attachment anxiety are more likely to experience higher levels of dissociative experiences in the immediate aftermath, as well as persistently over time. Hence, people high in attachment-related anxiety may be a vulnerable group following bereavement.

In contrast with Bowlby's early theories that insecure attachment, whether through attachment anxiety or avoidance, will increase risk for complicated grief, more recent

research has attempted to explore explanations for the apparent resilience of people high in attachment avoidance in coping with grief. In the current study, attachment avoidance was not related to dissociation (perilous or persistent) or complicated grief. If attachment avoidance was a 'protective' factor, it would show a negative relationship with complicated grief, however, in this study the two variables were unrelated. The findings therefore do not support the notion that attachment avoidance is implicated in lesser or greater complicated grief symptoms. However, other researchers have raised concerns that while avoidantly attached individuals may self-report low levels of grief, they report higher levels of somatic symptoms and may therefore express their grief differently which could be missed (Wayment & Vierthaler, 2002). Therefore, grief responses in highly avoidant individuals need to be measured differently, i.e. through physical reactions, or psychosomatic experiences, rather than emotional reactions.

The current study sought to better understand individual differences in dissociation and complicated grief from an attachment-informed perspective. Developmental models suggest that dissociation is more prevalent in individuals with insecure attachment relationships, and more likely to occur in response to events that trigger the attachment system, e.g. death of a loved one. In addition, attachment-based models of complicated grief suggest that attachment insecurity (attachment anxiety and avoidance) is a risk factor for complicated grief. This study therefore explored the potential moderating effect of attachment anxiety and avoidance of dissociation and grief; however, no moderating effect was found. This suggests that the relationship between dissociation and complicated grief is not significantly altered by dimensions of attachment insecurity. It indicates the importance of considering dissociation in grief as it seems to impact people similarly, regardless of their attachment orientations.

2.4.3 Implications

In PTSD, both peritraumatic and persistent dissociation interrupt the encoding and storage of trauma memories, thereby preventing these memories becoming adaptively integrated with existing, autobiographical knowledge and maintaining PTSD (Bryant, 2007). In light of the proposed role of perilous and persistent dissociation following bereavement, it may be helpful to consider revising existing psychological models to

capture how dissociation may be implicated in the development and maintenance of complicated grief.

In the attachment-based biobehavioural model, complicated grief is hypothesised to occur from a failure to integrate the permanent loss of an attachment figure into existing schemas (Shear et al., 2007). Similarly, in the CBT model, a core process implicated in the development and maintenance of complicated grief is the poor integration of the separation with existing autobiographical knowledge (see Figure 5; Boelen et al., 2015). In prior research, both perilous and persistent dissociation have been implicated as potentially contributing to this interruption of processing grief memories, thus increasing the risk of developing complicated grief (Boelen et al., 2012; Bui et al., 2013; Hasson-Ohayon et al., 2017).

Although the CBT model identifies background variables associated with the death that may contribute to increased risk of developing complicated grief, it does not take into account an individual's response at the time of the death. It may therefore be important to revise the model to recognise the potential impact of perilous and persistent dissociation.

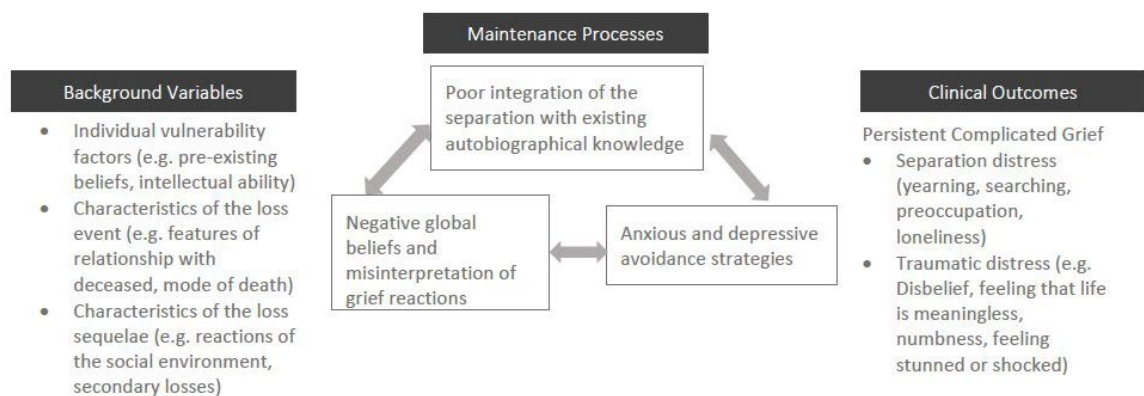


Figure 5

CBT model of Complicated Grief (Adapted from Boelen et al., 2006)

In the CBT model, avoidance strategies are proposed to act as key maintenance factors by directly causing symptoms of complicated grief, preventing change of negative beliefs and interfering with the integration of the death with existing knowledge (see Figure 5; Boelen et al., 2006). However, as mentioned above, dissociation is under-represented in

conceptualisations of complicated grief and is not referred to in the avoidance strategies in Boelen et al.'s (2006) model (see Figure 5). In line with models of dissociation and PTSD, persistent dissociation may therefore represent another form of unconscious avoidance strategy in grief which requires recognition and targeting through therapeutic intervention.

Considering the differences in dissociation and grief experiences between attachment anxiety and avoidance, the findings of this study indicate that we need a more nuanced understanding of the linkages between attachment insecurity and grief responses than current models offer. Existing models of complicated grief refer to attachment insecurity as a broad vulnerability factor; however, this study suggests that only attachment anxiety appears to be implicated in increased complicated grief symptoms and thus current models may require fine-tuning to reflect a more specific understanding of the interplay between attachment insecurity on grief outcome.

Furthermore, going beyond the current CBT focus of this study, other established theoretical lenses may be relevant in understanding the relationship between attachment, dissociation and complicated grief, which may therefore offer different explanations and conceptualisations. For example, information processing models of PTSD (e.g. Horowitz, 1976; Dual Representation model; Brewin et al., 1996) may be drawn upon to consider cognitive biases in further understanding the role of dissociation in complicated grief. Current theoretical models of grief may also offer important contributions to understand the role of dissociation, for example, the Dual Process model may consider dissociation as potentially impacting the oscillation between loss- and restoration-oriented coping (Stroebe & Schut, 1999).

For individuals seeking support, it may be important to measure and formulate dissociative experiences in the immediate aftermath of the death, as well as persistent dissociation. Clinicians also need to be aware that people high in attachment anxiety appear to be a particularly vulnerable group following bereavement as they are more likely to experience dissociation and complicated grief. For individuals experiencing complicated grief, dissociation may be impacting on the ability to integrate information about the death into existing knowledge and make meaning from the loss.

There is a paucity of clinical advice regarding dissociation in grief; however, one can draw on therapeutic implications of treating dissociation in PTSD as a starting point. If dissociation is present, therapeutic interventions may initially need to focus on reducing dissociation and promoting a sense of safety to prepare an individual better for specific grief work. In line with guidelines on trauma-focused therapy, a phased approach is recommended for individuals who are experiencing high levels of dissociation (Herman, 1992). The first phase of therapy involves stabilisation through the teaching of more adaptive ways to cope with overwhelming emotions before processing traumatic memories. Stabilisation involves ensuring that the person has ample emotional coping skills to enable them to engage with and tolerate more in-depth psychological talking therapy (Robertson et al., 2013). Teaching individuals' grounding strategies, i.e. strategies which help an individual to connect to the 'here-and-now', may therefore provide helpful ways to manage overwhelming emotions, reduce levels of dissociation and create a sense of empowerment (Rothschild, 2000).

In light of the evidence that dissociation may impair an individual's ability to integrate information regarding the loss into one's life story, individuals with high levels of dissociation may require an approach which aims to help bereaved individuals to reconstruct fragmented narratives, for example, Narrative Reconstruction, originally developed for the treatment of trauma and recently adapted for supporting individuals with complicated grief (Peri & Gofman, 2014).

2.4.4 Strengths

The large sample size in this study allowed adequate power for the statistical analyses. In addition, roughly half of the sample self-reported levels of complicated grief that were in the clinical range. This spectrum of grief responses captures the significant variability in how people cope following a bereavement and allows the findings to be generalisable to clinical and non-clinical populations. Additionally, the sample was heterogeneous in terms of their bereavement experiences and this increases generalisability of the findings.

The use of well-validated psychometric scales to measure psychological constructs provides greater confidence that the findings represent a reliable and valid conceptualisation of individuals' experiences. There was also good reliability among the

measures in the sample. The study findings were also strengthened by controlling for potentially confounding variables as this allows for greater confidence in confirming that periloss and persistent dissociation both play an important role in complicated grief over and above known demographic and loss characteristics.

This is the first study to explore persistent dissociation, as well as periloss dissociation, in relation to complicated grief. Hence, the findings offer a novel understanding of the experience of complicated grief and contributes to preliminary evidence that persistent dissociation may play a role in the development or maintenance of complicated grief.

2.4.5 Limitations and Future Research

Missing data was addressed by analysing complete data only, however this may have introduced bias into the findings as statistical comparisons identified that non-completers were older and reported lower levels of attachment anxiety. Multiple Imputation may have reduced bias and therefore have afforded a more favourable approach to handling missing data. It is also important to consider that the conclusions drawn in this study may not be generalisable to an older population, or people reporting low levels of attachment anxiety. In addition, individuals low in attachment anxiety were more likely to drop out of the survey. A possible explanation is that those individuals did not feel the study was particularly important or relevant for them.

This study relied on retrospective recall of psychological responses at the time of the death of a loved one. Previous research indicates that current experience of grief may impact on how an individual remembers their past grief; for example, Field et al. (2006) found that bereaved adults who reported a greater reduction in grief over time were more likely to remember their past grief as less severe compared to those who underwent less reduction in grief over time. Hence, current experience of grief may have led to biased recall of psychological responses at the time of the death. In addition, a large body of research has found that current emotional state, i.e. presence of anxiety or low mood, can impair ability to accurately recall past events (e.g. Zlomuzica et al., 2016). Furthermore, recall of prior dissociative experiences is prone to change over time and are significantly impacted on by current psychological distress (Harvey & Bryant, 2002).

Future research could address these limitations by conducting longitudinal research which measures psychological responses in the early and later stages of grief.

The use of a self-selecting sample also presents limitations as those who responded to the advertisements may have been different from those who did not volunteer. It is not possible to know whether individuals who chose to take part differ in terms of psychological or demographic factors. In addition, the study was biased towards individuals who could read and respond in English, and those who had internet access. Therefore there is a substantial portion of the population that have not been accounted for and future research should seek to improve access to research for different populations.

Men were underrepresented in the research, despite efforts to publicise the study among men's services or groups. Caution is warranted therefore in generalising the findings to bereaved men. The difficulty in recruiting men to take part in research is a common problem across psychology (for a review see, Watkins, 2012) and it is important that future research concentrate efforts to improving access to grief studies for men. There was limited representation across race and ethnicity and we cannot be confident therefore the findings are generalisable across cultural differences and diversity.

The correlational nature of the study design limits inferences about the direction of the relationship and causality. Therefore, it has not been possible to explore whether variables act as a risk factors for complicated grief. Prospective or longitudinal studies into the relationship between attachment dimensions, dissociation and complicated grief are needed to further understand the nature of these relationships and identify whether there is more than a correlational relationship.

Clinical applications of the research could be explored empirically. It would be important to understand whether incorporating dissociation into existing models of complicated grief is helpful and provides a reliable and valid addition to the formulation of an individual's experience. In addition, it would be important to evaluate whether supporting individuals to reduce levels of dissociation impacts on their complicated grief symptoms.

2.5 Conclusion

This study of over 230 bereaved adults demonstrated a significant relationship between increased self-reported periloss and persistent dissociation and complicated grief, and this relationship was not moderated by dimensions of attachment insecurity. The findings highlight the potential importance of identifying, understanding and targeting dissociative experiences as part of therapeutic grief support. The cross-sectional, correlational nature of the study limits the ability to infer causality and direction of the relationship. Further longitudinal research is warranted to better understand the predictive role of dissociation in complicated grief, and future studies should seek to use a prospective design. Future research should also seek to improve accessibility in grief research for underrepresented populations.

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Appendix A Ethical Approval for Empirical Study

Approved by Faculty Ethics Committee - ERGO II 48058



UNIVERSITY OF
Southampton

ERGO II – Ethics and Research Governance Online <https://www.ergo2.soton.ac.uk>

Submission ID: 48058

Submission Title: Exploring Dissociative Experiences in Grief

Submitter Name: Victoria Russ

Your submission has now been approved by the Faculty Ethics Committee. You can begin your research unless you are still awaiting any other reviews or conditions of your approval.

Appendix B – Participant Information and Consent Form

Study Title: Exploring Dissociative Experiences in Grief

Researcher: Victoria Russ, Dr Tess Maguire, Dr Lusia Stopa, Dr Jane Hazeldine and Dr Katy Sivyer

ERGO number: 48058

Thank you for your interest in taking part in this research study. To help you decide whether you would like to take part or not, it is important that you understand why the research is being done and what it will involve. Please read the information below carefully and ask questions if anything is not clear or you would like more information before you decide to take part in this research. You may like to discuss it with others but it is up to you to decide whether or not to take part. If you are happy to participate you will be asked to tick the box to indicate your consent to proceed.

What is the research about?

This study is being undertaken as part of a Doctorate in Clinical Psychology at University of Southampton. The research is expected to be completed in May 2020. The aim of this study is to explore dissociative experiences following a bereavement, i.e. feelings of disconnection from the world or yourself. We are interested to know how common these feelings are, and how they relate to early histories and grief experiences.

Why have I been asked to participate?

You are invited to participate if you are over the age of 18, and if you have experienced a significant bereavement.

What will happen to me if I take part?

Your participation is entirely voluntary. It is up to you to decide if you want to take part or not.

If you take part, you will be given access to an online survey. The survey will contain a series of questionnaires. It will take around 1 hour to complete all the questionnaires,

although you can 'save' your progress at any point, and return to the survey at another time to complete it. We would ask however that you complete the survey within a 7 day time period. The questionnaires will ask about your thoughts, feelings and behaviours in the immediate time following the death of your loved one, as well as about your current psychological well-being. There will also be questions about your early life experiences, including childhood events and relationships.

We recognise that it may be upsetting to think about your experience of bereavement. After you complete the survey, we will offer you the choice to partake in an exercise which aims to facilitate positive psychological well-being. You can also withdraw from the study at any point during the survey. Once you have submitted your survey, you will not be able to withdraw.

Are there any benefits in my taking part?

By taking part in this study, you may help improve our current understanding of psychological responses to grief. Ultimately, further knowledge in this area may help us to better support individuals following a bereavement.

To say thank you for participating, you can choose to be entered in to a prize draw to win either: £20 donation to your chosen charity, or an Amazon voucher of the same value. The draw will take place after the data collection period as ended (May 2020).

For Psychology students at the University of Southampton, 8 study credits will be awarded.

Are there any risks involved?

There is a chance that you may experience a temporary increase in distress and a heightened awareness of things that make you feel upset. If you are experiencing distress that you are concerned about, please contact your GP, CRUSE (Tel: 0808 808 1677), or the Samaritans (Tel: 116 123).

What data will be collected?

You will be asked to complete some demographic questions (age, gender, etc). You will be asked some questions about your experiences of grief. This will include answering

questions about the person who died and the nature of their death. You will be asked to complete some questionnaires about your psychological responses around the time of your bereavement, and your current psychological well-being. We will also ask you to complete questionnaires about your early life experiences and relationships.

If you would like to enter the prize draw, you can follow the link to a separate website where you will be asked to enter your email address. The email address will be stored separately from your other responses.

Raw data will be collected and stored on the University's i-survey platform, which is password protected. The downloaded anonymised data will be stored on the researcher's personal computers and may be uploaded to the Open Science Framework website for open access.

Will my participation be confidential?

Your participation and the information we collect about you during the course of the research will be kept strictly confidential.

Only members of the research team and responsible members of the University of Southampton may be given access to data about you for monitoring purposes and/or to carry out an audit of the study to ensure that the research is complying with applicable regulations. Individuals from regulatory authorities (people who check that we are carrying out the study correctly) may require access to your data. All of these people have a duty to keep your information, as a research participant, strictly confidential.

Do I have to take part?

No, it is entirely up to you to decide whether or not to take part. If you decide you want to take part, you will need to indicate your consent by ticking the relevant box when asked to show you have agreed to take part.

What happens if I change my mind?

You have the right to change your mind and withdraw while you are completing the online survey without giving a reason and without your participant rights being affected.

However, once you have submitted your responses at the end you will be unable to withdraw your data as it is stored completely anonymously.

What will happen to the results of the research?

Your personal details will remain strictly confidential. Research findings made available in any reports or publications will not include information that can directly identify you without your specific consent.

Where can I get more information?

You can contact Victoria Russ (vr4g08@soton.ac.uk) if you have any questions about this study.

What happens if there is a problem?

If you have a concern about any aspect of this study, you should speak to the primary researcher, *Victoria Russ* (vr4g08@soton.ac.uk), who will do their best to answer your questions.

If you remain unhappy or have a complaint about any aspect of this study, please contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

Data Protection Privacy Notice

The University of Southampton conducts research to the highest standards of research integrity. Please find the University's Data Privacy Notice here: <https://www.southampton.ac.uk/about/governance/policies/privacy-policy.page>

Thank you for taking the time to read this information sheet and considering to take part in the research.

Consent

I have read and understood the information about this study. In consenting, I understand that my legal rights are not affected. I also understand that data collected as part of this research will be kept confidential and that published results will maintain that confidentiality. I finally understand that if I have any questions about my rights as a participant in this research, or if I feel that I have been placed at risk, I may contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

I certify that I am 18 years or older. I have read the above information form and I give consent to participate in the above described research.

(Please check this box to indicate that you consent to taking part in this survey)

Appendix C – Demographics Questionnaire

Information about you

The following questions will ask you to provide some information about yourself.

Please state your gender identity (Please circle)

Male

Female

Prefer not to say

How old are you?

What is your first/native language?

How would you describe your ethnicity?

(Please select one)

a) Black or Black British

- Caribbean
- African
- Any other Black background within (a)

b) White

- British
- Irish
- American
- Any other White background

c) Asian or Asian British

- Indian

d) Mixed

- White & Black Caribbean
- White & Black African
- White & Asian
- White & Hispanic
- Any other mixed background

e) Other ethnic groups

- Chinese
- Japanese
- Hispanic

- Pakistani
 - Bangladeshi
 - Any other Asian background within (c)
 - Any other ethnic group
 - Do not state
-

Have you ever been diagnosed with a mental health problem? (Please circle)

Yes, if so please specify _____

No

Have you ever received treatment for a mental health problem? (Please circle)

Yes, if so, please specify _____

No

Appendix D – Bereavement Demographics Questionnaire

Information about the person who died

The following questions will ask for some information about the person who died.

How were you related to the person who died? They were my...

(Please circle)

My parent

My partner

My sibling

My child

Other relation (please specify) _____

Close friend

Work colleague

Other (please specify) _____

How long ago did this person die?

How old was this person when they died?

What was the known or likely cause of this person's death? (Please circle)

Illness/Disease

Accident

Suicide

Murder

Unknown cause

Other _____

How expected was their death? (Please circle)

Expected

Somewhat expected

Somewhat sudden/unexpected

Very sudden/very unexpected

How important was this person to you? (Please circle)

Extremely important

Very important

Moderately important

Slightly important

Not at all important

How often did you have direct contact with this person before they died? (i.e. face-to-face contact) (Please circle)

Daily

Weekly

Monthly

Several times a year

Annually

Rarely

How often did you have indirect contact with this person before they died? (i.e. phone calls, text, letters, email, social media, etc.) (Please circle)

Daily

Weekly

Monthly

Several times a year

Annually

Rarely

**Did you seek professional support/bereavement counselling after this person died?
(Please circle)**

Yes

If yes, did you receive support? _____

No

Appendix E – Inventory of Complicated Grief

Your experience of grief

The following questions ask about your current experience of grief.

Please circle the answer which you feel best describes how you feel right now

1.	I think about this person so much that it's hard for me to do the things I normally do	Never	Rarely	Sometimes	Often	Always
2.	Memories of the person who died upset me	Never	Rarely	Sometimes	Often	Always
3.	I feel I cannot accept the death of the person who died	Never	Rarely	Sometimes	Often	Always
4.	I feel myself longing for the person who died	Never	Rarely	Sometimes	Often	Always
5.	I feel drawn to places and things associated with the person who died	Never	Rarely	Sometimes	Often	Always
6.	I can't help feeling angry about his/her death	Never	Rarely	Sometimes	Often	Always
7.	I feel disbelief over what happened	Never	Rarely	Sometimes	Often	Always
8.	I feel stunned or dazed over what happened	Never	Rarely	Sometimes	Often	Always
9.	Ever since s/he died it is hard for me to trust people	Never	Rarely	Sometimes	Often	Always
10.	Ever since s/he died I feel like I have lost the ability to care about other people or I feel distant from the people I care about	Never	Rarely	Sometimes	Often	Always

11.	I have pain in the same area of my body or have some of the same symptoms as the person who died	Never	Rarely	Sometimes	Often	Always
12.	I go out of my way to avoid reminders of the person who died	Never	Rarely	Sometimes	Often	Always
13.	I hear the voice of the person who died speak to me	Never	Rarely	Sometimes	Often	Always
14.	I see the person who died stand before me	Never	Rarely	Sometimes	Often	Always
15.	I feel that it is unfair that I should live when this person has died	Never	Rarely	Sometimes	Often	Always
16.	I feel bitter over this person's death	Never	Rarely	Sometimes	Often	Always
17.	I feel envious of others who have not lost someone close	Never	Rarely	Sometimes	Often	Always
18.	I feel lonely a great deal of the time ever since s/he died	Never	Rarely	Sometimes	Often	Always

Appendix F – Peritraumatic Dissociative Experiences

Questionnaire

Experiences and responses to bereavement

The following questions ask about your experiences and responses immediately after the death of your loved one.

Please complete the items below by circling the number that best describes the experiences you had had during and immediately after the death of your loved one. If you have experienced multiple bereavements, please focus on the most salient or significant bereavement for you. If an item does not apply to your experience, please circle "not at all true".

	Not at all true	Slightly true	Some-what true	Very true	Extremely true
I had moments of losing track of what was going on. I "blacked out" or "spaced out" or in some way felt that I was not part of what was going on.	1	2	3	4	5
I found that I was on "automatic pilot". I ended up doing things that I later realized I hadn't actively decided to do.	1	2	3	4	5
My sense of time changed. Things seemed to be happening in slow motion.	1	2	3	4	5
What was happening seemed unreal to me, like I was in a dream, or watching a movie or play.	1	2	3	4	5
I felt as though I were spectator watching what was happening to me, as if I were floating above	1	2	3	4	5

**the scene or observing it
as an outsider.**

There were moments when my sense of my own body seemed distorted or changed. I felt disconnected from my own body, or it was unusually large or small.	1	2	3	4	5
---	---	---	---	---	---

I felt as though things that were actually happening to others were happening to me — like I was in danger when I really wasn't.	1	2	3	4	5
---	---	---	---	---	---

I was surprised to find afterwards that a lot of things happened at the time that I was not aware of, especially things I ordinarily would have noticed.	1	2	3	4	5
---	---	---	---	---	---

I felt confused; That is, there were moments when I had difficulty making sense of what was happening	1	2	3	4	5
--	---	---	---	---	---

I felt disoriented; that is, there were moments when I felt uncertain about where I was or what time it was.	1	2	3	4	5
---	---	---	---	---	---

Appendix F – Wessex Dissociation Scale

Current feelings and experiences

This questionnaire asks about experiences that you may have in your daily life. Please indicate, by ticking one of the boxes, how often you have experiences like these. It is important that your answers state how often you have these experiences when you are **not** under the influence of alcohol or drugs.

		<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Often</i>	<i>Very Often</i>	<i>All the time</i>
1	Unwanted images from my past come into my head						
2	I hear voices when no-one has actually said anything						
3	Other people describe meetings that we have had but that I cannot remember						
4	Unwanted memories come into my head						
5	My personality is very different in different situations						
6	My mood can change very rapidly						
7	I have vivid and realistic nightmares						
8	I don't always remember what people have said to me						
9	I feel physical pain, but it does not seem to bother me as much as other people						
10	I smell things that are not actually there						
11	I remember bits of past experiences, but cannot fit them together						
12	I have arguments with myself						
13	I do not seem to be as upset by things as I should be						
14	I act without thinking						
15	I do not really seem to get angry						
16	I just feel numb and empty inside						

Appendix G – Adverse Childhood Experiences

Questionnaire

Childhood experiences

The following questions ask about adverse experiences you may have had while growing up.

While you were growing up, during your first 18 years of life: (please circle your answer)

1. Did a parent or other adult in the household often ... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt? **Yes No**
2. Did a parent or other adult in the household often ... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured? **Yes No**
3. Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? or Try to or actually have oral, anal, or vaginal sex with you? **Yes No**
4. Did you often feel that ... No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other? **Yes No**
5. Did you often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? **Yes No**
6. Were your parents ever separated or divorced? **Yes No**
7. Was your mother or stepmother: Often pushed, grabbed, slapped, or had something thrown at her? or Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife? **Yes No**
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs? **Yes No** 9. Was a household member depressed or mentally ill or did a household member attempt suicide? **Yes No**
10. Did a household member go to prison? **Yes No**

Appendix H – PTSD Diagnostic Scale for DSM-V

Experiences of trauma

The following questions ask about any experiences of traumatic events.

Have you ever experienced, witnessed, or been repeatedly confronted with any of the following:
(Check all that apply)

- Serious, life threatening illness (heart attack, etc.)
- Physical Assault (attacked with a weapon, severe injuries from a fight, held at gunpoint, etc.)
- Sexual assault (rape, attempted rape, forced sexual act with a weapon, etc.)
- Military combat or lived in a war zone
- Child abuse (severe beatings, sexual acts with someone 5 years older than you, etc.)
- Accident (serious injury or death from a car, at work, a house fire, etc.)
- Natural disaster (severe hurricane, flood, earthquake, etc.)
- Other trauma (Please describe briefly):

None

*** If NONE, please STOP and return this questionnaire ***



If you marked any of the above items, which single traumatic experience is on your mind and currently bothers you most:

(Check only one)

- Serious, life threatening illness (heart attack, etc.)
- Physical Assault (attacked with a weapon, severe injuries from a fight, held at gunpoint, etc.)
- Sexual assault (rape, attempted rape, forced sexual act with a weapon, etc.)
- Military combat or lived in a war zone
- Child abuse (severe beatings, sexual acts with someone 5 years older than you, etc.)
- Accident (serious injury or death from a car, at work, a house fire, etc.)
- Natural disaster (severe hurricane, flood, earthquake, etc.)
- Other trauma (Please describe briefly):

Please read each statement carefully and circle the number that best describes how often that problem has been happening and how much it upset you over THE LAST MONTH. Rate each problem with respect to the traumatic event that you wrote above.

For example, if you've talked to a friend about the trauma one time in the past month, you would respond like this: (because one time in the past month is less than once a week)

Talking to other people about the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

1. Unwanted upsetting memories about the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

2. Bad dreams or nightmares related to the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

3. Reliving the traumatic event or feeling as if it were actually happening again

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

4. Feeling very EMOTIONALLY upset when reminded of the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

5. Having PHYSICAL reactions when reminded of the trauma (for example, sweating, heart racing)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

6. Trying to avoid thoughts or feelings related to the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

7. **Trying to avoid activities, situations, or places that remind you of the trauma or that feel more dangerous since the trauma**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
8. **Not being able to remember important parts of the trauma**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
9. **Seeing yourself, others, or the world in a more negative way (for example "I can't trust people," "I'm a weak person")**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
10. **Blaming yourself or others (besides the person who hurt you) for what happened**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
11. **Having intense negative feelings like fear, horror, anger, guilt or shame**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
12. **Losing interest or not participating in activities you used to do**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
13. **Feeling distant or cut off from others**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
14. **Having difficulty experiencing positive feelings**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |
15. **Acting more irritable or aggressive with others**
- | | | | | |
|------------|------------------------------|------------------------------|-------------------------------|-------------------------------|
| 0 | 1 | 2 | 3 | 4 |
| Not at all | Once a week or less/a little | 2 to 3 times a week/somewhat | 4 to 5 times a week/very much | 6 or more times a week/severe |

16. Taking more risks or doing things that might cause you or others harm (for example, driving recklessly, taking drugs, having unprotected sex)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

17. Being overly alert or on-guard (for example, checking to see who is around you, being uncomfortable with your back to a door)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

18. Being jumpy or more easily startled (for example when someone walks up behind you)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

19. Having trouble concentrating

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

20. Having trouble falling or staying asleep

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

DISTRESS AND INTERFERENCE

21. How much have these difficulties been bothering you?

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

22. How much have these difficulties been interfering with your everyday life (for example relationships, work, or other important activities)?

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

SYMPTOM ONSET AND DURATION

23. How long after the trauma did these difficulties begin? [circle one]

- a. Less than 6 months
- b. More than 6 months

24. How long have you had these trauma-related difficulties? [circle one]

- a. Less than 1 month
- b. More than 1 month

Appendix I – Hospital Anxiety and Depression Scale

Current mood

The next questions ask about your current mood.

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
3		Most of the time	3		Nearly all the time
2		A lot of the time	2		Very often
1		From time to time, occasionally	1		Sometimes
0		Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0		Definitely as much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
3		Very definitely and quite badly	3		Definitely
2		Yes, but not too badly	2		I don't take as much care as I should
1		A little, but it doesn't worry me	1		I may not take quite as much care
0		Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0		As much as I always could	3		Very much indeed
1		Not quite so much now	2		Quite a lot
2		Definitely not so much now	1		Not very much
3		Not at all	0		Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
3		A great deal of the time	0		As much as I ever did
2		A lot of the time	1		Rather less than I used to
1		From time to time, but not too often	2		Definitely less than I used to
0		Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
0		Definitely	0		Often
1		Usually	1		Sometimes
2		Not Often	2		Not often
3		Not at all	3		Very seldom

Appendix J – Experiences in Close Relationships (Revised version)

Your relationships

The next questions ask about your relationships.

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings about close relationships (please circle your response)

	Not at all like me		Somewhat like me		Very much like me
I find it difficult to depend on other people	1	2	3	4	5
It is very important to me to feel independent	1	2	3	4	5
I find it easy to get emotionally close to others	1	2	3	4	5
I want to merge completely with another person	1	2	3	4	5
I worry that I will be hurt if I allows myself to become too close to others	1	2	3	4	5
I am comfortable without close emotional relationships	1	2	3	4	5
I am not sure that I can always depend on others to be there when I need them	1	2	3	4	5
I want to be completely emotionally intimate with others	1	2	3	4	5
I worry about being alone	1	2	3	4	5

	Not at all like me		Somewhat like me		Very much like me
I am comfortable depending on other people	1	2	3	4	5
I often worry that romantic partners don't really love me	1	2	3	4	5
I find it difficult to trust others completely	1	2	3	4	5
I worry about others getting too close to me	1	2	3	4	5
I want emotionally close relationship	1	2	3	4	5
I am comfortable having other people depend on me	1	2	3	4	5
I worry that others don't value me as much as I value them	1	2	3	4	5
People are never there when you need them	1	2	3	4	5
My desire to merge completely sometimes scares people away	1	2	3	4	5
It is very important to me to feel self-sufficient	1	2	3	4	5
I am nervous when anyone gets too close to me	1	2	3	4	5

	Not at all like me		Somewhat like me		Very much like me
I often worry that romantic partners won't want to stay with me	1	2	3	4	5
I prefer not to have other people depend on me	1	2	3	4	5
I worry about being abandoned	1	2	3	4	5
I am somewhat uncomfortable being close to others	1	2	3	4	5
I find that others are reluctant to get as close as I would like	1	2	3	4	5
I prefer not to depend on others	1	2	3	4	5
I know that others will be there when I need them	1	2	3	4	5
I worry about having others not accept me	1	2	3	4	5
Romantic partners often want me to be closer than I feel comfortable being	1	2	3	4	5
I find it relatively easy to get close to others	1	2	3	4	5

Appendix K – WHO Quality of Life Measure

Quality of Life

This assessment asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be

		Very poor	Poor	Neither poor nor good	Good	Very good
1(G1)	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2 (G4)	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3 (F1.4)	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4(F11.3)	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5(F4.1)	How much do you enjoy life?	1	2	3	4	5
6(F24.2)	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7(F5.3)	How well are you able to concentrate?	1	2	3	4	5
8 (F16.1)	How safe do you feel in your daily life?	1	2	3	4	5
9 (F22.1)	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		Not at all	A little	Moderately	Mostly	Completely
10 (F2.1)	Do you have enough energy for everyday life?	1	2	3	4	5
11 (F7.1)	Are you able to accept your bodily appearance?	1	2	3	4	5
12 (F18.1)	Have you enough money to meet your needs?	1	2	3	4	5
13 (F20.1)	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14 (F21.1)	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

your first response. Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks.

		Very poor	Poor	Neither poor nor good	Good	Very good
15 (F9.1)	How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good or satisfied** you have felt about various aspects of your life over the last two weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16 (F3.3)	How satisfied are you with your sleep?	1	2	3	4	5
17 (F10.3)	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18(F12.4)	How satisfied are you with your capacity for work?	1	2	3	4	5
19 (F6.3)	How satisfied are you with yourself?	1	2	3	4	5
20(F13.3)	How satisfied are you with your personal relationships?	1	2	3	4	5
21(F15.3)	How satisfied are you with your sex life?	1	2	3	4	5
22(F14.4)	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23(F17.3)	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24(F19.3)	How satisfied are you with your access to health services?	1	2	3	4	5
25(F23.3)	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to **how often** you have felt or experienced certain things in the last two weeks.

		Never	Seldom	Quite often	Very often	Always
26 (F8.1)	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Appendix L – Prize Draw

Prize Draw

As a 'thank you' for taking part in this research, you have the chance to enter into a prize draw to win one of ten £20 Amazon vouchers, or the chance to donate £20 to a chosen charity. If you wish enter the draw to win vouchers or a charity donation, please enter your email address. _____

Please tell us if you wish to enter to win the vouchers or the charity donation (and tell us which charity). We will let you know via email if you have won the draw.

£20 Amazon voucher

£20 donation to my chosen charity (please specify which charity _____)

Appendix M - Debrief

Exploring Dissociative Experiences in Grief

Debriefing Statement (Version no 1., 05.04.2019)

ERGO ID: 48058

The aim of this research was to explore dissociative experiences in grief. It is expected that dissociation following a bereavement will be common. We were also interested in relationships between dissociation and childhood experiences and grief severity. Your data will help our understanding of psychological experiences following a bereavement. Once again results of this study will not include your name or any other identifying characteristics. The research did not use deception. You may print a copy of this summary if you wish.

If you have any further questions please contact me, Victoria Russ, at vr4q08@soton.ac.uk.

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

If you have experienced psychological distress as a result of taking part in this research and you would like further support, you could contact CRUSE on their National Helpline No. (0808 808 1677), or Samaritans (116 123). You could also seek advice and support from your General Practitioner.

Thank you for your participation in this research.

Victoria Russ

Trainee Clinical Psychologist

Appendix N – Optional Mood Repair Tasks

We understand that answering many of these difficult questions may have evoked distress for you.

If you would find it helpful, you can use some of the suggested strategies below to lift your mood.

Enjoy this heart-warming, fun video: [Animal hugs](#)

Watch an inspiring, good news story: [First Athlete with Cerebral Palsy to be signed by Nike](#)

Think of FIVE good things in your life

Listen to your favourite song

Go for a walk outside

Have a cup of tea

Chat to a friend

Mindfulness Meditation: [Solent NHS Trust Mindfulness Meditation](#)

If you are struggling to manage your distress, you could contact CRUSE on their National Helpline No. (0808 808 1677), or Samaritans (116 123). You could also seek advice and support from your General Practitioner.

THANK YOU!