

Review

A systematic review of loneliness in bereavement: Current research and future directions

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Abstract

Bereaved people suffer from loneliness and loneliness is associated with poor mental health. In this study, this topic is reviewed. An agenda is suggested for future research. Research that is theory-driven, addresses measurement consistency, correlates of loneliness in bereaved and non-bereaved, and treatment is necessary for prevention and intervention.

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Keywords

Loneliness, Social isolation, Bereavement, Grief, Prolonged grief disorder, Complicated grief, Persistent complex bereavement disorder, COVID-19.

Introduction

Loneliness is commonly experienced among adults and may compromise physical and mental health, particularly among older persons [1]. Even before the COVID-19 pandemic, the particular vulnerability of bereaved persons to loneliness was recognized. In one classic study, the majority of widowed persons mentioned loneliness as *the* biggest challenge to coping on a daily

basis [2]. It is conceivable that loneliness will be amplified due to bereavement during the COVID-19 pandemic. This has been corroborated in a recent, non-bereavement-specific study [3]; increases were also documented during previous pandemics [4]. Crucially, there is also evidence that loneliness plays a key role in adaptation to bereavement [5]. Scientific investigation goes as far back as the mid-1970s, enabling us to draw on this existing body of evidence to fulfill our main goals. These were to establish the current, pre-pandemic state of knowledge on loneliness in bereavement; inform researchers and practitioners about risk factors and intervention efficacy; and, consequently, to derive some guidelines for future research.

People experiencing loneliness often describe themselves as feeling empty inside and disconnected from others [6]. De Jong Gierveld and Van Tilburg [7] defined loneliness as a subjective negative feeling originating from perceived deficits in social relationships. Cacioppo et al. [8] highlighted its evolutionary function, with loneliness serving as a stimulus to reconnect with others. Such formulations are in line with attachment theory, an important framework for understanding the consequences of loss and separation [9]. Two sub-categories have often been distinguished: *emotional* and *social loneliness* [10]. Emotional loneliness is construed as a perceived absence of, and longing for, emotional or intimate attachment; social loneliness represents the absence of, and longing for, a social network [6]. Earlier empirical investigation provided first indications of the usefulness of distinguishing these two categories: the impact of spousal bereavement on depression and somatic complaints was mediated by emotional, but not social, loneliness; support from others did not alleviate emotional loneliness [11]. Bereavement has also been associated with an increase in emotional loneliness but not social loneliness [12]. These findings are pursuant to the attachment theory notion that losing a partner means losing a major attachment figure, and that support from family and friends cannot compensate for this effect. One construct critical to loneliness in bereavement is security toward primary attachment figures; evidence has shown attachment insecurity to be closely related to loneliness [10,13].

Remarkably, there is no concordance between the two main diagnostic systems of mental disorders: loneliness is not included in the current criteria for *Prolonged Grief Disorder* in the 11th revision of the International Classification of Diseases (ICD-11 [14], whereas in the forthcoming Diagnostic and Statistical Manual of Mental Disorders, fifth edition, text revision “Intense loneliness as a result of the death” is included as part of ‘criterion C’ [15]. Examination of existing research may contribute to understanding the role of loneliness in (prolonged) grief. Accordingly, we undertook a systematic review of the literature to establish the extent of scientific evidence on the role of loneliness in adjustment to bereavement in adulthood. Specifically, we wanted to ascertain:

- the prevalence, intensity, and time course of loneliness and the relation between loneliness and (prolonged) grief;
- the extent of information on subtypes of loneliness, notably emotional and social loneliness;
- risk factors and correlates for experiencing loneliness after bereavement (e.g., age, gender patterns); and
- the effects of psychotherapeutic intervention targeting loneliness after bereavement.

Method

The present review was conducted in accordance with the guidelines for systematic reviews set forth in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement [16] (PRISMA; see Supplement Figure 1). The final search was completed on March 12, 2020, and returned 8119 articles, of which 5600 duplicates were removed, leaving 2519 (31%) articles for screening. Following title and abstract screening, 312 (12%) articles were retained and after full-text screening 63 (2.5%) were selected. We evaluated available quality assessment tools for their appropriateness. The derived tool was adapted from the two instruments considered to be most relevant. The primary source was the Systematic Appraisal of Quality for Observational Research [17]. Items from the Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross Sectional Studies (JBI checklist) [18] were substituted for items in the Systematic Appraisal of Quality for Observational Research where these were more appropriate. An overview of the data extraction procedure is given in Supplement Figure 2.

Results

Of the 63 articles identified as eligible, 51 were based on independent datasets. The studies reported on 16,558 bereaved participants (excluding overlapping datasets). Thirty described cross-sectional designs (59%), 25 reported on longitudinal studies (49%). (Some datasets have been used for longitudinal as well as cross-sectional investigations. Therefore, the sum exceeds the number

of 51 independent studies). Five of the latter type investigated interventions (10%).

Results of the reviewed studies are summarized in Tables 1–5, covering information on prevalence and duration, correlates, and intervention efficacy. Extended information on all reviewed studies is provided in Supplement Table 1.

In 26 studies (51%) various validated scales were used to measure loneliness (Table 1). Notably, however, 20 studies (39%) used single items. The actual prevalence of loneliness reported across studies varied but most authors interpreted their results as demonstrating loneliness to be widely experienced after bereavement, concluding that it is moderately to highly prevalent, with controlled studies finding it to be more prevalent than among non-bereaved samples. Loneliness is also perceived by the bereaved themselves to be of moderate to high intensity.

Information about the time course of loneliness across the duration of bereavement suggests certain trajectories. Evidence showed high peaks directly after a loss, followed by a slow reduction over time, with loneliness generally abating over the subsequent months. For some bereaved persons, chronic patterns were identified, with loneliness remaining a problem for years. However, this seemed more apparent for emotional than for social loneliness.

Grief measures were included in 20 (39%) studies (Table 1), of which most describe associations between grief and loneliness (Table 4).

Correlates of loneliness among the bereaved broadly covered circumstances/situational, intrapersonal, interpersonal, and coping domains. Some variables were examined more often and/or were more clearly related to loneliness than others (Table 3). To illustrate emerging patterns in these four domains: first, illness/death-related circumstances were relevant. One study found pre-loss caregiving and greater severity of a partner’s disease (reflecting caregiver strain) associated with loneliness post-loss.

Second, studies found increased loneliness to be correlated with lower mental and physical health. Three clinical conditions, major depressive disorder, post-traumatic stress disorder, and prolonged grief disorder, were associated with more loneliness. There is also substantial evidence that (self-rated) health, emotional valence, self-esteem, self-enhancement, perceived competence, life satisfaction, and trait resilience are inversely associated with loneliness in the bereaved. Attachment styles were linked to loneliness in bereavement too: higher loneliness was reported for insecure (both avoidant and anxious) compared to

Table 1

Summary of sample characteristics, measures of loneliness and grief.

Sample characteristics	Measures of loneliness	Measures of grief
<p>Mean age (weighted)</p> <ul style="list-style-type: none"> 65 years ($SD = 14$) <p>Gender</p> <ul style="list-style-type: none"> 73% females <p>Participants have lost</p> <ul style="list-style-type: none"> Partner/spouse: $N = 31$ (69%) [5,11,19–47] Varying kinships: $N = 10$ (16%) [48–57] Not reported: $N = 6$ (8%) [58–63] Child: $N = 2$ (6%) [64,65] Parent: $N = 2$ (6%) [66,67] <p>Cause of death</p> <ul style="list-style-type: none"> Not reported: $N = 36$ (71%) [11,20,21,23,25–47,50,53–55,58–60,66,67] Illness: $N = 6$ (12%) [5,22,51,56,57,63] Various: $N = 4$ (8%) [24,49,65,68] Suicide: $N = 2$ (4%) [61,64] Earthquake: $N = 2$ (4%) [48,62] Mining disaster: $N = 1$ (2%) [19] <p>Time since loss</p> <ul style="list-style-type: none"> Mean at T1 = 43 months ($SD = 60$) <p>Country</p> <ul style="list-style-type: none"> USA: $N = 26$ (52%) [19,21,23,29–33,36,39,46,47,53–55,57–59,61,64,67,69] The Netherlands: $N = 6$ (12%) [35,42,44,45,49,63] China: $N = 5$ (10%) [24,37,48,62,65] Switzerland: $N = 3$ (6%) [38,41,50] Germany [11,51], Sweden [28,34]: each $N = 2$ (4%) Australia [20], Canada [27], Denmark [26], Finland [66], France [25], Scotland [56], International [68]: each $N = 1$ (2%) <p>Study design</p> <ul style="list-style-type: none"> Bereaved vs. non-bereaved participants: $N = 20$ (39%) [5,11,19–21,25,34,40,41,44,45,50,51,54,55,57,60,62,65,66] Bereaved participants: $N = 31$ (61%) [22–24,26–38,42,46–49,53,56,58,59,61,63,64,67,68,70] 	<p>UCLA-LS</p> <ul style="list-style-type: none"> UCLA-LS, Revised UCLA-LS, or UCLA-LS-Version 3: $N = 12$ (24%) [20,27,29,30,32,33,46,54,61,64,65,67] UCLA-LS-8: $N = 1$ (2%) [53] UCLA-LS-5: $N = 1$ (2%) [55] UCLA-LS-4: $N = 2$ (4%) [36,47] UCLA-LS-3: $N = 1$ (2%) [21] UCLA-LS-Short form: $N = 1$ (2%) [69] <p>DJG-LS</p> <ul style="list-style-type: none"> DJG-LS-11: $N = 6$ (12%) [35,42,44,45,49,63] DJG-LS-6: $N = 2$ (4%) [24,41] <p>Other scales</p> <ul style="list-style-type: none"> ESLS: $N = 1$ (2%) [48] ESLI: $N = 1$ (2%) [43] NYUL, modified: $N = 1$ (2%) [40] <p>Single item, from existing scale</p> <ul style="list-style-type: none"> $N = 7$ (13%) studies used a single item out of an existing questionnaire CES-D “I feel lonely” [5,39] SADS “I feel rather isolated, rather lonely, even among friends” [50] ICG-19 “I feel lonely a great deal of the time ever since ... died” [37] BSI “Feeling lonely” and “Lonely with people” [57] PSS “Lonely” [62] DT, participants can indicate whether or not (yes or no) in the past week they had experienced loneliness [51] <p>Single item, self-constructed</p> <ul style="list-style-type: none"> $N = 12$ (24%) [11,19,23,28,31,34,38,58,59,66,68,71] <p>Semi-structured</p> <ul style="list-style-type: none"> $N = 1$ (2%) [56] <p>Not reported</p> <ul style="list-style-type: none"> $N = 2$ (4%) [25,60] 	<p>TRIG</p> <ul style="list-style-type: none"> $N = 3$ (6%) [57,64,72] $N = 2$ (4%) present feelings subscale [22,23] <p>ICG</p> <ul style="list-style-type: none"> $N = 5$ (10%) [24,26,33,37,63] <p>Other scales</p> <ul style="list-style-type: none"> $N = 6$ (12%) BEQ [30]; BPQ [20]; IOLQ [30], ITG [49]; PCBI [53]; TRGR2L [32] <p>Self-constructed</p> <ul style="list-style-type: none"> $N = 1$ (2%) 13-item Grief Reactions Scale [28] <p>DSM-5</p> <ul style="list-style-type: none"> $N = 3$ (6%) measure based on proposal for DSM-5 CG, 9 items, 5-point scale [68]; SCID-IV [46]; DSM-5 PCBD symptoms [39]

BEQ, Bereavement Experience Questionnaire, 67 items, 4-point scale [73]; BPQ, Bereavement Phenomenology Questionnaire, 22 items, 4-point scale [108]; BSI, Brief Symptom Inventory, 53 items, 5-point scale [74]; CES-D, Center for Epidemiologic Studies Depression Scale, 11 items, 3-point scale [75]; CG, Complicated Grief [105]; DJG-LS, De Jong-Gierveld Loneliness Scale, 11 items, dichotomous scores, range = 0–11 [76,77]; DJG-LS, De Jong Gierveld Loneliness Scale - Short version, 6 items, 5-point scale, maximum score = 6 [78]; DJG-LS Short Chinese version, 6 items, range 0–6 [79]; DSM-5, Diagnostic and Statistical Manual of Mental Disorders, fifth edition [106]; DT, Distress Thermometer, 10-point scale [80]; ESLS, Emotional and Social Loneliness Scale, 10 items, 5-point scale [81,82]; ESLI, Emotional/Social Loneliness Inventory, 15 paired items^a [83]; ICG, Inventory of Complicated Grief, 29 items, 5-point scale [84]; IOLQ, Impact of Loss Questionnaire, 5-point scale [86]; ITG, Inventory of Traumatic Grief, 29 items, 5-point scale [85]; Modified NYUL, modified version of the New York University Loneliness Scale^a, 3 items, range 3–18 [87]; Revised UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [88]; PCBD, Persistent Complex Bereavement Disorder [106]; PCBI^a, The Persistent Complex Bereavement Inventory, 16 items, 5-point scale [89]; PSS, Psychosomatic Situation Scale (also called Mental Health Scale), 53 items, 5-point scale [118]; SADS, Self-Assessing Depression Scale, 3-point scale [92]; SCID-IV, Structured Clinical Interview for DSM-IV-TR [90]; SD, standard deviation; TRGR2L, Traumatic Grief Evaluation of Response to Loss, 15 items, 4-point scale [91]; TRIG, Texas Revised Inventory of Grief (Present feelings = 13 items) 2-point scale [93]; UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [94]; UCLA-LS Version-3, 20 items, 4-point scale, range 0–80 [88]; UCLA-LS Loneliness Scale-short form, 13 items, 4-point scale, range 13–52 [88]; UCLA-LS-8, 8-item version of UCLA Loneliness Scale, 5-point scale, range 8–40 [95]; UCLA-LS-5, UCLA Loneliness Scale 5 items, 5-point scale, range 5–25 [55]; UCLA-LS-4, UCLA Loneliness Scale 4 items, 4-point scale, range 4–16 [36,47]; UCLA-LS-3, UCLA Loneliness Scale 3 items, 4-point scale, range 0–9 [96].

^a No further information given (e.g., number of items).

secure types of attachment. Intrapersonal protective factors in association with loneliness were rarely examined, but one study identified social engagement through voluntary work (e.g., in a soup kitchen) as a possible protective factor. Another study investigating religious reappraisal of loss found that interpreting the loss as punishment from God was associated with more loneliness.

Results were inconclusive regarding gender and age. Some articles reported that men suffer more from loneliness post-loss; many others reported no gender differences, while one study found higher loneliness among bereaved women. Similarly, some studies found older participants to be more prone to loneliness, whereas others found no difference across age groups.

Third, among interpersonal factors, social support stands out: many studies found lower support from family, friends, and neighbors to be associated with heightened loneliness among the bereaved (we discuss whether such findings represent main or interaction effects in Table 6).

Fourth, ways of coping were connected with loneliness. Evidence indicated that a flexible coping style, being able to both focus on processing and move beyond the loss, and positive appraisals (e.g., considering the loss as yielding chances for personal growth), may serve as protective resources. Furthermore, solemnly focusing on the loss or feeling discouraged by the death was associated with higher loneliness.

One aim of our review is to investigate evidence concerning the efficacy of interventions to reduce loneliness among bereaved persons. However, relatively few intervention studies have been conducted (Table 5) and only one demonstrated any association with reduced loneliness (in one treatment condition more than the other; no non-intervention condition was included).

Discussion

Directions for future research are detailed in Table 6. To summarize: first, we propose extending the scope of empirical investigation. More correlates than those covered thus far need inclusion (see also [113]). Discrepancies between results need to be resolved, knowledge refined, horizons broadened. For example, studies have been disproportionately conducted in the United States, with a total absence of research in some other continents. Yet loneliness among the bereaved is likely to be strongly impacted by cultural norms and ritual practices [114].

Second, theory-guided empirical research is needed, not least to direct researchers toward critical variables in examining the bereavement-loneliness-grief relationship.

Table 2

Summary of results: prevalence and time course.

Prevalence of loneliness in the bereaved	Time course
<ul style="list-style-type: none"> Total ($N = 5$ [20,27,32,46,61]) weighted mean UCLA-LS-score: 43.49 ($SD = 3.52$)^a Total ($N = 5$ [35,42,45,49,63]) mean DJG-LS-11-score: 4.10 ($SD = 0.43$) at baseline (i.e., moderate loneliness [77]); 2 studies using DJG-LS-6 reported participants felt lonely (cut-off > 2) [24,41]; and 1 [44] gave no means, but reported 54% of participants had “moderate” emotional loneliness; 29% “moderate” social loneliness Twenty-five studies used other measures; all but 1 reported loneliness to be prevalent among bereaved. N.B.: Descriptions of results were highly heterogeneous, including reported means, trajectories, percentages, and strength of nodes Only 18 studies compared loneliness in the bereaved to loneliness in non-bereaved In studies comparing loneliness in bereaved with non-bereaved, most ($N = 15$, 83%) reported loneliness to be higher in bereaved than non-bereaved [11,19,21,34,44,46,50,51,60,62,66,97,98]. NB: This includes studies comparing loneliness scores within the same participants (pre- to post-loss) Four studies (22%) did not find differences between loneliness in bereaved and non-bereaved. They focused, uniquely, on male bereaved exclusively [20], care-giving participants pre- and post-loss [57], or loss of an only child in China [65]. In one study, loneliness of bereaved participants was compared to participants who have undergone an important negative change other than death [50] 	<ul style="list-style-type: none"> Time course when included ranged from 12 years pre-loss to 12 years post-loss In general, loneliness was reported as the most common reaction to widowhood [28]; higher post-loss compared to pre-loss [44,98,99] and post-loss, loneliness to be either stable over time [28,36,47] or to increase and then slowly decrease over time [23,33,44,52,98,100] All studies explicitly examining duration of bereavement, found a connection between more recent losses and more loneliness [32,47,66,97] Two main trajectories of emotional loneliness were described [44,98]. Approximately as many participants recovered from emotional loneliness, as bereaved displaying an increasing and prolonged trajectory [98]. The time course of social loneliness seemed different: low-stable pre- to post-loss and throughout follow-up in most of bereaved

DJG-LS, De Jong-Gierveld Loneliness Scale, 11 items, dichotomous scores, range = 0–11 [76,77]; DJG-LS, De Jong Gierveld Loneliness Scale - Short version, 6 items, 5-point scale, maximum score = 6 [78]; DJG-LS Short Chinese version, 6 items, range 0–6 [79]; Revised UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [88]; *SD*, standard deviation; UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [94].

^a The UCLA-LS does not have a cut-off score. Nevertheless, we weighted the mean of the presented studies to facilitate the possibility of pre-to post-Covid 19 comparisons in future research.

Attachment theory constructs could be investigated, for example, with regards to differences in duration of emotional and social loneliness after loss. The cognitive stress theory framework offers a useful paradigm to understand the links between bereavement and negative health outcomes, because it examines potential mediating processes (coping and appraisals). The bereavement-specific Dual Process Model [115] has been applied in intervention, with promising initial results, but should be further tested [24,116]. Additionally, cognitive behavioral frameworks proven to be useful in combatting loneliness more generally could usefully be examined in the bereavement context [111]. Micro-level theoretical analysis is also needed. Underlying processes associated with loneliness among the bereaved have not yet been established: studies on cognitive/emotion regulation processes in relation to loneliness are lacking; these would be relevant to intervention programming (for a review see Ref. [117]).

Finally, we address design and measurement issues in Table 6, noting areas for improvement. It has been

difficult to make causal inferences. Evidence of bereavement-specific excesses in loneliness is indicative but needs strengthening. To illustrate: not unexpectedly, social support emerged as one of the better established correlates of (decreased) loneliness in bereavement. However, this closely mirrors findings on social support in health among people in general; we do not know whether the bereaved are lonelier when lacking social support, compared with non-bereaved counterparts.

The use of different (even unvalidated) measurement instruments makes establishing precise patterns and drawing conclusions difficult (e.g., 39% of studies used single-item measures of loneliness, established grief measures were even less common). Further examination of the validity of using single-item measures and investigation of cut-off scores in validated scales is called for. Particularly when circumstances (e.g., illness; caretaking; lock-down) seem likely to exacerbate loneliness, which in turn may impact on complications in grieving, working toward general consensus on how to measure these central constructs seems imperative.

Table 3

Summary of results: correlates for experiencing loneliness in bereavement^{a,b}.

Situation and circumstances of death	Intrapersonal risk or protective factors	Interpersonal or non-personal resources and protective factors	Coping styles, strategies, processes
<ul style="list-style-type: none"> • <i>Cause of death:</i> loss due to cancer, suicide, accidents investigated; suicide and cancer associated with loneliness [22,49,64]. Combination of cancer with unexpectedness of death associated with higher levels of loneliness [22]. The lower the perceived intensity of the disease, the stronger the emotional loneliness after loss. Length of illness was not associated with loneliness [45] • <i>Pre-bereavement caregiver strain:</i> caregivers had higher loneliness levels, overall, than non-caregivers, especially when they experienced unintended thoughts about caregiving [40] • <i>Type of lost relationship:</i> losing a partner was associated with the highest emotional loneliness, followed by losing a child and losing a parent [52] 	<ul style="list-style-type: none"> • <i>Mental and physical health:</i> poor mental and physical health correlated with more loneliness in bereaved [35,45,47]. Associations with loneliness in bereaved reported for symptoms of MDD, PTSD, PGD [46], social anxiety [45], and bereavement hallucinations [71]. PCBD was correlated with loneliness, but depressive symptoms accounted more for loneliness scores [53]. Negative emotional valence was associated with higher levels of loneliness [97]. Low self-rated general health was associated with often feeling lonely among bereaved participants; higher general life-satisfaction was connected to less loneliness [31]. Loneliness was found to mediate the effects of loss on perceived life dissatisfaction and satisfaction with received social support [55]. Self-esteem was found to be associated with loneliness [67] and was related to higher emotional and social loneliness [98] • <i>Personality and attachment style:</i> lower levels of self-enhancement [46], perceived competence [72], and trait resilience [97] were associated with higher loneliness. Both anxious and avoidant attachment were related to higher emotional loneliness in the bereaved [52]. Widowed older participants attachment to their father, but not mother, was associated with reduced loneliness after loss [35]. Bereaved participants who took action to mobilize (new) contacts reported higher emotional loneliness [98] • <i>Predisposing factors and previous bereavements:</i> higher loneliness pre-loss 	<ul style="list-style-type: none"> • <i>Social support, cultural setting:</i> many studies have reported lack of support from family, friends, and neighbors to be associated with heightened loneliness [23,31,35,36,39,40,42,45,47,48,58,59,69,98,100,102]. One study [31] identified absence of a confidant as associated with loneliness as were adequacy of transport and satisfaction with visiting patterns with family and friends. The combination of mental and physical health with quality of social interactions, ability to cope, and accomplish goals was found to be significantly associated with loneliness [46] 	<ul style="list-style-type: none"> • <i>Grief work, appraisal processes:</i> focusing on processing the loss (trauma focus) rather than perceived ability to move beyond the loss (forward focus) was related to higher levels of loneliness. The ability to use both trauma and forward focus predicted less loneliness [32]. When categorized by adaptation to loss, participants with minor difficulties as well as those who were 'affected' showed higher loneliness, depression, and hopelessness than married controls [41] (N.B.: The subgroup 'affected' comprised only 7% of widowed). When bereaved felt discouraged in achieving their goals, loneliness scores were high; those who experienced higher levels of personal growth generally reported less loneliness [54]

(continued on next page)

Table 3 (continued)

Situation and circumstances of death	Intrapersonal risk or protective factors	Interpersonal or non-personal resources and protective factors	Coping styles, strategies, processes
	<p>predicted higher loneliness post-loss [98]. Higher age when losing a parent was a predisposing factor for higher loneliness scores [67]. Overall significant effect of widowhood on loneliness was found to be even stronger in civilians and veterans who were not exposed to dead, dying, or wounded people during their military service, compared to those who had encountered these exposure experiences [99]. <i>Volunteer work</i> was related to reduced loneliness among those who became widows [21]</p> <ul style="list-style-type: none"> • <i>Religious beliefs and other meaning constructs</i>: religious reappraisal of loss was not associated with loneliness; viewing the loss as a punishment from God was correlated with higher loneliness [54] • <i>Sociodemographic variables: Gender</i>: three studies found higher loneliness in bereaved men compared to women [61,70,97]; 1 study found widows suffered more [25]; 3 further studies reported similar levels between widows and widowers [35,42,101]. Women reported higher emotional loneliness compared to men, while the opposite was found for social loneliness, [44,98]. Age: it was investigated in 10 studies of which 3 found positive correlations between age and loneliness, the older bereaved being lonelier [34,56,58]. Seven papers found no significant relationship [19,34,35,40,41,44,97,98]. 		

^a The depicted categories were proposed by Stroebe et al. [103]. Some small adaptations were necessary for current purposes (e.g., physical and mental health as potential correlates).

^b Several labels have been proposed for what would appear to refer to maladaptive grief, there is overlap between “Complicated Grief” (CG) [105], “Persistent Complex Bereavement Disorder” (PCBD) [106] and “Prolonged Grief Disorder” (PGD) [107]. Recently, both the International Classification of Diseases (ICD-11) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) have adopted the term PGD. Although we are aware of the differences between these formulations, we hope to facilitate readability by conforming to the use of PGD in our main text. However, to correctly describe the reported studies, their measures and results the original usage of authors remains in our complete tabulation.

Table 4

Summary of associations between loneliness and grief.^a

Study	Sample (total bereaved; non-bereaved controls, Time 1)	Sample characteristics	Study design	Risk of bias	Measures	Associations between loneliness and grief
Byrne and Raphael [20] Australia	N = 57, non-bereaved	0% female, mean age = 74.52 years (SD = 4.65), cause of death = not reported, participant has lost = spouse, time since loss = not reported	Longitudinal	Low	Loneliness: Revised UCLA-LS Grief: BPQ	Over the 13 months of bereavement, loneliness did not contribute to differences and was not correlated with grief
Eckholdt et al. [26] Denmark	N = 208, no non-bereaved	63.94% female, mean age = 72 years (SD = 4.24), cause of death = not reported, participant has lost spouse, time since loss = 2, 6, and 48 months	Longitudinal	Moderate	Loneliness: single item for emotional loneliness (“I feel lonely even when I am with others”) Grief: ICG-R, short form	Emotional loneliness significantly predicted prolonged grief symptoms ($\beta = 0.32$, $P < 0.01$) and depression ($\beta = 0.45$, $P < 0.01$) before controlling for baseline values of the outcome, but only significantly predicted depression ($b = 0.23$, $P < .05$) in the final, saturated model
Henderson et al. [30] USA	N = 147, no non-bereaved	90% female, mean age = 62.5, range 20–82 years, cause of death = not reported, participant has lost = lost spouse, time since loss = within the last 2 years	Longitudinal	Moderate	Loneliness: Revised UCLA-LS Grief: BEQ; IOLQ	Loneliness at Time 1 and time predicted impact of loss (IOL) at Time 3. Loneliness at Time 1 also predicted bereavement experience (BEQ) at Time 2. Loneliness at Time 1 and Time 2 did not predict BEQ at Time 3
Kovarsky [64] USA	N = 52, no non-bereaved	71% female, age not reported, cause of death = suicide, participant has lost = child, time since loss = not reported	Cross-sectional	Moderate	Loneliness: Revised UCLA-LS Grief: TRIG	Bereaved parents who lost a child to an accidental or suicidal death experienced a high degree of loneliness and disturbed grief Cause of death: accident survivors' levels of loneliness and grief both declined over time, <i>(continued on next page)</i>

Table 4. (continued)

Study	Sample (total bereaved; non-bereaved controls, Time 1)	Sample characteristics	Study design	Risk of bias	Measures	Associations between loneliness and grief
Lee [53] USA	<i>N</i> = 249, no non-bereaved	Predominantly female, mean age = 19, cause of death = not reported, participant has lost family member (66%) or other (33%), time since loss mean = 3.20 years (<i>SD</i> = 2.21)	Cross-sectional	High	Loneliness: UCLA-LS-8 Grief: PCBI	whereas the degree of loneliness (marginal result, <i>P</i> < 0.10) and grief (significant, <i>P</i> < 0.01) for suicide survivors tended to rise over time PCBD: symptoms were positively but not significantly correlated with loneliness (β = 0.07, <i>P</i> > 0.05).
Lund et al. [69] USA	<i>N</i> = 328, no non-bereaved	61% female, mean age 69.6 years (<i>SD</i> = 10.6, range = 50–93), cause of death = not reported, participant lost spouse/partner, time since loss = approximately 4 months (range = 5–24 weeks)	Cross-sectional	Low	Loneliness: UCLA-LS - Short Form Grief: TRIG - present feelings	Support: greater support from friends was associated with less loneliness as well as lower grief
Pan [37] China	<i>N</i> = 352, no non-bereaved	78.4% female, mean age = 72.63 (<i>SD</i> = 8.74), cause of death = 50.3% long term, participant lost = spouse, time since loss = not reported	Cross-sectional	Low	Loneliness: 1 item from ICG-19 “I feel lonely a great deal of the time ever since ... died” 5-point scale Grief: ICG-19, 5-point scale	The three most central symptoms in the ICG network were “feeling longing for the person who died,” “memories of the dead,” and “feeling lonely”
Robinaugh et al. [39] USA	<i>N</i> = 250, no non-bereaved	85.3% female, mean age = 70.2 years (<i>SD</i> = 6.9), cause of death = not reported, participant lost spouse, time since loss = 6 month (T1)	Longitudinal	Moderate	Loneliness: 1 item from CES-D. “I feel lonely” Grief: no scale DSM-5 PCBD symptoms (APA, 2013)	Loneliness: it was identified as a symptom of PCBD Loneliness was strongly associated with sadness and depressed mood, thereby bridging the two networks of PCBD and depression potentially contributing to the high rates of comorbidity
Utz et al. [72] USA	<i>N</i> = 328, no non-bereaved	61% female, mean age = 69.6 years (<i>SD</i> = 10.6,	Cross-sectional	Low	Loneliness: used revised UCLA-LS in study but UCLA-LS short	Perceived competence: higher scores on competence were

van der Houwen et al. [68] The Netherlands (international sample)	<i>N</i> = 757, no non-bereaved	range = 50–93), cause of death = not reported, participant lost spouse, time since loss = approximately 4 months (15.6 weeks, range = 5–24 weeks) 93.5% female, mean age = 43.22 years (<i>SD</i> = 10.98, range = 18–81), cause of death = natural causes (65.8%), accident/homicide (22.1%), suicide (12.2%), participant lost child (42.5%), partner (30.4%), parent (16.6%), sibling (10.4%), time since loss = 3.37 years (<i>SD</i> = 5.24)	Longitudinal, intervention	Low	Loneliness: emotional loneliness, 2 items: I feel lonely even if I am with other people; I often feel lonely. 7-point scale ranging from 1 (totally disagree) to 7 (totally agree) Grief: CG measure based on DSM-5 proposal for CG, 9 items, 5-point scale	strongly and consistently correlated with lower levels of loneliness, as well as grief and depressive symptoms Trajectory: emotional loneliness, grief, and depression decreased over the 6-month study period; positive mood increased
Yan and Bonanno [46] USA	<i>N</i> = 94, no non-bereaved	66% female, mean age = 51.45 years (<i>SD</i> = 6.08; range = 37–60), cause of death = not reported, participant lost spouse, time since loss = 1.5–3.0 years	Cross-sectional	Moderate	Loneliness: Revised UCLA-LS Grief: SCID-IV	Mental health: symptoms of MDD, PTSD, and PGD predicted loneliness

BEQ, Bereavement Experience Questionnaire, 67 items, 4-point scale [73]; BPQ, Bereavement Phenomenology Questionnaire, 22 items, 4-point scale [108]; CES-D, Center for Epidemiologic Studies Depression Scale, 11 items, 3-point scale [75]; ICG, Inventory of Complicated Grief, 29 items, 5-point scale [84]; IOLQ, Impact of Loss Questionnaire^b, 5-point scale [86]; Revised UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [88]; PCBI^b, The Persistent Complex Bereavement Inventory, 16 items, 5-point scale [89]; TRIG, Texas Revised Inventory of Grief (Present feelings = 13 items) 2-point-scale [93]; UCLA-LS Loneliness Scale - short form, 13 items; range 13–52 [88]; UCLA-LS-8, 8-item version of UCLA-LS Loneliness Scale, 5-point scale, range 8–40 [95].

^a Risk of bias: high (5.5–8), moderate (2.5–5.4), and low (0–2.4).

^b No further information given (e.g., number of items).

Table 5

Summary of intervention studies and their efficacy.

Study	Sample (bereaved)	Sample characteristics	Description of study	Risk of bias ^a	Measures	Efficacy
Chow et al. [24] Hong Kong/China	<i>N</i> = 125	81.6% female, mean age = 74.3 (<i>SD</i> = 7.5), cause of death = sudden illness (20%), chronic illness (73.6%), other (6.4%), participant has lost spouse, time since loss mean = 15.0 months (<i>SD</i> = 26.3)	Intervention: dual-process bereavement group intervention Control: loss-oriented bereavement group intervention Procedure: weekly, 2-h sessions for 7 weeks followed by a 4-h outing in the eighth week	Low	Loneliness: DJG-LS Short Chinese version Grief: 19-item Chinese ICG	Loss-oriented group intervention compared to intervention based on dual process model. Participants in the latter reported reduced anxiety (<i>d</i> = 0.41 at follow-up), and emotional and social loneliness, whereas those in the loss-oriented condition did not. Post intervention differences between groups: emotional loneliness <i>d</i> = 0.39, social loneliness 0.50. Follow-up differences between groups: emotional loneliness <i>d</i> = 0.63, social loneliness <i>d</i> = 0.28
Knowles et al. [33] USA	<i>N</i> = 28	70% female, mean age = 67.2 (<i>SD</i> = 10.73), cause of death = not reported, participant has lost spouse, time since loss mean = 9.15 months (<i>SD</i> = 6.63)	Intervention: interactive virtual reality support group; 1 h twice per week on non-consecutive days for a total of 8 weeks (16 sessions) Control: active grief education website; one reading on grief per week	High	Loneliness: revised UCLA-LS Grief: ICG	Loneliness was not impacted by virtual reality intervention vs. grief website control The virtual reality intervention also had no significant impact on grief outcomes
Onrust et al. [63] The Netherlands	<i>N</i> = 216	Description not reported for total sample: visiting service <i>N</i> = 110, 65% female, mean age = 68.9 years (<i>SD</i> = 9.10), time since loss = 7.8 years (<i>SD</i> = 1.90); Folder <i>N</i> = 106, 63% female, mean age = 68.8 (<i>SD</i> = 9.50), time since loss = mean 7.9 years (<i>SD</i> = 2.00)	Intervention: widow-to-widow visiting service; 10–12 home visits Control: brief informational brochure on depressive symptoms Procedure: interviewed at baseline, at 6 months, and at 12 months after baseline	Low	Loneliness: DJG-LS Grief: ICG-R	Intervention and control groups did not significantly differ on loneliness after treatment. Socially loneliness improved more in the experimental group than in the control group
Stewart et al. [43] USA	<i>N</i> = 23	100% female, mean age = 66 years (range = 54–77), cause of death = not reported, participant lost spouse,	Intervention: support group; 1–1.5 h weekly, for a maximum of 20 weeks Control: –	High	Loneliness: ESLI Grief: not assessed	The intervention did not significantly reduce emotional or social loneliness and isolation in the bereaved

van der Houwen et al. [68] The Netherlands (international sample)	N = 757	time since loss = 35 months (range 3 months to 20 years) 93.5% female, mean age = 43.22 years (<i>SD</i> = 10.98, range = 18–81), cause of death = natural causes (65.8%), accident/homicide (22.1%), suicide (12.2%), participant lost child (42.5%), partner (30.4%), parent (16.6%), sibling (10.4%), time since loss = 3.37 years (<i>SD</i> = 5.24)	Intervention: weekly writing assignments Control: no writing assignments Procedure: questionnaires immediately, 3 and 6 months after registering for the study	Low	Loneliness: emotional loneliness, 2 items: I feel lonely even if I am with other people; I often feel lonely. 7-point scale ranging from 1 (totally disagree) to 7 (totally agree) Grief: CG measure based on DSM-5 proposal for CG, 9 items, 5-point scale	Intervention group had stronger decrease in emotional loneliness and stronger increase in positive mood than controls
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CG, Complicated Grief [105]; DJG-LS, De Jong-Gierveld Loneliness Scale, 11 items, dichotomous scores, range = 0–11 [76,77]; DJG-LS Short Chinese version, 6 items, range 0–6 [79]; DSM-5, Diagnostic and Statistical Manual of Mental Disorders, fifth edition [106]; ESLI, Emotional/Social Loneliness Inventory^b, 15 paired items [83]; ICG–R, Revised Inventory of Complicated Grief [84]; Revised UCLA-LS Loneliness Scale, 20 items, 4-point scale, range 0–80 [88]; *SD*, standard deviation; TRIG, Texas Revised Inventory of Grief (present feelings = 13 items) 2-point scale [93]; UCLA-LS loneliness scale - short form, 13 items; range 13–52 [88].

^a Risk of bias: high (5.5–8), moderate (2.5–5.4), and low (0–2.4).

^b No further information given (e.g., number of items).

Table 6

Future research directions on loneliness in bereavement.

Suggested expansion/ improvement	Area of concern	Specific examples
Extending the scope of empirical investigation	Incomplete subgroup/risk or protective factor coverage	<p>Situation/circumstances of death:</p> <ul style="list-style-type: none"> • Before and surrounding death (e.g., pre-loss; cause of death; place of death) • Type of bereavement: examine other kin-/friendship relationships than spouses/partners (e.g., loneliness among bereaved children, parents, grandparents) • Social isolation: investigate relation to loneliness (e.g., through lack of employment) <p>Intrapersonal factors:</p> <ul style="list-style-type: none"> • Personality factors: N.B.: attachment (in)security; more on emotional/social loneliness <p>Interpersonal/non-personal factors:</p> <ul style="list-style-type: none"> • Quality of relationship with the deceased • Economic variables: extend to other-than financial loss (e.g., poverty) <p>Coping styles, strategies, processes:</p> <ul style="list-style-type: none"> • Emotion regulatory processes in coping with loneliness (see below) • Meaning systems: for example, religion's role in potentially reducing loneliness under-researched
	Refining current knowledge	<p>Discrepancies:</p> <ul style="list-style-type: none"> • Age-related patterns confusing; extend to life-span comparisons (given mean age in studies is 65 years - systematically assess in younger) • Resolve conflicting patterns regarding the duration of bereavement (more on shorter durations necessary; average length currently 43 months) • Loneliness by gender patterns unclear/inconsistent. (N.B.: A recent review has shown that across the lifespan mean levels of loneliness are similar for males and females [109]) • Uneven geographic representation (nearly half of studies conducted in the United States; total absence of some continents) <p>Pandemic circumstances:</p> <ul style="list-style-type: none"> • Compare prevalence, intensity, time course of loneliness in bereavement, relation to grief complications, and so on with the post-COVID-19 experience
	New topics	<p>Pandemic circumstances:</p> <ul style="list-style-type: none"> • Compare prevalence, intensity, time course of loneliness in bereavement, relation to grief complications, and so on with the post-COVID-19 experience
Theory-based empirical research	Use theoretical foundations	<ul style="list-style-type: none"> • Conduct more theoretically as well as empirically (see extending the scope of empirical investigation above) guided research (N.B.: Attachment theory; cognitive stress theory; for intervention efficacy evaluation, dual process model, see Methodology below)
Methodological issues	Examine underlying cognitive- emotional processes	<ul style="list-style-type: none"> • Studies needed on cognitive/emotion regulation processes in relation to loneliness among bereaved
	Inclusion of non-bereaved controls	<p>Establish main vs. interaction effects:</p> <ul style="list-style-type: none"> • Include non-bereaved controls to investigate comparative prevalence, intensity, time course, relation to grief complications, and so on
	Issues of interpretation	<p>Causality:</p> <ul style="list-style-type: none"> • So far associations have been indicated, not causal connections (see methodology below for directions) <p>Inferences:</p> <ul style="list-style-type: none"> • Further theory-driven studies, preferably longitudinal research, plus prospective research (including pre-loss assessment) and controlled studies to examine the specificity of loneliness and its underlying mechanisms to bereaved people, control for third variables (which could account for some associations)
	Measurement of loneliness and grief	<ul style="list-style-type: none"> • Loneliness: work toward measurement consistency, systematic investigation (validity, reliability of instruments) • Grief: select best-validated current measure; ensure comparability across studies
Methodology		<p>Expansions:</p> <ul style="list-style-type: none"> • Network analyses: for example, further examine role of loneliness as gateway symptom (cf. other symptoms) leading to depressive/grief symptoms [5,37,39,110] • Longitudinal designs with non-bereaved controls (e.g., to establish duration of bereavement/loneliness effects) • Mediation analyses: for example, guided by attachment, cognitive stress theories to identify mechanisms linking bereavement to loneliness • Randomized controlled trials: to examine effectiveness of intervention studies for loneliness in bereavement (e.g., based on Dual Process Model [24]). Other principles from the general literature on loneliness might be useful for bereavement too (e.g., interventions tailored to the degree of loneliness and the needs of a specific group or individual [111]; addressing maladaptive social cognition with cognitive behavioral therapy [112])

Finally, we cover specific methodological issues, which overlap with other concerns in this section (e.g., need for controlled designs and longitudinal investigation, examination of mediators). We highlight network analysis as a way forward [5], with its potential to illuminate associations. We also point to the need for theoretically based interventions and randomized controlled trials to assess the efficacy of bereavement intervention programs to alleviate loneliness and grief.

Recommendations and conclusion

We emphasized the importance of establishing the role of loneliness in bereavement by noting differences between diagnostic systems regarding prolonged grief. We also highlighted the importance of establishing whether loneliness is exacerbated by social and cultural context, including extreme circumstances such as the COVID-19 pandemic. For both purposes, we need information about the prevalence, risk factors, and correlates of loneliness in the bereaved. So far, we can conclude that loneliness is a core, perhaps even pivotal, experience associated with grief, one that is linked to some extreme difficulties in adjusting to the loss of a close person, one that merits development of targeted interventions.

Conflict of interest statement

Nothing declared.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.copsyc.2021.06.003>.

References

Papers of particular interest, published within the period of review, have been highlighted as:

* of special interest

- Hawkey LC, Cacioppo JT: **Loneliness matters: a theoretical and empirical review of consequences and mechanisms.** *Ann Behav Med* 2010, **40**:218–227.
This is a comprehensive review and theoretical analysis of manifestations and phenomena associated with loneliness, covering health consequences.
- Lund DA: **Conclusions about bereavement in later life and implications for interventions and future research.** In *Older bereaved spouses: research with practical applications*. Edited by Lund, Amityville, NY: Taylor and Francis/Hemisphere; 1989: 217–231.
- van Tilburg TG, Steinmetz S, Stolte E, van der Roest H, de Vries DH: **Loneliness and mental health during the COVID-19 pandemic: a study among Dutch older adults.** *J Gerontol: Series B* 2020. gbaa111.
- DiGiovanni C, Conley J, Chiu D, Zaborski J: **Factors influencing compliance with quarantine in Toronto during the 2003 SARS outbreak.** *Biosecur Bioterrorism Biodefense Strategy, Pract Sci* 2004, **2**:265–272.
- Fried EI, Bockting C, Arjadi R, Borsboom D, Amshoff M, Cramer AOJ, Epskamp S, Tuerlinckx F, Carr D, Stroebe M: **From loss to loneliness: the relationship between bereavement and depressive symptoms.** *J Abnorm Psychol* 2015, **124**: 256–265.
- Weiss RS: *Loneliness: the experience of emotional and social isolation.* MIT Press; 1973.
A classic must-read source, in which Robert Weiss describes his original theoretical analysis of emotional versus social loneliness, providing the basis for later theoretical and empirical investigation.
- Gierveld DJJ, Van Tilburg T: **The De Jong Gierveld short scales for emotional and social loneliness: tested on data from 7 countries in the UN generations and gender surveys.** *Eur J Ageing* 2010, **7**:121–130.
- Cacioppo JT, Hawkey LC, Ernst JM, Burleson M, Berntson GG, Nouriani B, Spiegel D: **Loneliness within a nomological net: an evolutionary perspective.** *J Res Pers* 2006, **40**:1054–1085.
- Bowlby J: **Attachment and loss: retrospect and prospect.** *Am J Orthopsychiatry* 1982, **52**:664–678.
- Salo AE, Junttila N, Vauras M: **Social and emotional loneliness: longitudinal stability, interdependence, and intergenerational transmission among boys and girls.** *Fam Relat* 2020, **69**: 151–165.
- Stroebe W, Stroebe M, Abakoumkin G, Schut H: **The role of loneliness and social support in adjustment to loss: a test of attachment versus stress theory.** *J Pers Soc Psychol* 1996, **70**: 1241–1249.
- Guiaux M: **Social adjustment to widowhood: changes in personal relationships and loneliness before and after partner loss.** In *Faculty of social science*. VU University; 2010.
- Rholes WS, Simpson JA: **Attachment theory: basic concepts and contemporary questions.** In *Adult attachment: theory, research, and clinical implications*. Edited by Rholes WS, Simpson JA: Guilford Publications; 2004:3–14.
- World Health Organization: *International statistical classification of diseases and related health problems*. 11th ed. 2019.
- Prigerson HG, Kakarala S, Gang J, Maciejewski PK: **History and status of prolonged grief disorder as a psychiatric diagnosis.** *Annu Rev Clin Psychol* 2021, **17**.
- Moher D, Liberati A, Tetzlaff J, Altman DG, Group P: **Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA statement.** *PLoS Med* 2009, **6**, e1000097.
- Ross L, Grigoriadis S, Mamisashvili L, Koren G, Steiner M, Dennis CL, Cheung A, Mousmanis P: **Quality assessment of observational studies in psychiatry: an example from perinatal psychiatric research.** *Int J Methods Psychiatr Res* 2011, **20**:224–234.
- Institute JB: *Critical appraisal checklist for analytical cross sectional studies*. Adelaide: The Joanna Briggs Institute; 2017.
- Bahr HM, Harvey CD: **Correlates of loneliness among widows bereaved in a mining disaster.** *Psychol Rep* 1979, **44**:367–385.
- Byrne GJ, Raphael B: **The psychological symptoms of conjugal bereavement in elderly men over the first 13 months.** *Int J Geriatr Psychiatr* 1997, **12**:241–251.
- Carr DC, Kail BL, Matz-Costa C, Shavit YZ: **Does becoming a volunteer attenuate loneliness among recently widowed older adults?** *J Gerontol B Psychol Sci Soc Sci* 2018, **73**:501–510.
- Caserta MS, Utz RL, Lund DA: **Spousal bereavement following cancer death.** *Illness Crisis Loss* 2013, **21**:185–202.
- Caserta MS, Lund DA: **Beyond bereavement support group meetings: exploring outside social contacts among the members.** *Death Stud* 1996, **20**:537–556.
- Chow AYM, Caserta M, Lund D, Suen MHP, Xiu D, Chan IKN, Chu KSM: **Dual-Process Bereavement Group Intervention (DPBGI) for widowed older adults.** *Gerontol* 2019, **89**: 983–994.
This is a rare study examining the impact of psychotherapeutic intervention, including emotional and social loneliness as outcome variables; a theory-driven (Dual Process Model) program designed especially for widowed older adults in Hong Kong.
- Delbes C, Gaymu J: **The shock of widowhood on the eve of old age: male and female experiences.** *Population* 2002, **57**:885–914.

26. Eckholdt L, Watson L, O'Connor M: **Prolonged grief reactions after old age spousal loss and centrality of the loss in post loss identity.** *J Affect Disord* 2018, **227**:338–344.
This study examined the centrality of the loss (in relation to one's identity) among older bereaved persons, up to 4 years post loss, in relation to grief complications. Aiming to identify early predictors of loss-centrality; emotional loneliness was investigated.
27. Gfeller BM, Finlayson C: **Loneliness, personality, and well-being in older widows.** *Percept Mot Skills* 1988, **67**:143–146.
28. Grimby A: **Bereavement among elderly people: grief reactions, post-bereavement hallucinations and quality of life.** *Acta Psychiatr Scand* 1993, **87**:72–80.
29. Hansson RO, Jones WH, Carpenter BN, Remondet JH: **Loneliness and adjustment to old age.** *Int J Aging Hum Dev* 1986, **24**:41–53.
30. Henderson JM, Hayslip Jr B, King JK: **The relationship between adjustment and bereavement-related distress: a longitudinal study.** *J Ment Health Counsel* 2004, **26**:98–124.
31. Kivett VR: **Loneliness and the rural widow.** *Fam Coord* 1978, **27**:389–394.
32. Knowles LM, O'Connor MF: **Coping flexibility, forward focus and trauma focus in older widows and widowers.** *Bereave Care* 2015, **34**:17–23.
33. Knowles LM, Stelzer E-M, Jovel KS, O'Connor M-F: **A pilot study of virtual support for grief: feasibility, acceptability, and preliminary outcomes.** *Comput Hum Behav* 2017, **73**:650–658.
This longitudinal study illustrated a different methodology for examining loneliness in bereavement. The feasibility and preliminary efficacy of an online, real-time, interactive virtual reality support group for widow(er)s was examined; compared to an active control grief education website.
34. Lichtenstein P, Gatz M, Pedersen NL, Berg S, McClearn GE: **A co-twin-control study of response to widowhood.** *J Gerontol B Psychol Sci Soc Sci* 1996, **51**:P279–P289.
35. Merz E-M, De Jong Gierveld J: **Childhood memories, family ties, sibling support and loneliness in ever-widowed older adults: quantitative and qualitative results.** *Ageing Soc* 2016, **36**:534–561.
This study describes a theory-based (attachment perspective) empirical research project: examining relationships across the lifespan in connection with loneliness among ever widowed persons (aged 50+).
36. Morgan D, Carder P, Neal M: **Are some relationships more useful than others? The value of similar others in the networks of recent widows.** *J Soc Pers Relat* 1997, **14**:745–759.
37. Pan H: **Deepening the understanding of complicated grief among Chinese older adults: a network approach.** *Asian J psychiatry* 2020, **50**:101966.
This study illustrates the network approach, a fairly recently-developed methodological approach, e.g., enabling the examination of connectedness between symptoms. Here it is applied to understanding complications in grief among Chinese older adults.
38. Perrig-Chiello P, Spahni S, Hopflinger F, Carr D: **Cohort and gender differences in psychosocial adjustment to later-life widowhood.** *J Gerontol B Psychol Sci Soc Sci* 2016, **71**:765–774.
This study examined risk factors for poor adaptation (mental and physical ill-health) to spousal loss, whether reported difficulties following spousal loss differ at two distinctive time periods. It included gender comparisons.
39. Robinaugh DJ, LeBlanc NJ, Vuletic HA, McNally RJ: **Network analysis of persistent complex bereavement disorder in conjugally bereaved adults.** *J Abnorm Psychol* 2014, **123**:510–522.
40. Robinson-Whelen S, Tada Y, MacCallum RC, McGuire L, Kiecolt-Glaser JK: **Long-term caregiving: what happens when it ends?** *J Abnorm Psychol* 2001, **110**:573–584.
This study poses an underresearched question about a potential high risk group: what happens to caregivers in the years after their cognitive impaired spouse dies? Loneliness features prominently.
41. Spahni S, Morselli D, Perrig-Chiello P, Bennett KM: **Patterns of psychological adaptation to spousal bereavement in old age.** *Gerontology* 2015, **61**:456–468.
42. Stevens N: **Gender and adaptation to widowhood in later life.** *Ageing Soc* 1995, **15**:37–58.
43. Stewart M, Craig D, MacPherson K, Alexander S: **Promoting positive affect and diminishing loneliness of widowed seniors through a support intervention.** *Publ Health Nurs* 2001, **18**:54–63.
44. Szabo A, Kok AAL, Beekman ATF, Huisman M: **Longitudinal examination of emotional functioning in older adults after spousal bereavement.** *J Gerontol B Psychol Sci Soc Sci* 2019, **75**:1668–1678.
This study is one of the relatively-few longitudinal studies of loneliness among older widowed persons, examining trajectories of emotional function in domains that included emotional and social loneliness (as well as depressive symptoms).
45. Van Baarsen B, Smit JH, Snijders TAB, Knipscheer KPM: **Do personal conditions and circumstances surrounding partner loss explain loneliness in newly bereaved older adults?** *Ageing Soc* 1999, **19**:441–469.
This study explored the potential protective or risk functions of trait self-enhancement (unrealistic optimistic self-serving biases) in the context of conjugal bereavement, highlighting examination of the phenomenon of loneliness.
46. Yan OH, Bonanno GA: **How self-enhancers adapt well to loss: the mediational role of loneliness and social functioning.** *J Posit Psychol* 2015, **10**:370–382.
47. Zettel LA, Rook KS: **Substitution and compensation in the social networks of older widowed women.** *Psychol Aging* 2004, **19**:433–443.
48. Cao X, Jiang X, Li X, Hui Lo M-CJ, Li R: **Family functioning and its predictors among disaster bereaved individuals in China: eighteen months after the Wenchuan earthquake.** *PLoS One* 2013, **8**, e60738.
49. De Groot MH, De Keijser J, Neeleman J: **Grief shortly after suicide and natural death: a comparative study among spouses and first-degree relatives.** *Suicide Life-Threatening Behav* 2006, **36**:418–431.
50. D'Epainay CJL, Cavalli S, Spini D: **The death of a loved one: impact on health and relationships in very old age.** *Omega J Death Dying* 2003, **47**:265–284.
51. Oechsle K, Ullrich A, Marx G, Benze G, Wowretzko F, Zhang Y, Dickel LM, Heine J, Wendt KN, Nauck F, et al.: **Prevalence and predictors of distress, anxiety, depression, and quality of life in bereaved family caregivers of patients with advanced cancer.** *Am J Hospice Palliative Care* 2020, **37**:201–213.
52. van der Houwen K, Stroebe M, Stroebe W, Schut H, van den Bout J, Wijngaards-de Meij L: **Risk factors for bereavement outcome: a multivariate approach.** *Death Stud* 2010, **34**:195–220.
53. Lee SA: **Persistent complex bereavement symptoms explain impairments above depression, posttraumatic stress, and separation anxiety: an incremental validity study.** *Death Stud* 2019, **43**:634–638.
54. Stein CH, Abraham KM, Bonar EE, McAuliffe CE, Fogo WR, Faigin DA, Raiya HA, Potokar DN: **Making meaning from personal loss: religious, benefit finding, and goal-oriented attributions.** *J Loss Trauma* 2009, **14**:83–100.
55. Sun F, Waldron V, Gitelson R, Ho C-h: **The effects of loss of loved ones on life satisfaction among residents in a southwest retirement community: the mediating roles of social connectedness.** *Res Aging* 2012, **34**:222–245.
56. Levy B: **A study of bereavement in general practice.** *J Roy Coll Gen Pract* 1976, **26**:329–336.
57. Waldrop DP: **Caregiver grief in terminal illness and bereavement: a mixed-methods study.** *Health Soc Work* 2007, **32**:197–206.
58. Abrahams RB: **Mutual help for the widowed.** *Soc Work* 1972, **17**:54–61.
59. Arling G: **The elderly widow and her family, neighbors and friends.** *J Marriage Fam* 1976, **38**:757–768.

60. Atchley RC: **Dimensions of widowhood in later life.** *The Gerontologist* 1975, **15**:176–178, <https://doi.org/10.1093/geront/15.2.176>.
61. Spino E, Kameg KM, Cline TW, Terhorst L, Mitchell AM: **Impact of social support on symptoms of depression and loneliness in survivors bereaved by suicide.** *Arch Psychiatr Nurs* 2016, **30**:602–606.
62. Xiang Y-H, Chi X, Jiang Y-Q, Wang R-F, Mo L: **Psychosomatic status, personality traits, and coping styles of bereaved and non-bereaved survivors of the 2008 wenchuan earthquake, China.** *Front Psychiatr* 2016, **7**:17.
63. Onrust S, Willemse G, Van Den Bout J, Cuijpers P: **Effects of a visiting service for older widowed individuals: a randomized clinical trial.** *Death Stud* 2010, **34**:777–803.
64. Kovarsky RS: **Loneliness and disturbed grief: a comparison of parents who lost a child to suicide or accidental death.** *Arch Psychiatr Nurs* 1989, **3**:86–96.
65. Cao X, Yang C, Wang D: **The impact on mental health of losing an only child and the influence of social support and resilience.** *Omega J Death Dying* 2020, **80**:666–684.
- This study investigated the mental health status of parents who had lost their only child, focusing on loneliness and examining the influence of social support as well as resilience and notably, including non-bereaved controls.
66. Savikko N, Routasalo P, Tilvis RS, Strandberg TE, Pitkala KH: **Loss of parents in childhood-associations with depression, loneliness, and attitudes towards life in older Finnish people.** *Int J Older People Nurs* 2006, **1**:17–24.
67. Murphy PA: **Parental death in childhood and loneliness in young adults.** *Omega J Death Dying* 1986, **17**:219–228.
68. van der Houwen K, Schut H, van den Bout J, Stroebe M, Stroebe W: **The efficacy of a brief internet-based self-help intervention for the bereaved.** *Behav Res Ther* 2010, **48**:359–367.
69. Lund D, Caserta M, Utz R, DeVries B: **A tale of two counties: bereavement in socio-demographically diverse places.** *Illness Crisis Loss* 2010, **18**:301–321.
70. Stroebe W, Stroebe MS, Abakoumkin G: **Does differential social support cause sex differences in bereavement outcome?** *J Community Appl Soc Psychol* 1999, **9**:1–12.
71. Kamp KS, O'Connor M, Spindler H, Moskowitz A: **Bereavement hallucinations after the loss of a spouse: associations with psychopathological measures, personality and coping style.** *Death Stud* 2018 [No-Specified].
72. Utz RL, Lund DA, Caserta ME, Devries B: **Perceived self-competency among the recently bereaved.** *J Soc Work End-of-Life Palliat Care* 2011, **7**:173–194.
73. Guarnaccia CA, Hayslip Jr B: **Factor structure of the bereavement experience questionnaire: the BEQ-24, a revised short-form.** *Omega J Death Dying* 1998, **37**:303–316.
74. Derogatis LR. *BSI Brief Symptom Inventory*, vol. 18. Upper Saddle River, NJ: Pearson; 1993.
75. Kohout FJ, Berkman LF, Evans DA, Cornoni-Huntley J: **Two shorter forms of the CES-D depression symptoms index.** *J Aging Health* 1993, **5**:179–193.
76. De Jong-Gierveld J, Kamphuis F: **The development of a Rasch-type loneliness scale.** *Appl Psychol Meas* 1985, **9**:289–299.
77. De Jong Gierveld J, Van Tilburg T: *Manual of the loneliness scale 1999*. Amsterdam: Vrije Universiteit amsterdam; 1999 (updated version 18.01. 02). Department of Social Research Methodology.
- This manual provides information about the de Jong Gierveld loneliness scale (DGG-LS), one of the two frequently-used, validated scales to measure loneliness in bereaved samples.
78. Gierveld JDJ, Tilburg TV: **A 6-item scale for overall, emotional, and social loneliness: confirmatory tests on survey data.** *Res Aging* 2006, **28**:582–598.
79. Leung GTY, de Jong Gierveld J, Lam LCW: **Validation of the Chinese translation of the 6-item de Jong Gierveld loneliness scale in elderly Chinese.** *Int Psychogeriatr* 2008, **20**:1262.
80. Mehnert A, Müller D, Lehmann C, Koch U: **Die deutsche version des NCCN distress-thermometers: empirische Prüfung eines screening-instruments zur erfassung psychosozialer belastung bei krebspatienten.** *Z Psychiatr Psychol Psychother* 2006, **54**:213–223.
81. Robinson JP, Shaver PR, Wrightsman LS. *Measures of personality and social psychological attitudes: measures of social psychological attitudes*, vol. 1. Academic Press; 2013.
82. Russell D, Cutrona CE, Rose J, Yurko K: **Social and emotional loneliness: an examination of Weiss's typology of loneliness.** *J Pers Soc Psychol* 1984, **46**:1313.
83. Vincenzi H, Grabosky F: **Measuring the emotional/social aspects of loneliness and isolation.** *J Soc Behav Pers* 1987, **2**:257.
84. Prigerson HG, Maciejewski PK, Reynolds III CF, Bierhals AJ, Newsom JT, Fasiczka A, Frank E, Doman J, Miller M: **Inventory of Complicated Grief: a scale to measure maladaptive symptoms of loss.** *Psychiatr Res* 1995, **59**:65–79.
85. Boelen PA, Den Bout JV, De Keijser J, Hoijtink H: **Reliability and validity of the Dutch version of the Inventory of traumatic Grief (ITG).** *Death Stud* 2003, **27**:227–247.
86. Allen SE: *A model for predicting bereavement outcome in widowhood*. University of North Texas; 1990.
87. Rubenstein C, Shaver P: **The experience of loneliness.** In *Loneliness: a sourcebook of current theory, research and therapy*. Edited by Paloutzian RF, Ellison CW, Peplau LA, Perlman D; 1982:206–223.
88. Russell DW: **UCLA Loneliness Scale (version 3): reliability, validity, and factor structure.** *J Pers Assess* 1996, **66**:20–40.
- This article provides information about the University of Los Angeles Loneliness Scale (UCLA-LS), one of the two frequently-used, validated scales to measure loneliness in bereaved samples.
89. Lee SA: **The persistent complex bereavement inventory: a measure based on the DSM-5.** *Death Stud* 2015, **39**:399–410.
90. First MB, Spitzer RL, Gibbon M, Williams JB: *Structured clinical interview for DSM-IV axis I disorders, clinician version (SCID-CV)*. Washington, DC: American Psychiatric Press; 1996. New York, NY, USA: SCID-I/P:94-91.
91. Prigerson HO, Jacobs SC: **Traumatic grief as a distinct disorder: a rationale, consensus criteria, and a preliminary empirical test.** In *Handbook of bereavement research: consequences, coping, and care*. Edited by Stroebe MS, Hansson RO, Stroebe W, Schut H, American Psychological Association; 2001:613–645.
92. Wang RI, Treul S, Alverno L: **A Brief Self-Assessing Depression Scale.** *J Clin Pharmacol* 1975, **15**:163–167.
93. Faschingbauer T: *Texas revised inventory of grief manual*. Houston, TX: Honeycomb; 1981.
94. Russell D, Peplau LA, Cutrona CE: **The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence.** *J Pers Soc Psychol* 1980, **39**:472.
95. Hays RD, DiMatteo MR: **A short-form measure of loneliness.** *J Pers Assess* 1987, **51**:69–81.
96. Hughes ME, Waite LJ, Hawkey LC, Cacioppo JT: **A short scale for measuring loneliness in large surveys: results from two population-based studies.** *Res Aging* 2004, **26**:655–672.
97. Spahni S, Bennett KM, Perrig-Chiello P: **Psychological adaptation to spousal bereavement in old age: the role of trait resilience, marital history, and context of death.** *Death Stud* 2016, **40**:182–190.
98. van Baarsen B: **Theories on coping with loss: the impact of social support and self-esteem on adjustment to emotional and social loneliness following a partner's death in later life.** *J Gerontol B Psychol Sci Soc Sci* 2002, **57**:S33–S42.
99. Carr DC, Urena S, Taylor MG: **Adjustment to widowhood and loneliness among older men: the influence of military service.** *Gerontol* 2018, **58**:1085–1095.

100. Utz R, Bearson K, Caserta M, Lund D, De Vries B: **Feeling lonely vs. being alone: social support and loneliness among recently bereaved persons.** *Gerontol* 2011, **51**:605–606.
101. van Baarsen B, van Groenou MIB: **Partner loss in later life: gender differences in coping shortly after bereavement.** *J Loss Trauma* 2001, **6**:243–262.
102. King BM, Carr DC, Taylor MG: **Loneliness following widowhood: the role of the military and social support.** *J Gerontol. Series B, Psychological Sci Social Sci* 2020.
 A recent, unusual study illustrating protective factors against loneliness in bereavement by comparing widows of veterans with nonveteran counterparts, examining the role of perceived social support from friends.
103. Stroebe M, Schut H, Stroebe W: **Health outcomes of bereavement.** *Lancet* 2007, **370**:1960–1973.
105. Shear MK, Simon N, Wall M, Zisook S, Neimeyer R, Duan N, Reynolds C, Lebowitz B, Sung S, Ghesquiere A: **Complicated grief and related bereavement issues for DSM-5.** *Depress Anxiety* 2011, **28**:103–117.
106. American Psychiatric Association A: *Association AP: Diagnostic and statistical manual of mental disorders: DSM-5.* Washington, DC: American psychiatric association; 2013.
107. Prigerson HG, Horowitz MJ, Jacobs SC, Parkes CM, Aslan M, Goodkin K, Raphael B, Marwit SJ, Wortman C, Neimeyer RA: **Prolonged grief disorder: psychometric validation of criteria proposed for DSM-V and ICD-11.** *PLoS Med* 2009, **6**, e1000121.
108. Byrne G, Raphael B: **A longitudinal study of bereavement phenomena in recently widowed elderly men.** *Psychol Med* 1994, **24**:411–421.
109. Maes M, Qualter P, Vanhalst J, Van den Noortgate W, Goossens L, Kandler C: **Gender differences in loneliness across the lifespan: a meta-analysis.** *Eur J Pers* 2019, **33**:642–654.
110. Burger J, Stroebe MS, Perrig-Chiello P, Schut HA, Spahni S, Eisma MC, Fried EI: **Bereavement or breakup: differences in networks of depression.** *J Affect Disord* 2020, **267**:1–8.
111. Fakoya OA, McCorry NK, Donnelly M: **Loneliness and social isolation interventions for older adults: a scoping review of reviews.** *BMC Publ Health* 2020, **20**:1–14.
112. Masi CM, Chen H-Y, Hawkey LC, Cacioppo JT: **A meta-analysis of interventions to reduce loneliness.** *Pers Soc Psychol Rev* 2011, **15**:219–266.
 This meta-analysis gives guidance for the still-neglected examination of how interventions can reduce loneliness, applicable to the specific study of loneliness reduction among the bereaved.
113. Burke LA, Neimeyer RA: *11 Prospective risk factors for complicated grief.* New York, NY: Routledge; 2013.
114. Van Staden WC, Coetzee K: **Conceptual relations between loneliness and culture.** *Curr Opin Psychiatr* 2010, **23**:524–529.
 This article adds the important dimension of culture in understanding the role of loneliness, which can usefully be applied to the bereavement field.
115. Schut MS, Henk: **The dual process model of coping with bereavement: rationale and description.** *Death Stud* 1999, **23**:197–224.
116. Stroebe M, Schut H: **Bereavement in times of COVID-19: a review and theoretical framework.** *Omega J Death Dying* 2020, **82**:500–522.
117. Eisma MC, Stroebe MS: **Emotion regulatory strategies in complicated grief: a systematic review.** *Behav Ther* 2020.
 Processes associated with loneliness in bereavement have been under-researched. This overview of emotion regulatory processes underlying grief complications provides information relevant specifically to loneliness.
118. Zhang Y, Kong F, Wang L, Chen H, Gao X, Tan X, Chen H, Lv J, Liu Y: **Mental health and coping styles of children and adolescent survivors one year after the 2008 Chinese earthquake.** *Child Youth Serv Rev* 2010, **32**:1403–1409, <https://doi.org/10.1016/j.chilgyouth.2010.06.009>.