

Integrating an ethic of care into the design of digital bereavement services: a care-oriented approach

Sian Cook, Nicholas Caldwell & Sarah Richards

To cite this article: Sian Cook, Nicholas Caldwell & Sarah Richards (27 Jun 2026): Integrating an ethic of care into the design of digital bereavement services: a care-oriented approach, Design for Health, DOI: [10.1080/24735132.2026.2684830](https://doi.org/10.1080/24735132.2026.2684830)

To link to this article: <https://doi.org/10.1080/24735132.2026.2684830>



© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 27 Jun 2026.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

Integrating an ethic of care into the design of digital bereavement services: a care-oriented approach

Sian Cook^a , Nicholas Caldwell^a  and Sarah Richards^b 

^aSchool of Business, Arts, Social Sciences and Technology, University of Suffolk, Ipswich, UK; ^bVisiting Professor, University of Suffolk, Ipswich, UK

ABSTRACT

Grief is a deeply personal experience often requiring tailored support. While digital bereavement services offer potential, their effectiveness depends on their ability to address the unique needs of grieving individuals without unintended consequences. This article presents a study on integrating an ethic of care into the design of a prototype for a potential digital bereavement service. Using a user-centred design methodology, the study identified key factors for effective support, including emotionally sensitive language, streamlined triaging, reduced cognitive load, and facilitated user choice, which substantially enhanced the prototype's perceived support and usability. Findings suggest explicitly operationalising an ethic of care, prioritising immediate needs, minimising vulnerabilities, and empowering user agency, is essential for designing effective digital bereavement services. This work offers critical insights and actionable guidance for designers and bereavement organisations to enhance user satisfaction, ease of use, and overall wellbeing in digital bereavement support.

ARTICLE HISTORY

Received 14 August 2025
Accepted 6 March 2026



KEYWORDS

Ethical design; digital health; bereavement support; user-centred design; ethic of care

Introduction

The growing use of digital technology has changed how individuals seek support for personal experiences like grief. While traditional support has relied on in-person methods (Marie Curie 2022), the digital realm now offers new opportunities for connection (Xygykou et al. 2023; Sofka, Mason-Robbie, and Savin-Baden 2020). However, to be effective, digital bereavement support must be carefully designed to address sensitive and complex emotional states.

Existing digital bereavement services often include informational websites (Beaunoyer et al. 2020), online forums (Paulus and Varga 2015; Schotanus-Dijkstra et al. 2014) and AI-driven chatbots (Xygykou et al. 2023). While these services increase reach and flexibility (Finucane et al., 2024; Robinson and Pond 2019), they frequently fail to provide genuinely supportive care that embodies the empathy needed for grieving individuals. Research highlights the limitations and negative consequences of these

CONTACT Sian Cook  s.cook4@uos.ac.uk  School of Business, Arts, Social Sciences and Technology, University of Suffolk, Ipswich, UK.

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

services (Cook 2025; Cook et al. 2024; Finucane et al., 2024), which can range from the commodification of grief and privacy trade-offs (Wallace 2025) to emotional harm from poorly designed technologies like ‘Deathbots’ (Bao and Zeng 2024; Lindemann 2022). This gap between technological potential and care-centred delivery highlights the need for a more ethically informed, user-centred approach.

This paper addresses this gap by investigating the integration of an ethic of care into the design and development of digital bereavement services. Specifically, this study asks: How can an ethic of care enhance user experience, safeguard wellbeing and effectively support grief within digital bereavement services? Building on prior research, including in-depth interviews with bereaved individuals and bereavement counsellors (Cook 2025; Cook et al. 2024), our study employs a user-centred design approach. This approach involved concept testing and moderated usability testing to iteratively refine a prototype for a potential digital grief support service. Through a qualitative study with nine bereaved individuals, this research operationalised an ethic of care by integrating its elements of attentiveness, responsibility, competence, and responsiveness into the design process. Key findings emphasise the importance of prioritising immediate needs, minimising vulnerabilities, and empowering user agency to develop genuinely supportive digital bereavement services. Ultimately, this work offers actionable insights for designers and organisations, advancing the development of care-centred, ethical and supportive digital services, with implications that extend beyond bereavement.

Background

Grief is a multidimensional experience (Bowlby and Parkes 1970) requiring support that acknowledges its fluidity (Klass, Silverman, and Nickman 1996; Stroebe and Schut 2010) and individualised nature over outdated stage theories (Glick, Weiss, and Parkes 1974; Jacobs 1993; Kübler-Ross 1969) or task-based and track models (Rando et al. 1993; Rubin 1999; Worden 2018). As grief expands into digital spaces through memorials, support groups (Cook 2025; Finucane et al., 2024; Klang and Hård 2013) and specialised tools (Brubaker 2013; Christensen et al. 2017; Moncur, 2015), the support landscape is undergoing transformative change (UK Commission on Bereavement 2022). For example, while fewer than 10% of organisations offered remote support prior to 2020, online one-to-one support reached 83% by 2021 (Selman et al. 2026).

However, as support migrates towards the burgeoning £100 billion GriefTech sector (TechRound 2023), ethical challenges emerge. While digital technologies can foster community (Leaver and Highfield 2018; Pennington 2017), they risk ‘optimising’ grief into commercial data points (Wallace 2025), facilitating exploitation and harmful behaviours (Abidin 2018, 2022), or potentially causing harm through AI-driven chatbots that fail to interpret nuanced emotional expressions (Bao and Zeng 2024; Lindemann 2022). These challenges underscore the need for a design approach that prioritises individualised care and sensitivity.

To address these issues, user-centred design (UCD) offers a viable approach, focusing on understanding user experiences and employing iterative design (GOV.UK 2017; Interaction Design Foundation 2016; Severes, Barreto, and Esteves 2025). However, UCD’s focus on usability can sometimes sideline the emotional vulnerabilities of

bereaved individuals, leading to technically proficient but ethically deficient designs (Khalil 2024; MacLure and Jones 2021; Readymag Blog 2021), highlighting the importance of complementing UCD with an ethical framework. While UCD often reacts to user feedback after a design is implemented, ethical frameworks like Value Sensitive Design (VSD) (Cenci et al. 2024; van Velsen, Ludden, and Grünloh 2022) and an ethic of care (Tronto 1993) require a proactive anticipation of needs and potential vulnerabilities from the outset.

An ethic of care provides a guiding methodology of designing for vulnerable populations, centring on the complex relational needs of individuals (Tronto 1993, 1998, 2013) and shifting from individual autonomy to the relational nature of human existence (Tronto 1993; Egbe, 2023). Tronto (1993) outlines four key ethical elements relevant for digital bereavement support: attentiveness, responsibility, competence and responsiveness. Attentiveness involves active listening and empathy, requiring platforms to detect subtle cues of distress to provide tailored support. Responsibility extends beyond functionality to encompass the impact of design choices on emotional wellbeing. This element prompts questions about who is responsible for meeting the care needs of bereaved users and how this is enacted in platform design and governance. Competence requires more than technical proficiency, demanding that designers have a sufficient understanding of grief and trauma to create truly supportive platforms. Responsiveness prioritises ongoing adaptation to evolving needs, requiring platforms to be designed so that users can adjust settings and resources as their grief changes. Further, Gilligan (2014) frames care as resisting moral injury, the betrayal of trust when systems fail to respond to specific needs. Preventing such injury requires Noddings (2012) 'receptive attention' to prioritise individual reality over data-gathering. This stance extends to digital contexts, where the interface acts as a non-human agent responsible for the ethical repair of relational webs (Puig de la Bellacasa 2017).

While an ethic of care offers a valuable perspective, it is not without limitations. Critics argue that an ethic of care can prioritise emotional connection over broader concerns of justice and fairness (Juujärvi et al., 2020), potentially obscuring issues of unequal access or algorithmic bias. A key challenge is the potential for an ethic of care to reinforce parochial forms of care, risking the marginalisation of diverse needs and cultural norms (Orme 2002; Eidsvåg, 2022). Additionally, scaling the individualised attention and responsiveness central to an ethic of care within large-scale platforms can be difficult, leading to depersonalisation and a diminished sense of connection (Richter and Harst 2022). This discussion also points to a tension between the relational values, such as interdependence and reciprocity, and dominant design paradigms that have historically prioritised objectivity and problem-solving (Croon 2022). Recognising this disjuncture can open a space for reimagining design practices to more fully integrate care, fostering inclusivity and mutual responsibility. In digital environments, this means that care-oriented design must also consider equitable access, data privacy, and algorithmic fairness to ensure the technology serves all users justly and ethically.

Materials and methods

This study, conducted from April 2024 to November 2024, employed a mixed-methods approach (Creswell and Plano Clark 2017) to assess the feasibility, usability and ethical

viability of a potential digital grief support service. The service prototype was designed as a triage layer for existing bereavement ecosystems, providing signposting and resources for individuals navigating support. Methodology was grounded in an ethic of care (Plummer 2008; Tronto 1993, 2013), ensuring care shaped practical design choices. The University of Suffolk Post Graduate Researcher (PGR) Ethics Committee granted approval in May 2024, reference RETH(P)22/001.

From April to September 2024, iterative concept testing - evaluating early design ideas and user flows - was conducted using static wireframes and a low-fidelity interactive prototype. To operationalise attentiveness and prioritise participant well-being, audio and video recording were intentionally omitted to encourage open dialogue, and reciprocity was demonstrated through second-session reviews to share how feedback was incorporated into the design. Subsequently, usability testing - observing representative users attempting specific tasks - involved a semi-structured interview followed by scenario-based tasks (Russ and Saleem 2018). To minimise potential distress, tasks used hypothetical scenarios (Barnum 2021) to uncover issues without requiring participants to relive personal trauma (Lu et al. 2022). All participants received signposting for support services before, during and after each session.

Integrating the researcher's dual positionality as a bereaved practitioner was central to the study's ethic of care. While this shared experience facilitated rapport and deep engagement, methodological rigour was maintained through a reflexive approach to power dynamics (Borgstrom and Ellis 2017). Rigorous bracketing ensured participant agency led the process, allowing the researcher to act as a reflexive facilitator while preserving integrity of the data. To manage the emotional labour involved (Carroll 2013), self-care practices were used. These included reflexive journaling to externalise emotional triggers and regular supervision to maintain boundaries between personal grief and data analysis.

To counter the risk of parochialism, a known limitation in an ethic of care where familiar groups are inadvertently privileged, purposive sampling was used to capture a broad spectrum of grief experiences (Patton 2002). No minimum time post-bereavement was mandated, to resist infantilization of participants, respecting their agency to determine their own readiness to engage. To minimise intrusiveness, disclosure of the cause of death was not required, and where voluntarily shared was omitted to safeguard participant privacy. Nine participants engaged in the study: three in concept testing and six in usability testing. Table 1 summarises participant demographics. All concept and five usability sessions were conducted via Microsoft Teams, with one conducted in person.

To maintain participant anonymity and individuality, pseudonyms were assigned. Participants either chose their own or gave the researcher consent to make the selection on their behalf (Lahman et al. 2015).

Anonymised data underwent thematic analysis (Braun and Clarke 2006), evaluating the prototype against Tronto's (1993) elements. This approach identified how design choices aligned with or challenged the behaviours, decisions and needs of bereaved individuals.

Findings

The concept and usability testing of a digital grief support prototype provided key insights into its design emphasising the importance of addressing immediate needs,

Table 1. Sociodemographic characteristics of research participants.

	Characteristic	
Bereavement relationship	Death of a child, spouse, parent or grandparent	
Time passed since bereavement	Less than 1 year: 2 Less than 5 years: 2 Between 5 and 10 years: 3 Over 25 years: 2	
Gender	Female (3 for concept testing, 3 for usability)	Male (3 for usability)
Age range	32–61 years	
Ethnicity	Asian or Asian British (2 for usability)	White (3 for concept testing, 4 for usability)
Language	2 non-native English speakers	
Access need and disability	1 physical and mental health, neurodiversity; 1 mental health, neurodiversity; 2 neurodiversity	
Digital confidence (self-defined)	Concept testing: 3 high Usability: 5 high, 1 moderate	
Previous engagement with bereavement services	Previous engagement: 5 No previous engagement: 4	

minimising vulnerabilities and empowering user agency. These insights informed design refinements aimed at prioritising user emotional wellbeing and respecting their autonomy. Directly shaped by an ethic of care, findings demonstrated that clear navigation, emotionally sensitive language, and user agency mitigate cognitive and emotional burden.

Addressing immediate needs and potential vulnerabilities

Facilitating access to crisis support

Participant feedback during concept testing revealed ambiguity in a crisis support scenario (see [Figure 1](#)), questioning the distinction between being emotionally overwhelmed and experiencing a mental health crisis:

Sophia: What is the situation ‘if things can’t wait?’ [Is it being] too overwhelmed... or are we talking about something more serious. [For example] I need to call 111 or 999 because something related to my grief is potentially being harmful to myself?’

Sophia’s questions highlight a failure in attentiveness, revealing the need for absolute clarity during distress. Recognising that grief can involve periods of intense emotional transition, the revised design prioritised responsiveness to explicitly direct users in crisis to emergency services on the landing page. Feedback also prompted a re-evaluation of the ‘*Alternative sources of support*’ page to ensure it was perceived as a genuine source of help rather than a potential gateway to distressing material, upholding the ethical element of responsibility.

Following design iterations, usability testing showed that users often bypassed information content and overlooked crisis links on the ‘*My grief*’ landing page, with only Mei, a non-native English speaker, recognising the ‘SOS’ emergency signposting. On the ‘*Alternative services*’ page, Susan and Basingstoke questioned the service’s competence based on the absence of key crisis support services, like the Samaritans, and specialised organisations catering to specific or intersectional identities, such as those serving the LGBTQIA+ community or survivors of suicide. Their feedback

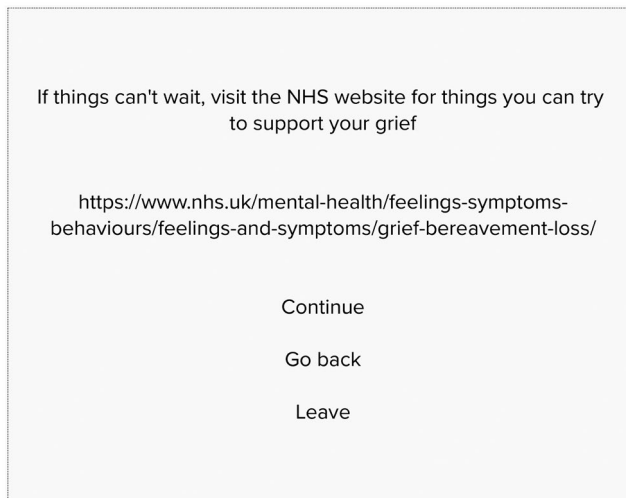


Figure 1. Screenshot of the crisis support static wireframe.

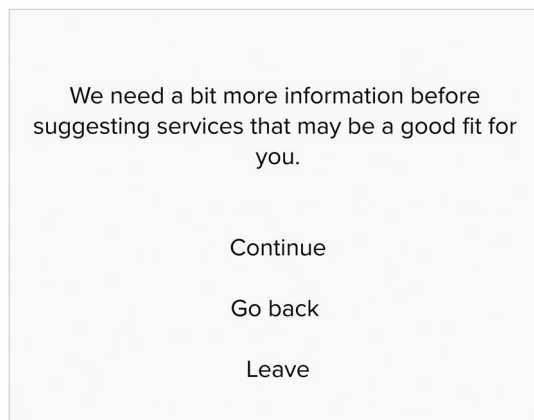


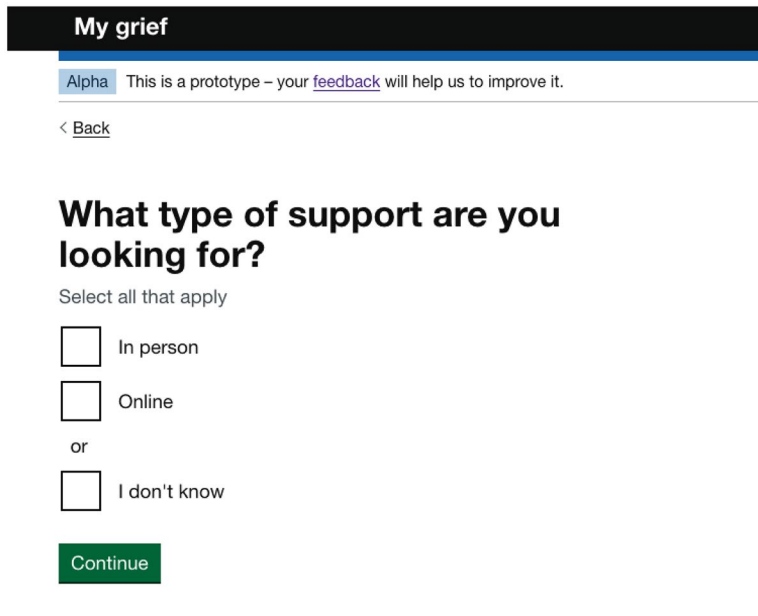
Figure 2. Screenshot of the initial 'looping back mechanism' static wireframe.

suggests competence requires a pluralistic understanding of the support landscape, and ensuring the design represents these diverse pathways is an act of responsibility towards the user.

Reducing cognitive load and navigational burden

The iterative design process sought to reduce cognitive load, interpreting high cognitive friction as an ethical failure to care for a user in a heightened emotional state. During concept testing, the initial 'looping back' mechanism was perceived as intrusive (see [Figure 2](#)).

Sophia described being 'stuck in a loop', illustrating a failure of responsiveness to user uncertainty. Consequently, the 'looping back' mechanism was removed to minimise cognitive burden.



My grief

Alpha This is a prototype – your [feedback](#) will help us to improve it.

[< Back](#)

What type of support are you looking for?

Select all that apply

In person

Online

or

I don't know

[Continue](#)

Figure 3. Screenshot of the ‘What type of support are you looking for’ page in the low fidelity prototype.

Based on user feedback and considering potential cognitive load, the design was also revised to include a dedicated question about preferred support formats to address a previously identified design gap (see [Figure 3](#)).

Throughout usability testing, Aditi and Basingstoke also raised concerns about the ‘What type of support are you looking for’ screen placement. Aditi shared that ‘if this question would come pretty early on, [it] would help them [other bereaved individuals], [to know] that they will not be leaving their safe space,’ while Basingstoke stated some answers might become irrelevant as ‘some of the answers you’ve given previously might fall away.’ These findings illustrate how responsibility in design extends to the architecture of information, and how misplaced questions can erode trust and the user’s sense of safety.

Throughout usability testing, user engagement with the ‘Before you continue’ page varied. For example, while two participants read the content aloud, one participant quickly clicked ‘Continue’ without pausing to read. Susan, who is neurodivergent, found the text-heavy format hindered information retention:

I struggle to retain information when I’m reading... so I skim. For someone like me, pictures and photos would help me. [There’s] too much writing but that is because of my neurodiversity.

Susan’s feedback highlights that competence in care must be inclusive; a text-heavy interface fails to provide equitable care for neurodivergent users. Susan also advocated for simplified explanations of ‘Connect’, ‘Share’ and ‘Learn’, to support their ability for processing sequential information and improve retention:

[Having explanations] would also help me because I can’t retain the information I forget. When I go on to the next screen, [it would help to] have what ‘Connect’, ‘Share’, and ‘Learn’ mean... if it was something more complex, I wouldn’t remember.

Attending to emotional sensitivity and change

The findings related to language and emotional response directly highlight the importance of an ethic of care, which prioritises the emotional wellbeing and dignity of the user. During concept testing, the use of terms such as ‘like,’ ‘prefer,’ and ‘need’ within the context of grief required significant consideration and refinement. Participants expressed concern that these terms might inadvertently influence user responses or pressure individuals experiencing fluid and uncertain preferences during bereavement (see [Figure 4](#)).

For instance, Sophia and Kelly questioned the appropriateness of ‘like’ and ‘prefer’:

Sophia: ‘Like’ - how I am feeling in this moment now might not correspond to a future moment. ‘Prefer’ implies I need to choose the overall way I need to communicate in services, and that might change.’

Kelly: ‘Like’ - I’m not placing an order.

Concept testing feedback directly informed several key refinements to the prototype. Regarding content and terminology, the terms ‘like’ and ‘prefer’ were intentionally used sparingly, demonstrating responsiveness to the potential fluidity of user preferences during grief and avoid imposing premature or fixed choices. Further content

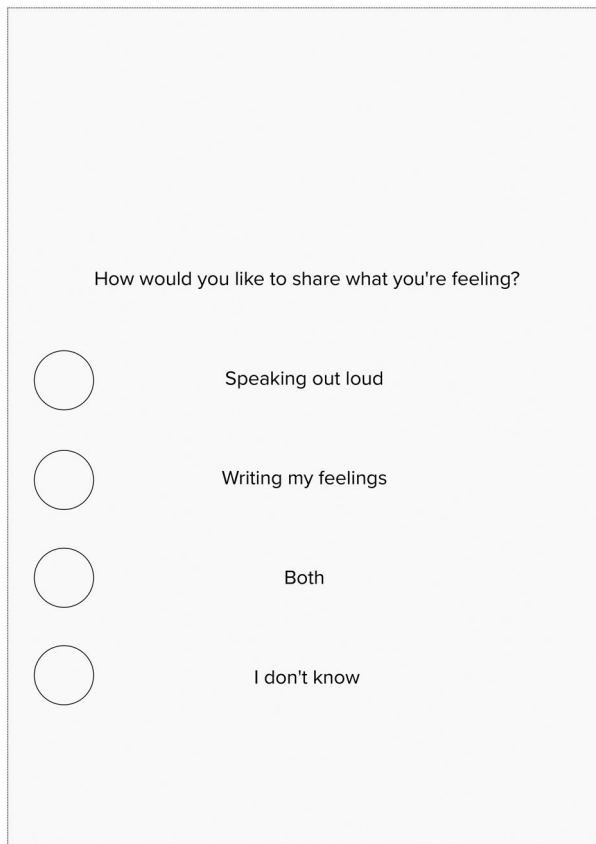


Figure 4. Screenshot of an initial ‘Share’ page static wireframe.

revisions, particularly at the beginning of the user journey, included clarifications regarding the service's purpose: specifically that it could be used to find bereavement services both for themselves (the end user) or for others, and to delineate the different formats of interaction available (connecting, sharing, and listening). Finally, to empower informed decision making, a key aspect of respecting user agency and autonomy, information about the availability and accessibility of support services was integrated into the 'Results' page.

Grounded in user feedback, these iterative design refinements aimed to streamline the overall user experience to minimise user time within the service, reduce cognitive burden, and empower bereaved individuals to find appropriate support.

A key finding throughout usability testing was participants' continued emphasis on the critical role of sensitive phrasing and communication in digital bereavement support. For instance, the prototype title 'My grief' elicited a strong emotional response in James, 'My grief' is in your face... it makes me feel worse...' highlighting the potential for language to either validate or exacerbate feelings of grief (see [Figure 5](#)).

Participants also provided feedback on the 'I want to' prefix, demonstrating a keen awareness of language sensitivity. While Charles suggested alternative headers, such as 'What do you feel is more appropriate for you?' Aditi offered a more nuanced and critical perspective, sharing how 'I want to' implies a level of certainty or decisiveness that may not reflect the emotional state of someone grieving:

They [bereaved people] wouldn't 'want'... [it's more] 'I would like to', or 'explore what is out there'. So, give me that option and then I can see whether it is an absolute place where I would like to share my emotions.

On the 'Connect' pages, feedback extended beyond modality and medium to aesthetic aspects and tone (see [Figure 6](#)). Charles characterised the wording as 'a little bit cold,'

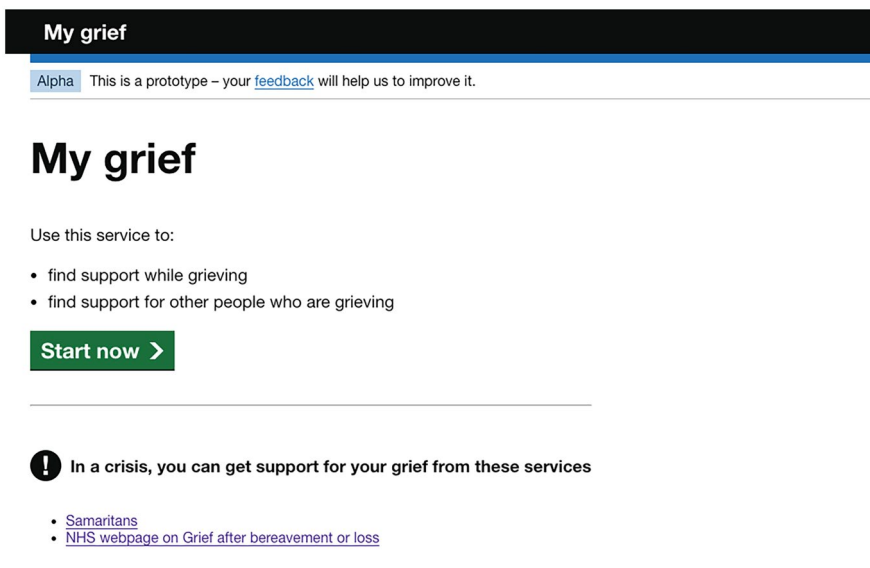


Figure 5. Screenshot of the service landing page in the low fidelity prototype.

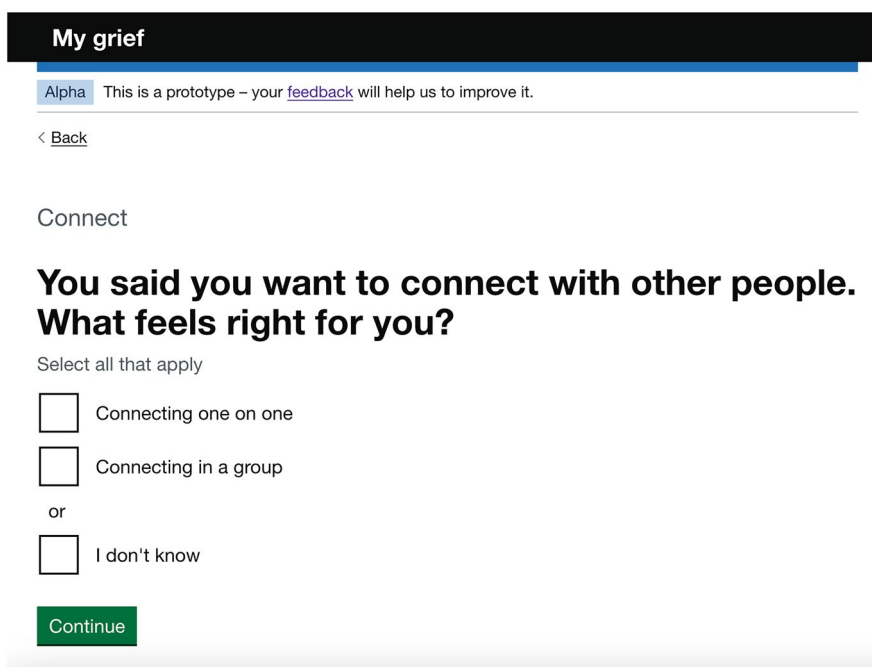


Figure 6. Screenshot of a 'Connect' page in the low fidelity prototype.

and proposed the inclusion of background colour or illustrations to enhance its welcoming nature.

Charles likened the tone of the 'What type of support are you looking for?' interface to a transactional experience like 'ordering something on Amazon,' noting that this bureaucratic atmosphere could deter individuals in heightened emotional states:

You could almost see the official sitting down behind the desk... 'Well, what sort of support do you want? Make your mind up.' It's kind of coming across like that... If you're in a heightened emotional state, [you might think] 'No, this isn't for me.'

This critique underscores the tension between efficiency and care. Prioritising efficiency over warmth lacks responsiveness, alienating the user rather than inviting connection.

On the initial 'Share' page, participants expressed concern about the potential for triggering or retraumatising experiences when exposed to others' grief narratives. As Mei explains:

I don't know whether I'm comfortable to hear how other people feel...people may have their friends or relatives pass away... That can be a light touch, [or it] can be another trauma story that I wouldn't like to hear at that moment.

While Susan reported a positive overall experience, James' comments highlighted the prototype's strengths and inherent design challenges, noting its direct, machine-like approach to grief. His probing question, 'Is there such a thing as good grief?' underscores the profound sensitivity required in designing for bereavement support.

Discussion

This study demonstrates that operationalising an ethic of care within UCD enhances a prototype's capacity to address the emotional sensitivity of bereavement. Aligned with Cook (2025), embedding an ethic of care practice improves usability and the mitigation of harm, producing digital bereavement services that are more thoughtfully aligned with the complex realities of grief. This approach reflects Puig de la Bellacasa (2017) *Matters of Care* by framing the iterative process as ecological maintenance, where refining tone and navigation constitute ethical repairs to the digital interface. Reframing these fixes as relational maintenance acknowledges user agency and the technological medium's responsibility to support, rather than disrupt, the grieving journey. This practical observation supports theoretical critiques that argue traditional UCD is limited as technology becomes a more active agent, requiring a 'more-than-human-design' perspective (Giaccardi and Redström, 2020).

Addressing immediate needs and potential vulnerabilities directly operationalises the ethic of care's focus on prioritising wellbeing. Revising the ambiguous crisis support flow demonstrates how clear triaging prioritises attentiveness to the heightened emotional state of bereaved individuals and their potential difficulty with complex navigation (Campling et al. 2024). This approach is supported by Liu et al. (2021), who found that bereavement can alter cognitive processes, influencing an individual's capacity to engage with information. By ensuring immediate access to critical support, this design prioritises user safety and minimises the risk of further distress. This emphasis on accessible crisis support corroborates previous observations in the literature (Cook 2025; Selman et al. 2023).

The findings also point to the need for digital bereavement service design to proactively address systemic barriers to ensure equitable access, aligning with a comprehensive ethic of care (Tronto 1993). While digital modalities can enhance accessibility for some (Cook 2025; Selman et al. 2023), participant feedback highlighted the omission of key crisis support services and charities for specific types of bereavement. A comprehensive ethic of care requires that designers ensure the information provided is not only clear but also inclusive and complete.

The data demonstrates that an ethic of care can mitigate cognitive and navigational burdens for bereaved users. Removing the 'looping back' mechanism, which a participant described as being 'stuck in a loop', directly mitigated cognitive overload (Stroebe and Schut 2016). This design revision provided a more streamlined and supportive user experience, aiming to prevent overwhelm through simplified navigation and reduced cognitive load. This design choice exemplifies Tronto's (1993) element of responsiveness, demonstrating a willingness to act on direct dialogue with bereaved individuals and recognise their unique needs. The importance of this ethical imperative is amplified by the inherent capabilities of modern digital technologies themselves, which are increasingly designed to learn and adapt to context (Giaccardi and Redström, 2020). Therefore, technology's capacity for 'responsiveness' can powerfully enable and even demand the ethical element of responsiveness in design. The iterative design process, driven by user feedback, embodies Tronto's (2013) notion of 'caring with', highlighting the mutuality of care relationships and moving away from a prescriptive model.

Further, the varied engagement with the *'Before you continue'* page and the feedback from a neurodivergent participant highlight the need for accessible design that caters to diverse cognitive needs. Susan's request for visual aids and simplified explanations directly informs the need to reduce cognitive load and promote equitable access, countering the potential for the prototype to inadvertently exclude users who might struggle with text-heavy formats.

Clear and sensitive language was a consistent finding, as unclear or insensitive phrasing exacerbated cognitive load, which is already heightened by grief (Békés, Roberts, and Németh 2023; Freed et al. 2009). The terms 'like' and 'prefer' were questioned for implying a certainty that may not reflect the grieving person's fluid emotional state. This finding goes beyond previous research on literacy levels (Rodriguez Grieve et al. 2024) by highlighting ambiguous phrasing as a factor impacting user comprehension and emotional burden. Further, participants' strong emotional responses to direct phrasing like 'My grief' and 'I want to' demonstrate that language in digital bereavement support is not a minor detail but a critical design component that can either validate or exacerbate feelings of grief. This finding aligns with broader literature in the impact of language in digital environments (Chaves et al. 2021; Vollenwyder et al. 2018) while emphasising its heightened importance in the sensitive context of grief.

The data also indicates that integrating an ethic of care within UCD fosters responsiveness to user feedback and allows users to exercise agency (Keinonen 2017). This approach offers a strategy to overcome the limitation of parochialism, the tendency to prioritise specific needs over a wider range of diverse perspectives, inherent in some applications of an ethic of care (Tronto 1993). By providing users with choice over support modalities and control over personal data, the design accommodates the challenges of scaling care, showing how an ethic of care, when practically applied through UCD, can lead to more scalable and humane digital support by reducing the need for constant individual human mediation for diverse preferences. Further, in the sensitive context of bereavement, where limited user control over online experiences can lead to distressing encounters (Cook 2025; Murphy et al. 2025), user agency transcends mere task efficiency. It concerns respecting a user's emotional autonomy and their right to engage with support in a way that aligns with their grieving journey. This study shows how user preferences for choice and control, while potentially reflecting a broader societal trend, are amplified within the sensitive context of bereavement support.

While the study illustrates the benefits of applying an ethic of care to design, it also reveals its limitations. Design often involves balancing competing priorities, and it may not be possible to satisfy every ethical consideration simultaneously. The placement of the *'What type of support are you looking for?'* screen within the user journey exemplifies this tension. Placing this screen later in the interaction was a deliberate attempt to balance user autonomy (Severes, Barreto, and Esteves 2025) with the potential for effective support provision. As one participant noted, a user may want to explore options before making a decision, and an immediate triage question might be off-putting, as users often value technology as a medium for human connection (Cook 2025; Eklund et al. 2024). However, this approach also presented a potential trade-off, as some users indicated that placing the question later

could lead to inefficiencies and make their previous choices feel irrelevant. This finding aligns with discussions in the ethical design literature about the inherent tensions between different ethical principles and design (Hendry, Friedman, and Ballard 2021; Scherling and DeRosa 2020; Vallor 2016).

This study contributes a specific example of this tension within the context of digital bereavement support, highlighting the need for designers to develop context-sensitive ethical decision-making frameworks. An alternative explanation for the perceived inefficiencies could be that users are simply accustomed to highly efficient, task-oriented interfaces and struggle with designs that prioritise emotional exploration over immediate goal achievement. This example illustrates how the diverse and sometimes conflicting needs of bereaved people require careful mediation in bereavement service design. Therefore, these results highlight that the application of an ethic of care, while valuable, requires designers to make context-specific judgements and prioritise certain aspects of care, recognising that not all ethical ideals can be perfectly realised in every design decision. In essence, while an ethic of care provides a foundation for enhancing usability and ethical grounding, its implementation demands a pragmatic approach that acknowledges the inherent complexities and trade-offs in design.

Limitations

Several limitations warrant consideration when interpreting the findings of this study. Participants' self-reported digital literacy levels introduce a potential bias; individuals with higher perceived digital skills might have evaluated the prototype through the lens of their existing technological experience, including their familiarity with bereavement services, potentially influencing their feedback. Further, usability testing was conducted on a high-fidelity interactive prototype which might not fully capture the user experience within a production environment. Finally, while the study integrated an ethic of care, the long-term effects of this design approach on user wellbeing were not assessed within the scope of this research. Future work could include a longitudinal study involving bereaved people who self-report low digital literacy levels and usability testing within a production environment.

Conclusions and future work

This article demonstrates that integrating an ethic of care into the design of digital bereavement services is a functional necessity rather than a peripheral design choice. By operationalising an ethic of care, designers move beyond standard usability to address the specific emotional landscape of bereavement. While this integration involves pragmatic trade-offs, like navigating tensions between system efficiency and individualised care, the findings reveal that even small architectural choices, such as clear triaging, sensitive language, and simplified navigation are critical to creating digital services that are both care-oriented and ethically robust.

The implications of this study extend beyond a single prototype to the wider GriefTech ecosystem, encompassing apps, games, AI-driven services, and the digital

presence of charities and influencers. As digital bereavement support becomes ubiquitous, maintaining these human-centric care elements is critical to prevent services from becoming depersonalised or purely transactional. This work advocates for a paradigm shift in design, where ethical considerations are integral to every development stage. This approach leads to more humane and effective technologies that truly serve the needs and respect the autonomy of bereaved individuals throughout their grieving journey.

While this study provides novel insights into integrating an ethic of care in this domain, several limitations warrant consideration. Future work should include participants with lower digital literacy, conduct usability testing on fully developed, live versions of digital bereavement services, and explore the long-term impact of an ethic of care-based design on user wellbeing. Our future research will explore the generalisability of an ethic of care practice across a broader range of digital health contexts.

Acknowledgements

We thank the research participants for the invaluable insights they provided into their grieving experiences and the usability of the potential digital grief support service.

Declaration of interest statement

No potential conflict of interest was reported by the authors.

ORCID

Sian Cook  <http://orcid.org/0000-0002-1204-249X>

Nicholas Caldwell  <http://orcid.org/0000-0003-0597-0113>

Sarah Richards  <http://orcid.org/0000-0003-4811-101X>

Data availability statement

Supporting data is not available due to the study's sensitive nature.

References

- Brubaker, J. R., Hayes, G. R., & Dourish, P. 2013. "Beyond the Grave: Facebook as a Site for the Expansion of Death and Mourning." *The Information Society* 29 (3): 152–163. <https://doi.org/10.1080/01972243.2013.777300>.
- Abidin, C. 2018. "Young People and Digital Grief Etiquette." In *A Networked Self and Birth, Life, Death*, edited by Z. Papacharissi, 160–174. London: Routledge.
- Abidin, C. 2022. "Grief Hypejacking: Influencers, #ThoughtsAndPrayers, and the Commodification of Grief on Instagram." *The Information Society* 38 (3): 174–187. <https://doi.org/10.1080/01972243.2022.2071212>.
- Bao, A., and Y. Zeng. 2024. "Embracing Grief in the Age of Deathbots: A Temporary Tool, Not a Permanent Solution." *Ethics and Information Technology* 26 (1): 7. <https://doi.org/10.1007/s10676-024-09744-y>.
- Barnum, C. M. 2021. *Usability Testing Essentials: Ready, Set...Test!*. 2nd ed. London: Morgan Kaufmann/Elsevier.

- Beaunoyer, B., L. H. Torres, L. Maessen, and M. J. Guitton. 2020. "Grieving in the Digital Era: Mapping Online Support for Grief and Bereavement." *Patient Education and Counseling* 103 (12): 2515–2524. <https://doi.org/10.1016/j.pec.2020.06.013>.
- Békés, V., K. Roberts, and D. Németh. 2023. "Competitive Neurocognitive Processes following Bereavement." *Brain Research Bulletin* 199: 110663. <https://doi.org/10.1016/j.brainres-bull.2023.110663>.
- Borgstrom, E., and J. Ellis. 2017. "Introduction: Researching Death, Dying and Bereavement." *Mortality* 22 (2): 93–104. <https://doi.org/10.1080/13576275.2017.1291600>.
- Bowlby, J., and C. M. Parkes. 1970. "Separation and Loss within the Family." In *The Child in His Family*, edited by E. J. Anthony, and C. Koupornik, 217–216. New York: Wiley.
- Braun, V., and V. Clarke. 2006. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3 (2): 77–101. <https://doi.org/10.1191/1478088706qp063oa>.
- Campling, N., S. Lund, A. Allam, G. Precious, and M. Myall. 2024. "The Person Was like the Glue in the Cracked Pot Which Was no Longer There": Co-Production of the Web-Based Families and Friends in Bereavement Intervention [Version 2; Peer Review: 2 Approved with Reservations]." *F1000Research* 12: 1024. <https://doi.org/10.12688/f1000research.134193.2>.
- Carroll, K. 2013. "Infertile? The Emotional Labour of Sensitive and Feminist Research Methodologies." *Qualitative Research* 13 (5): 546–561. <https://doi.org/10.1177/1468794112455039>.
- Cenci, A., S. J. Ilskov, N. S. Andersen, and M. Chiarandini. 2024. "The Participatory Value-Sensitive Design (VSD) of a mHealth App Targeting Citizens with Dementia in a Danish Municipality." *AI and Ethics* 4 (2): 375–401. <https://doi.org/10.1007/s43681-023-00274-9>.
- Chaves, A. P., J. Egbert, T. Hocking, E. Doerry, and M. A. Gerosa. 2021. "Chatbots Language Design: The Influence of Language Variation on User Experience." *arXiv preprint arXiv:2101.11089*. <https://arxiv.org/abs/2101.11089>
- Christensen, D. R., Y. H. A. Segerstad, D. Kasperowski, and K. Sandvik. 2017. "Bereaved Parents' Online Grief Communities: De-Tabooing Practices or Relation-Building Grief Ghettos?" *Journal of Broadcasting & Electronic Media* 61 (1): 58–72. <https://doi.org/10.1080/08838151.2016.1273929>.
- Cook, S. 2025. "Grief, Choice and Digital Technology Use: How Bereaved People Use Digital Technologies to Support Their Grief." *Mortality* 30 (2): 510–526. <https://doi.org/10.1080/13576275.2025.2451093>.
- Cook, S., N. Caldwell, S. Richards, and J. Fish. 2024. "It Didn't Feel like I Was Talking to a Human: Bereaved Peoples' and Bereavement Practitioners' Experiences Using Text-Based Counselling to Support the Grieving Process." *BMJ Supportive & Palliative Care* 14: A13. https://spcare.bmj.com/content/14/Suppl_1/A13.1.
- Creswell, J. W., and V. L. Plano Clark. 2017. *Designing and Conducting Mixed Methods Research*. 3rd ed. Los Angeles: SAGE.
- Croon, A. 2022. "Thinking with Care in Human–Computer Interaction." *Feminist Theory* 23 (2): 232–246. <https://doi.org/10.1177/14647001221082294>.
- Eidsvåg, G.M., 2022. "Sustainable Care: Care as a Communal Virtue in Early Childhood Education." *ECNU Review of Education* 5 (4): 643–663. <https://doi.org/10.1177/20965311221103281>.
- Egbe, D. A., Breerton, M., & Ploderer, B. (2023). Using Online Discussions to Understand Challenges and Design Opportunities in Dementia Care. In *OzCHI 2023 (OzCHI 2023)*, December 02-06, 2023, Wellington, New Zealand. New York, NY, USA: ACM. 10. <https://doi.org/10.1145/3638380.3638394>
- Eklund, R., M. C. Eisma, P. A. Boelen, F. K. Arnberg, and J. Sveen. 2024. "The Self-Help App My Grief: Bereaved Parents' Experiences of Helpfulness, Satisfaction and Usability." *Internet Interventions* 35: 100712. <https://doi.org/10.1016/j.invent.2024.100712>.
- Finucane, A., Canny, A., Mair, A. P. A., Harrop, E., Selman, L. E., Swash, B., Wakefield, D., & Gillanders, D. 2024. "A Rapid Review of the Evidence for Online Interventions for Bereavement Support." *Palliative Medicine* 39 (1): 31–52. <http://doi.org/10.1177/02692163241285101>.
- Freed, P. J., T. K. Yanagihara, J. Hirsch, and J. J. Mann. 2009. "Neural Mechanisms of Grief Regulation." *Biological Psychiatry* 66 (1): 33–40. <https://doi.org/10.1016/j.biopsych.2009.01.019>.

- Giaccardi, E. and Redström, J. 2020. "Technology and More-THAN-Human Design." *Design Issues* 36 (4): 33–44. https://doi.org/10.1162/desi_a_00612.
- Gilligan, C. 2014. "Moral Injury and the Ethic of Care: Reframing the Conversation about Differences." *Journal of Social Philosophy* 45 (1): 89–106. <https://doi.org/10.1111/josp.12050>.
- Glick, I. D., R. S. Weiss, and C. M. Parkes. 1974. *The First Year of Bereavement*. New York: John Wiley and Sons.
- GOV.UK. 2017. "Learning about Users and Their Needs." July 14, 2025. <https://www.gov.uk/service-manual/user-research/start-by-learning-user-needs#understanding-user-needs>
- Hendry, D. G., B. Friedman, and S. Ballard. 2021. "Value Sensitive Design as a Formative Framework." *Ethics and Information Technology* 23 (1): 39–44. <https://doi.org/10.1007/s10676-021-09579-x>.
- Interaction Design Foundation. 2016. "What is User Centered Design?" July 14, 2025. <https://www.interaction-design.org/literature/topics/user-centered-design>
- Jacobs, S. 1993. *Pathologic Grief: Maladaptation to Loss*. Washington: American Psychiatric Press.
- Juujärvi, S., E. Kallunki, and H. Luostari. 2020. "Ethical Decision-Making of Social Welfare Workers in the Transition of Services: The Ethics of Care and Justice Perspectives." *Ethics and Social Welfare* 14 (1): 1–19. <https://doi.org/10.1080/17496535.2019.1710546>.
- Keinonen, T. 2017. *Designers, Users and Justice*. London: Bloomsbury Publishing PLC.
- Khalil, M. J. 2024. "Ethical Designing in User-Centred Design." April 7, 2025. <https://www.linkedin.com/pulse/ethical-designing-user-centered-design-m-jawad-khalil-cq8nf/>
- Klang, M., and A. S. Y. Hård. 2013. "Coping with Death and Grief through Technology." *AoIR Selected Papers of Internet Research* 3: 8509. <https://spir.aoir.org/ojs/index.php/spir/article/view/8509>
- Klass, D., P. R. Silverman, and S. L. Nickman. 1996. *Continuing Bonds: New Understandings of Grief*. Washington: Taylor and Francis.
- Kübler-Ross, E. 1969. *On Death and Dying*. New York: Macmillan.
- Lahman, M. K. E., K. L. Rodriguez, L. Moses, K. M. Griffin, B. M. Mendoza, and W. Yacoub. 2015. "A Rose by Any Other Name is Still a Rose? Problematizing Pseudonyms in Research." *Qualitative Inquiry* 21 (5): 445–453. <https://doi.org/10.1177/1077800415572391>.
- Leaver, T., and T. Highfield. 2018. "Visualising the Ends of Identity: pre-Birth and Post-Death on Instagram." *Information, Communication & Society* 21 (1): 30–45. <https://doi.org/10.1080/1369118X.2016.1259343>.
- Lindemann, N. F. 2022. "The Ethics of 'Deathbots.'" *Science and Engineering Ethics* 28 (6): 60. <https://doi.org/10.1007/s11948-022-00417-x>.
- Liu, J. J. W., S. E. Taillefer, A. Tassone, and K. Vickers. 2021. "The Importance of Bereavement Cognitions on Grief Symptoms: Applications of Cognitive Processing Therapy." *Death Studies* 45 (7): 552–562. <https://doi.org/10.1080/07481187.2019.1671537>.
- Lu, J., M. Schmidt, M. Lee, and R. Huang. 2022. "Usability Research in Educational Technology: A State-of-the-Art Systematic Review." *Educational Technology Research and Development* 70 (6): 1951–1992. <https://doi.org/10.1007/s11423-022-10152-6>.
- MacLure, K., and A. Jones. 2021. "Domestic Abuse and Intimate Partner Violence: The Role of Digital by Design." *The Journal of Adult Protection* 23 (5): 282–301. <https://doi.org/10.1108/JAP-03-2021-0009>.
- Marie Curie. 2022. "Bereavement Counselling, or Grief Counselling." June 4, 2025. <https://www.mariecurie.org.uk/help/support/bereaved-family-friends/dealing-grief/bereavement-or-grief-counselling>
- Moncur, W., Julius, M., Van Den Hoven, E., & Kirk, D. (2015). Story shell: The participatory design of a bespoke digital memorial. In Proceedings of 4th Participatory Innovation Conference (pp. 470–477).
- Murphy, S., A. Hickey, D. Peelo Dennehy, K. Morrissey, J. McCarthy, and S. Foley. 2025. "Sharing, Support-Seeking, and Managing Safety: A Qualitative Study of Online Platform Engagement after Pregnancy Loss." *Proceedings of the ACM on Human-Computer Interaction* 9 (2): 1–26. <https://doi.org/10.1145/3711065>.
- Noddings, N. 2012. "The Language of Care Ethics." *Knowledge Quest* 40 (5): 52–56.

- Orme, J. 2002. "Social Work: Gender, Care and Justice." *British Journal of Social Work* 32 (6): 799–814. <https://doi.org/10.1093/bjsw/32.6.799>.
- Patton, M. Q. 2002. *Qualitative Research and Evaluation Methods*. 3rd ed. Thousand Oaks, CA: Sage.
- Paulus, T. M., and M. A. Varga. 2015. "Please Know That You Are Not Alone with Your Pain": Responses to Newcomer Posts in an Online Grief Support Forum." *Death Studies* 39 (10): 633–640. <https://doi.org/10.1080/07481187.2015.1047060>.
- Pennington, N. 2017. "Tie Strength and Time: Mourning on Social Networking Sites." *Journal of Broadcasting & Electronic Media* 61 (1): 11–23. <https://doi.org/10.1080/08838151.2016.1273928>.
- Plummer, K. 2008. "Critical Humanism and Queer Theory: Living with the Tensions." In *The Landscape of Qualitative Research*, edited by N. Denzin and S. Lincoln . 3rd ed., 477–500. Thousand Oaks, CA: Sage.
- Puig de la Bellacasa, M. 2017. *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis: University of Minnesota Press.
- Rando, T. A., C. M. Nezu, A. M. Nezu, and M. J. Weiss. 1993. *Treatment of Complicated Mourning*. Champaign, IL: Research Press.
- Readymag Blog. 2021. "Why User-Centred Design Struggles with Ethics [Online] Readymag Blog, 26 May." April 7, 2025. <https://blog.readymag.com/why-user-centred-design-struggles-with-ethics-1500caf86d54>
- Richter, P., and L. Harst. 2022. "Tackling the Scaling-up Problem of Digital Health Applications." *Zeitschrift Fur Gesundheitswissenschaften* 30 (1): 1–3. <https://doi.org/10.1007/s10389-021-01599-7>.
- Robinson, C., and D. R. Pond. 2019. "Do Online Support Groups for Grief Benefit the Bereaved? Systematic Review of the Quantitative and Qualitative Literature." *Computers in Human Behavior* 100: 48–59. <https://doi.org/10.1016/j.chb.2019.06.011>.
- Rodriguez Grieve, L., N. Bartley, L. Kirsten, C. Wilson, B. Sajish, E. Pegler, C. Carson, and J. Shaw. 2024. "Health Literacy and Inclusivity Review of Bereavement Resources Available in an Australian Healthcare Setting." *Health Literacy and Communication Open* 2 (1): 2411785. <https://doi.org/10.1080/28355245.2024.2411785>.
- Rubin, S. S. 1999. "The Two-Track Model of Bereavement: Overview, Retrospect, and Prospect." *Death Studies* 23 (8): 681–714. <https://doi.org/10.1080/074811899200731>.
- Russ, A. L., and J. J. Saleem. 2018. "Ten Factors to Consider When Developing Usability Scenarios and Tasks for Health Information Technology." *Journal of Biomedical Informatics* 78: 123–133. <https://doi.org/10.1016/j.jbi.2018.01.001>.
- Scherling, L., and A. DeRosa. 2020. *Ethics in Design and Communication: Critical Perspectives*. 1st ed. London: Bloomsbury Publishing PLC.
- Schotanus-Dijkstra, M., P. Havinga, W. van Ballegooijen, L. Delfosse, J. Mokkenstorm, and B. Boon. 2014. "What Do the Bereaved by Suicide Communicate in Online Support Groups? A Content Analysis." *Crisis* 35 (1): 27–35. <https://doi.org/10.1027/0227-5910/a000225>.
- Selman, L. E., E. Sutton, R. M. Mirra, T. Stone, E. Gilbert, Y. Rolston, K. Murray, et al. 2023. "Sadly I Think we Are Sort of Still Quite White, Middle-Class Really': Inequities in Access to Bereavement Support—Findings from a Mixed Methods Study." *Palliative Medicine* 37 (4): 586–601. <https://doi.org/10.1177/02692163221133665>.
- Selman, L. E., J. Birchall, E. J. Sutton, T. Stone, R. M. Mirra, E. Gilbert, M. Longo, et al. 2026. "Shifting to Online and Telephone Bereavement Support Provision during the COVID-19 Pandemic: A Mixed Methods Study of Bereavement Service Provider Perspectives and Lessons Learnt for Current Practice." *Palliative Medicine* 40 (5): 617–631. <https://doi.org/10.1177/02692163251383324>.
- Severes, B., M. Barreto, and A. Esteves. 2025. "Designing for Mental Health in Higher Education: A Collaborative Approach to Digital Interventions." *Behaviour & Information Technology* 44 (10): 2474–2492. <https://doi.org/10.1080/0144929X.2024.2436503>.
- Sofka, C., V. Mason-Robbie, and M. Savin-Baden. 2020. "The Transition from Life to the Digital Afterlife: Thanatechnology and Its Impact on Grief." In *Digital Afterlife*. 1st ed., 57–74. United Kingdom: CRC Press. <https://doi.org/10.1201/9780429322198-5>.

- Stroebe, M., and H. Schut. 2010. "The Dual Process Model of Coping with Bereavement: A Decade on." *Omega* 61 (4): 273–289. <https://doi.org/10.2190/OM.61.4.b>.
- Stroebe, M., and H. Schut. 2016. "Overload: A Missing Link in the Dual Process Model?" *OMEGA - Journal of Death and Dying* 74 (1): 96–109. <https://doi.org/10.1177/0030222816666540>.
- TechRound. 2023. "The Rise of 'GriefTech': Comforts for the Broken Hearted." <https://techround.co.uk/tech/rise-grief-tech-comforts-broken-hearted/>
- Tronto, J. C. 1993. *Moral Boundaries. A Political Argument for an Ethic of Care*. London: Routledge.
- Tronto, J. C. 1998. "An Ethic of Care." *Generations* 22 (3): 15–20. <http://www.jstor.org/stable/44875693>.
- Tronto, J. C. 2013. *Caring Democracy: Markets, Equality, and Justice*. 1st ed. New York: New York University Press.
- UK Commission on Bereavement. 2022. "Bereavement is Everyone's Business." https://bereavementcommission.org.uk/files/media/jaqex1t5/bereavement-is-everyone-s-business-full-report_1.pdf
- Vallor, S. 2016. *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting*. New York: Oxford University Press.
- van Velsen, L., G. Ludden, and C. Grünloh. 2022. "The Limitations of User-and Human-Centered Design in an eHealth Context and How to Move Beyond Them." *Journal of Medical Internet Research* 24 (10): e37341. <https://doi.org/10.2196/37341>.
- Vollenwyder, B., A. Schneider, E. Krueger, F. Brühlmann, K. Opwis, and E. D. Mekler. 2018. "How to Use Plain and Easy-to-Read Language for a Positive User Experience on Websites." In: *Computers Helping People with Special Needs. ICCHP 2018. Lecture Notes in Computer Science, 10896*, edited by K. Miesenberger and G. Kouroupetroglou. Cham: Springer.
- Wallace, L. 2025. "This App Became My Best Friend': Mourning is Human." New grief apps want to 'optimise it for you.' <https://www.bbc.co.uk/future/article/20250123-the-apps-turning-grief-into-data-points>
- Worden, J. W. 2018. *Grief Counseling and Grief Therapy: A Handbook for the Mental Health Practitioner*. 5th ed. Cham: Springer Publishing.
- Xygykou, A., P. Siriaraya, A. Covaci, H. G. Prigerson, R. Neimeyer, C. S. Ang, and W.-J. She. 2023. "The "Conversation" about Loss: Understanding How Chatbot Technology Was Used in Supporting People in Grief." In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, April, Paper No 646 (pp. 1–15). <https://doi.org/10.1145/3544548.3581154>.