

# Grieving During the COVID-19 Pandemic: In-Person and Virtual “Goodbye”

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## Abstract

This study examined the relationship between having an opportunity to say goodbye to a dying family member or friend in personal or virtually, as well as attending their funeral services in person or virtually, and the bereaved individuals' psychological distress and complicated grief during the COVID-19 pandemic. Five hundred and nineteen US adults who had lost a family member or a friend between January 2020 and June 2021 completed an online survey for this study. Only a small proportion of participants were able to say goodbye to their dying family member or friend in person, and saying goodbye virtually was associated with higher levels of complicated grief and psychological distress. Those who physically attended a formal, in-person funeral or memorial service reported lower levels of psychological distress. The findings suggest a complicated process of saying goodbye in different formats during the pandemic.

## Keywords

bereavement, saying goodbye, psychological distress, complicated grief, pandemic

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## Grieving During the COVID-19 Pandemic: In-Person and Virtual “Goodbye”

The COVID-19 (coronavirus disease 2019) pandemic has presented unprecedented challenges to public health and caused devastating social and economic disruptions worldwide (Mofjuz et al., 2021). In addition to a dramatic loss of human life, people’s daily lives have been significantly affected by shelter-in-place, social/physical distancing, masks, and other preventive measures. The pandemic also has altered how people live, die, and mourn (Hernández-Fernández & Meneses-Falcón, 2021; Simons, 2020). Persons who are dying during the pandemic may spend their final days in hospitals and nursing facilities, separated from their families (Carr et al., 2020). For people whose families or friends are dying, they may not be able to say proper goodbye in person. The bereaved family members and friends may grieve their loss in isolation, without the comforting embrace of loved ones or the support of mourners who pay respect for the deceased at funerals (Carr et al., 2020; Fernández & González-González, 2020). These challenges complicate the grief process. This study examined the relationship between having an opportunity to “say goodbye” to a dying family member or friend, as well as attending their funeral services during the pandemic, and the bereaved individuals’ psychological distress and complicated grief.

### *Experiences of Bereavement*

While losing a family member or close friend is a natural, universal life event, it is among the most stressful and challenging human experiences (Lund, 1998). Unpleasant emotional reactions (e.g., shock, confusion, sadness, anger, despair, loneliness, guilt) that accompany grief may arise, practical decisions have to be made, and life without the deceased has to be imagined and redefined (Winch, 2014). Grieving and coping with bereavement is an important process to overcome these challenges and restore ongoing life without the deceased (Shear, 2012). Most people are able to successfully meet the demands of coping and find a pathway to continuing a meaningful and satisfactory life, reflecting human resilience. One may also experience psychological gain from the experience of loss and trauma (e.g., post-traumatic growth [Michael & Cooper, 2013; Stein et al., 2018]). However, some bereaved persons experience symptoms such as depression, anxiety, and functional impairments that are beyond normally expected grief reactions. Moreover, some develop complicated grief which involves prolonged and intense maladaptive reactions to loss, including “intrusive images, severe pangs of emotion, denial of implications of the loss to the self, and neglect of adaptive activities at work and home” (Horowitz et al., 1997, p. 904).

People who experience complicated grief may be preoccupied with thoughts and images of the deceased and feel a sense of loss of purpose of life without the deceased; they may incessantly question, worry, or ruminate over some aspects of the circumstance or consequence of the loss, rather than reflecting on the reality and implication of the death (Shear, 2012). Excessive and painful emotional processes are relentlessly

activated. These complicated grief reactions can potentially lead to long-term adverse physical and mental health outcomes, such as hypertension, heart conditions, depression, and suicidal ideation (cited in [Sawyer & Brewster., 2019](#)).

Many personal (e.g., individual characteristics and life history), relational (e.g., nature and meaning of relationship with the deceased), and circumstantial (e.g., specific aspects of the death, social surroundings) risk factors for developing complicated grief have been identified in the literature ([Burke et al., 2019](#); [Lobb et al., 2010](#); [Mason et al., 2020](#); [Shear, 2012](#)). Disappointment in one's own capacity to comfort the dying family member or friend, as well as absence at the time of the deceased' death, can create distress, resentment, and guilt during the grieving process and increase the risk for complicated grief ([Shear, 2012](#)). Due to COVID-related public health measures (e.g., lockdowns, physical distancing) and restrictions in visits in nursing homes and healthcare facilities during the pandemic, many people were unable to visit their dying family members or close friends ([Simons, 2020](#)). Similarly, formal funerals and other similar post-death rituals were often canceled, postponed, or downsized in response to the COVID-19 pandemic and associated public health guidelines, especially during the periods of lockdowns and physical distancing ([Kramer, 2020](#)). These restrictions strip the opportunity for the bereaved to say a proper goodbye to the deceased prior to and after their death, which could lead to psychological distress and complicated grief.

### *Complicated Goodbye, Distress, and Complicated Grief During the Pandemic*

A poem portraying the emotional story of a woman in a primary care clinic depicts the intricate experience of complicated goodbye and complicated grief in a time of loss during the pandemic ([Shamaskin-Garroway, 2020](#), p. 3):

Tear-stained cigarettes on our Zoom calls.

Crouched in the doorway. Spotty service, but a private space near an outlet.

She's plugged in but cannot recharge. Depleted. She lights another one, breaking her gaze.

"Stillborn, . . ." she sobs.

Later, her cries echo during her mother's final days.

A grandchild she'll never meet.

A parent without a goodbye.

Research has suggested that saying goodbye to a loved one who died or is dying is an important step toward the successful resolution of bereavement. Although painful, being able to say goodbye before or at the point of death is part of healing process ([Wong & Ussher, 2009](#)). Meaningful communication in the process of saying goodbye facilitates closure and reduces the susceptibility to complicated grief and psychological maladjustment ([Otani et al., 2017](#)). Bereaved persons may experience heightened

psychological symptoms (e.g., anxiety, depression, anger, guilt, risk of complicated grief) when they do not have an opportunity to say goodbye to the deceased (Albuquerque et al., 2021; Carr et al., 2020).

Funeral and memorial rituals, which are symbolic enactments embedded in cultural practices, provide meaningful and affirming experience for the bereaved (Romanoff & Terenzio, 1998). They offer opportunities for the public expression of grief, structures for the containment of grief against disorientation and chaos, the pronouncement of continuity of the bereaved person's life without the deceased's presence, and human connection and support from members in the social group (Romanoff & Terenzio, 1998). These properties contain healing functions (Jacobs, 1992). Emerging studies have suggested that a lack of or suppression of funeral rituals or memorial services during the COVID-19 pandemic can be a traumatic experience for the bereaved individuals, especially family members, as they are prevented from saying goodbye and fulfilling their last reverence to the deceased publicly, causing feelings of disbelief, resentment, and distress (Cardoso et al., 2020). When the bereaved individuals are unable to grieve properly as their loss goes unacknowledged, they may experience a variety of adverse psychological outcomes.

### *Virtual Mourning*

During the COVID-19 pandemic, virtual communication through telecommunicating, videoconferencing (e.g., Zoom), and other technologies have provided an option and been used extensively as an alternative to in-person meetings in various contexts and environments, including funerals and memorial services. Virtual mourning, which is a novel, surreal experience (e.g., Adelman, 2020), has become a "new normality" during the pandemic (Hernández-Fernández & Meneses-Falcón, 2021). Especially during periods of social distancing and lockdown restrictions, video and phone calls create opportunities for people to say goodbye to their dying family members and friends (Hanna et al., 2021). However, it is unclear whether virtual goodbye and funeral services help the bereaved individuals grieve and adapt to loss. Although technology provides an opportunity for people to remain connected while being apart physically, it cannot substitute for people and human contact such as kisses and hugs.

### *The Present Study*

This study examined the relationship between having a chance to say goodbye to the deceased prior to their death (in person or virtually) and during a funeral or memorial service (in person or virtually) and the bereaved individuals' psychological distress and complicated grief. Although symptoms of normal grief may be similar to those of general psychological distress, some researchers have argued that complicated grief and general psychological distress are two distinct constructs (Carmassi et al., 2014; Lichtenthal et al., 2004). Research has shown that complicated grief is distinct from post-loss anxiety, depression, and other mental health disorders (e.g., Boelen & van den Bout, 2010). In this

study, psychological distress and complicated grief were considered two individual criterion variables.

It was hypothesized that not being able to say goodbye to the deceased prior to their death would be associated with higher levels of complicated grief and psychological distress; and saying goodbye in person, when compared to saying goodbye virtually, would be associated with lower levels of distress and complicated grief. Not being able to attend a formal, in-person funeral or memorial service for the deceased was expected to be associated with higher levels of complicated grief and psychological distress; and attending in-person funeral or memorial service, when compared to attending a virtual meeting, would be associated with lower levels of distress and complicated grief.

## Method

### *Participants*

The sample included 519 bereaved adults in the United States who had lost a family member or a friend since the beginning of the COVID-19 pandemic. Participants' ages ranged from 19 to 69 years ( $M = 49.1$ ,  $SD = 19.9$ ). The mean time since the death of the deceased was 6.4 months ( $SD = 4.3$ ). COVID-19 was the cause of death for 56% of the sample, with other diverse causes (e.g., natural causes, cancer, heart disease, etc.) representing the rest of the sample. Sample demographic data, including the relation between the bereaved and the deceased, are presented in [Table 1](#).

### *Measures*

**Demographics.** Participants reported their age, sex, and ethnicity, as well as the deceased's age, sex, cause of death, time since death, and relation to the bereaved.

### *Relationship Closeness*

The Unidimensional Relationship Closeness Scale (URCS; [Dibble et al., 2012](#)) measures closeness of social and personal relationships. I adapted this 12-item scale to assess the participant's relationship closeness with the deceased prior to their death. Past tense was used in this study (e.g., "*The deceased and I wanted to spend time together,*" "*I considered the deceased when making important decisions*"). Each item was rated on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Mean scores were calculated, with higher scores representing higher levels of relationship closeness (Cronbach alpha = .92).

### *Say Goodbye to the Deceased Before Death*

Participants reported whether they were able to say goodbye to the deceased in person before their death, or unable to do so because of COVID-related restrictions or other

**Table 1.** Demographic Data of Sample.

	<i>n</i> (%)
The bereaved participant's sex	
Female	179 (34.5)
Male	337 (64.9)
No response	3 (0.6)
The bereaved participant's race/ethnicity	
Asian	131 (25.2)
American Indian or Alaska Native	39 (7.5)
Black or African American	48 (9.2)
Hispanic/Latino	21 (4.0)
White or Caucasian	270 (52.0)
Mixed/biracial/multiracial	4 (0.8)
Prefer not to say	4 (0.8)
No response	2 (0.4)
The deceased's relation to the bereaved	
Spouse/partner	28 (5.4)
Parent	76 (14.6)
Grandparent	150 (28.9)
Child	4 (0.8)
Sibling	13 (2.5)
Aunt or uncle	48 (9.2)
Cousin	53 (10.2)
Niece or nephew	7 (1.3)
Friend	127 (24.5)
Other	2 (0.4)
No response	2 (0.4)
The deceased's sex	
Female	189 (36.4)
Male	325 (62.6)
Nonbinary	1 (0.2)
No response	4 (0.8)
Cause of death	
Natural causes (e.g., old age)	90 (17.3)
Cancer	26 (5.0)
Heart disease or heart failure/attack	41 (7.9)
COVID-19	291 (56.1)
Chronic lower respiratory diseases (e.g., COPD, emphysema, or chronic bronchitis)	11 (2.1)
Dementia	4 (0.8)
Alzheimer's disease	3 (0.6)
Accidents (unintentional injuries)	9 (1.7)

*(continued)*

**Table I.** (continued)

	n (%)
Stroke (cerebrovascular diseases)	3 (0.6)
Diabetes	10 (1.9)
Natural disaster	13 (2.5)
Manmade disaster	4 (0.8)
Suicide	10 (1.9)
Other (kidney failure and liver failure)	2 (0.4)
No response	2 (0.4)

*N* = 519.

reasons. Those, who reported not being able to say goodbye to the deceased in person, completed a follow-up question asking whether they were able to say goodbye virtually (e.g., videoconferencing, Zoom, Facetime, etc.).

### *Attendance of Funeral or Memorial Service*

Participants were asked whether they had a chance to say goodbye to the deceased during a formal, in-person funeral or memorial service physically or virtually. The individuals, who reported no formal, in-person funeral or memorial service for the deceased, were prompted to complete a follow-up question asking whether they had a chance to attend a virtual funeral or memorial service for the deceased.

### *Complicated Grief*

The 19-item Inventory of Complicated Grief (ICG; [Prigerson et al., 1995](#)) was developed to measure maladaptive symptoms of loss that are distinct from normal grief and bereavement-related depression and anxiety ([Carmassi et al., 2014](#); [Prigerson et al., 1996](#)). It is a widely used instrument to measure complicated grief in research. Participants reported their feelings, thoughts, and behaviors toward the loss (e.g., pre-occupation with thoughts of the deceased, searching and yearning for the deceased, disbelief about the death, being stunned by the death, and not accepting the death) on a 5-point Likert scale, ranging from 1 (*never*) to 5 (*always*). A mean scale score was calculated, with higher scores representing higher levels of complicated grief. Evidence of reliability and validity of the ICG has been documented in the literature (e.g., [Carmassi et al., 2014](#); [Prigerson et al., 1995](#)). The internal consistency alpha of this scale was .92 in this study.

## Psychological Distress

The 10-item Kessler Psychological Distress Scale (K10; [Kessler et al., 2002](#)), which is a widely used self-report measure of psychological distress, was used to assess emotional distress experienced by the participants in this study. Participants responded to questions about anxiety and depressive symptoms (e.g., restless or fidgety, helpless, nervous) that they have experienced within the past 30 days on a 5-point scale, ranging from 1 (*none of the time*) to 5 (*all of the time*). A mean scale score was calculated to obtain a global level of psychological distress, with higher scores representing higher levels of distress. Strong psychometric properties of the K10, including its ability to discriminate clinical cases from non-cases, have been reported (e.g., [Anderson et al., 2013](#); [Kessler et al., 2002](#)). This scale attained a high internal consistency alpha (.91) in this study.

## Procedure

The research procedure was approved by the author's university institutional review board. Participants were recruited via Amazon Mechanical Turk (MTurk), an internet survey recruitment tool. The study was posted on MTurk as an online survey and was made available to adults within the U.S. who had lost a family member or a friend since January 2020. Informed consent was presented first, followed by demographic questions and each measure. Participants were informed at the outset of this study that their participation was totally voluntary, and that they could discontinue or withdraw at any time for any reason. Data collected started in May 2021 and completed in June 2021 in two batches. The author posted each batch at varied hours of the day and week to allow greater variance among eligible participants. Participants were awarded \$1 for their survey completion. In addition, participants were given an opportunity to enter a drawing for one of ten \$30 gift cards. Initially, 566 individuals participated in our online survey. Forty-seven individuals were removed due to incomplete data, resulting in a sample of 519 completers in the data analysis.

## Results

### *Descriptive and Preliminary Data*

The deceased's age was negatively associated with the participant's complicated grief ( $r[506] = -.09, p = .038$ ) and psychological distress ( $r[506] = -.12, p = .006$ ), with a small effect. The deceased's gender, cause of death, and time since death were not associated with complicated grief or distress. Level of closeness with the deceased was moderately associated with complicated grief ( $r[518] = .56, p < .001$ ) and psychological distress ( $r[518] = .35, p < .001$ ). Participant's age was negatively associated with psychological distress,  $r(518) = -.10, p = .029$ . Complicated grief was positively associated with psychological distress with a medium effect,  $r(518) = .66, p < .001$ .



### *Say Goodbye Before the Deceased's Death*

Only a small percentage ( $n = 74$ , 14%) of the participants were able to say goodbye to the deceased in person before their death; the majority were unable to do so due to physical distancing and other COVID-related restrictions ( $n = 320$ , 62%) or non-COVID-related factors ( $n = 125$ , 24%). Among those who were unable to say goodbye to the deceased in person before their death, slightly more than half ( $n = 280$ ) were able to say goodbye to the deceased virtually.

ANCOVA analyses were conducted to examine the relationship between saying goodbye and psychological distress and complicated grief, while controlling for the participant's age, gender, relation to the deceased, closeness to the deceased and the deceased's age, cause of death, and time since death. I dummy coded not being able to say goodbye in person regardless of the circumstance (whether it was due to COVID-related restrictions or non-COVID-related factors) as 0; and being able to say goodbye in person as 1. Being able to say in-person goodbye to the deceased before their death was not associated with the degree of complicated grief,  $F(1, 474) = 0.02, p = .888$ . The results also did not report a statistically significant difference on psychological distress between the participants who were able ( $M = 3.17, SD = 0.76$ ) and those who were unable ( $M = 3.31, SD = 0.80$ ) to say in-person goodbye to the deceased before their death ( $F[1, 474] = 3.22, p = .073$ ); however, a medium effect was found ( $\eta^2 = 0.07$ ).

While not being able to say goodbye to the deceased in person before their death, being able to say goodbye to the deceased virtually before their death (0 = unable to; 1 = able to) was associated with higher levels of complicated grief ( $F[1, 409] = 19.02, p < .001, \eta^2 = 0.05$ ) and psychological distress ( $F[1, 409] = 26.52, p < .001, \eta^2 = 0.06$ ), with a small to medium effect.

### *Attendance of a Funeral or Memorial Service*

About one-third of the participants ( $n = 169$ , 33%) reported that there was no formal, in-person funeral or memorial service for the deceased. Forty percent ( $n = 210$ ) of the participants indicated that there was a formal, in-person funeral or memorial service for the deceased but they did not attend physically or virtually. About a quarter of the participants attended a formal, in-person funeral or memorial service either physically ( $n = 102$ , 20%) or virtually ( $n = 38$ , 7%). Among those 169 participants who reported no formal, in-person funeral or memorial service arranged for the deceased, the majority ( $n = 123$ ) reported that there was no virtual funeral or memorial service for the deceased either. Eleven participants attended a virtual funeral or memorial service for the deceased, while 35 participants were unable to attend despite the availability of a virtual service.

ANCOVA analyses were conducted to examine the association between attendance of a formal, in-person funeral or memorial service and complicated grief, as well as its association with psychological distress. Participant's age, gender, relation to the deceased, closeness to the deceased and the deceased's age, cause of death, and time since

death were controlled in these analyses. For the purpose of this study, three groups were compared: 1) no formal, in-person funeral or memorial service or unable to attend despite the availability of a formal, in-person memorial service, 2) virtually attended a formal, in-person funeral or memorial service, and 3) physically attended a formal, in-person funeral or memorial service. The results found no significant relationship between attendance of a formal, in-person funeral or memorial service and the level of complicated grief,  $F(2, 473) = 0.20, p = .819$ . However, attendance of a formal, in-person funeral or memorial service was associated with the level of psychological distress,  $F(2, 473) = 5.31, p = .005$ . Bonferroni post-hoc analyses showed that those who physically attended a formal, in-person funeral or memorial service reported lower levels of psychological distress ( $M = 3.13, SD = 0.86$ ) than their counterparts who were unable to physically or virtually attend a formal, in-person funeral or memorial service for the deceased ( $M = 3.36, SD = 0.76$ ) ( $p = .028$ ).

Another ANCOVA was conducted to examine whether attending a virtual funeral or memorial service for the deceased was associated with experiences of complicated grief and psychological distress when a formal, in-person funeral or memorial service for the deceased was unavailable. Attendance of a virtual funeral or memorial service was dummy coded into two groups ( $0$  = no virtual funeral or memorial service for the deceased or unable to attend despite its availability;  $1$  = attended a virtual funeral or memorial service for the deceased). The bereaved individuals who were able to attend a virtual funeral or memorial service for the deceased reported lower levels of psychological distress ( $M = 2.73, SD = 1.05$ ) than their counterparts who did not attend a virtual funeral or memorial service for the deceased ( $M = 3.35, SD = 0.80$ ) with a small to medium effect,  $F(1, 155) = 7.76, p = .006, \eta^2 = 0.05$ . The difference on complicated grief between the participants who attended ( $M = 3.13, SD = 0.93$ ) and those who did not attend ( $M = 3.45, SD = 0.66$ ) a virtual funeral or memorial service for the deceased was also significant with a small to medium effect,  $F(1, 155) = 7.84, p = .006, \eta^2 = 0.05$ .

## Discussion

The aim of this study was to increase our understanding of grieving experiences during the unprecedented COVID-19 pandemic. Particularly, this study addressed the lack of research on the format of saying goodbye to a family member or friend who died or is dying while many COVID-19-related restrictions (e.g., lockdowns, physical/social distancing) were in place. Consistent with the literature (e.g., van Denderen et al., 2016), this study found closer the relationship with the deceased the greater complicated grief and psychological distress in the bereaved individuals. As expected, psychological distress was positively associated with complicated grief among the bereaved (Sawyer & Brewster, 2019).

The results revealed that the pandemic significantly interrupted the grief process. The vast majority of the participants were unable to say goodbye to their dying family member or friend in person due to many COVID-related restrictions. Nonetheless, half of those who were unable to say goodbye in person were able to say goodbye virtually

as an alternative. The hypothesis regarding the relation between saying goodbye to the deceased prior to their death and psychological distress and complicated grief was partially supported. In this study, being able to say goodbye to a dying family member or friend in person was not related to complicated grief. Although this study did not have enough data to estimate it with sufficient precision, not saying goodbye in person might have a relevant effect on psychological distress as a medium effect size was noted (Smith, 2020). Not being able to touch, embrace, kiss, and gaze directly into the eyes of the dying family member or friend takes away the opportunity to connect and communicate compassion, gratitude, and love directly (HelpGuide, n.d.). This could potentially lead to frustration and distress.

Interestingly, saying goodbye virtually was associated with higher levels of psychological distress and complicated grief among those who were unable to say goodbye to a dying family member or friend in person. It is possible that seeing and hearing the dying family member or friend virtually via video or phone may intensify the feelings of sorrow, regret, resentment, and guilt derived from not being able to be present physically to provide comfort and support to them. Research has suggested that disappointment in one's capacity to comfort the deceased may increase the risk for developing complicated grief (Shear, 2012). In some cases, dying family members or friends have neurodegenerative disorders (e.g., dementia) or may be unconscious or sedated with a ventilator tube in their airway, making it difficult or impossible to communicate via video feed or phone chat (Hixenbaugh & Solon, 2020). This complicates the process of saying goodbye in a meaningful way which can lead to distress and rumination of incomplete, unexpressed, or unresolved relational issues with the deceased, increasing the risk for prolonged and intense grief reactions (Klingspon et al., 2015).

Formal, in-person funerals or memorial services were often absent during the first year and a half of the COVID-19 pandemic due to restrictive measures and protocols. The author's hypothesis regarding the impact of attending a formal, in-person funeral or memorial service for the deceased on complicated grief and psychological distress was partially supported. In this study, not being able to attend an in-person funeral or memorial service was not found to be associated with complicated grief. However, as hypothesized, being able to physically attend a formal, in-person funeral or memorial service was found to be associated with lower levels of psychological distress in this study. Many people were unable to publicly express their emotions, pay their last tribute to the deceased, and share the experience with other mourners through cultural traditions and rituals in a shared space, which could lead to distress and interrupt their grieving process.

When a formal, in-person funeral or memorial service was unavailable, attending a virtual funeral or memorial service appeared to alleviate some psychological distress and complicated grief among the bereaved individuals. Although unlike in-person funerals or memorial services where mourners can provide comfort and support to each other through embraces, hugs, and other physical connections; attending a virtual funeral or memorial service provides a practical alternative for the bereaved persons to

have an opportunity to commemorate the deceased and express their loss (Dilmic, 2018; Muturi et al., 2020). Burrell and Selman (2020) suggested that the type of funeral practice may not necessarily affect the bereaved individuals' grief experiences and mental health outcomes, and what matters is whether it is conducted in a meaningful way for the bereaved and whether they feel supported.

### *Limitations*

There are several limitations that should be considered when interpreting the findings of this study. One is the sample was restricted to the MTurk population that had access to computer and internet connection at the times when the study survey was posted. Although online data collection services, such as MTurk, have been widely used to collect human subject data in psychological research, they pose inherent limitations (Chandler et al., 2019). The self-selected MTurk users may have some different characteristics from the general US population as they tend to be more educated, younger, less religious, and more likely to be unemployed (Goodman et al., 2013; Litman, n.d.). In addition, they may have been exposed to common experimental manipulations, which could potentially affect effect sizes of a research study (Chandler et al., 2014). Nonetheless, a recent study suggested that MTurk users generally provide high-quality data and their psychological characteristics are reasonably representative of the general population, although they may exhibit slightly higher negative affect and lower social engagement (McCredie & Morey, 2019).

Unlike much of the extant bereavement literature that involves predominantly White women in the sample, there were more male participants in this study. Black, Hispanic, and biracial/multiracial participants were underrepresented in the sample of this study. Therefore, the findings of this study may not be able to generalize to people of color. In addition, the results cannot be generalized to outside the United States as different countries and cultures have their unique expectations, practices, and rituals towards death.

Research has identified many person-related factors (e.g., history of trauma or loss, anxiety, mood disorder, insecure attachment style) that predispose individuals for developing complicated grief (Shear, 2012). However, these predisposing risk factors were not examined in this study. Further research needs to examine how individual dispositions may interact with the format of saying goodbye in impacting the bereaved persons' adjustment to the death of a family member or close friend and coping with grief, especially in the context of a pandemic. Other individual circumstantial factors, such as experiences with medical care for the deceased and perception of one's capacity to comfort the dying family member or friend (Shear, 2012), were not explicitly measured in this study. In addition, social situations surrounding the loss (e.g., social support), which could potentially affect the grief process, were not examined. These factors need to be included in future investigation. Lastly, qualitative studies are needed to provide a deeper and richer understanding of the differential experiences of saying in-person and virtual goodbyes in order to examine the mechanisms in which they

impact psychological distress and complicated grief process. With the assistance of advanced technology, virtual goodbye can provide a helpful, convenient alternative for the bereaved to have an opportunity to express their feelings and affirm their experiences with the deceased. Further research may examine the specific design and elements of virtual goodbye that are effective in creating a healing space for the bereaved.

## Conclusion

Overall, the findings suggest the format of saying goodbye during the COVID-19 pandemic has an intricate relationship with the bereaved individuals' experiences of distress and complicated grief. With many public health restrictions preventing in-person contact and communication with the deceased prior to or at the time of their death, virtual communication via video livestreaming or phone becomes a practical alternative. However, saying virtual goodbye to a dying family member or friend can arouse, rather than alleviate, more intense psychological distress. iPads and other electronic devices simply cannot substitute physical presence, touch, and other intimate human connections in direct contact. Formal, in-person funerals and memorial services provide a structure for grieving through traditions and rituals. They provide an opportunity to publicly acknowledge the loss of the bereaved, allow the bereaved to pay their last respects and say their last farewell to the deceased, and create a space for social support among mourners. While less desirable than in-person format, virtual funerals or memorial services can be a helpful alternative for the bereaved to have an opportunity to pay their last tribute in a shared virtual space with other attendees during the pandemic, reducing the risk for psychological distress and complicated grief.

Regardless the format of saying goodbye, it is essential to make sure the arrangement is meaningful to the bereaved and they feel supported through the process (Burrell & Selman, 2020). Frydman and colleagues (2020) provided a structured approach to saying goodbye on video, which can serve as a tool for health and social care professionals to facilitate meaningful end-of-life conversations between the dying patients and their family members and friends. When planning virtual funerals or memorial services, steps should be taken to ensure they are immersive as possible and incorporate most of the main elements as would be expected in a traditional service based on one's culture (Prior, 2020).

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