



# Caregivers' Self-Compassion and Bereaved Children's Adjustment: Testing Caregivers' Mental Health and Parenting as Mediators

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## Abstract

**Objectives** Self-compassion, which involves mindfulness, self-kindness, and common humanity, has been found to be related to individuals' mental health. Few studies have examined caregivers' self-compassion in relation to parenting behaviors and child adjustment in addition to its relation to their own mental health. In the current study we examined caregivers' self-compassion as a protective factor related to parentally bereaved children's internalizing and externalizing problems and further tested whether these relations were mediated by caregivers' mental health (complicated grief and psychological distress) and parenting.

**Methods** The sample consisted of 74 caregivers (female = 78.4%) who participated in a larger study designed for bereaved families. At T1 (baseline) and T2 (20 weeks later), caregivers completed measures on demographic information, self-compassion, complicated grief, parental warmth, and consistent discipline, as well as child internalizing and externalizing problems.

**Results** Findings supported that caregivers' self-compassion was prospectively related to decreased internalizing and externalizing problems in bereaved children. Mediation analyses showed that the effect of self-compassion on externalizing problems was mediated by parental warmth and by consistent discipline. In addition, caregivers' self-compassion was prospectively associated with decreased complicated grief and psychological distress of the caregiver.

**Conclusions** These findings add to the knowledge on the benefits of self-compassion for bereaved families and suggest that caregivers' self-compassion intervention may be a leveraging point to protect both bereaved caregivers from complicated grief and distress but also to strengthen parenting which leads to bereaved children's adjustment.

**Keywords** Self-compassion · Parenting · Grief · Internalizing problem · Externalizing problem

The United Nations International Children's Emergency Fund (UNICEF) has estimated that 140 million children under the age of 18 have experienced the death of at least one parent worldwide (UNICEF, 2020). In the USA, it is estimated that 2.48 million youth (3.47%) experienced the death of a parent, using national vital statistics data from the years of 2013–2017 (Burns et al., 2020). Furthermore, the COVID-19 pandemic has left more children parentally

bereaved, with estimates showing a 17.5 to 20.2% increase in parental death rates due to the COVID-19 compared to pre-pandemic (Kidman et al., 2021). Parental death during childhood confers risks for multiple short- and long-term mental and physical health problems, as well as social problems, including depression, anxiety, conduct disorder, low self-esteem, social withdrawal, and alcohol and substance abuse (Brent et al., 2009; Dowdney, 2000; Hamdan et al., 2012; Kaplow et al., 2010; Worden & Silverman, 1996).

Although parental death elevates risk, not all parentally bereaved children experience significant problems (Melhem et al., 2011). Research on risk or protective factors can help identify subgroups who may be more or less likely to show problem outcomes and also help reveal potential intervention targets for preventing problem outcomes in at-risk children (Insel & Gogtay, 2014). For example, a growing literature shows that parenting practices predict parentally bereaved children's adjustment (Haine et al., 2006; Howell

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et al., 2016; Kwok et al., 2005; Lin et al., 2004; Saldinger et al., 2004; Schoenfelder et al., 2011; Tein et al., 2006). In addition, some evidence suggests that caregivers' mental health problems, such as depression (Cerel et al., 2006) and psychological distress (Kwok et al., 2005), are related to bereaved children's mental health problems. Jiao et al.'s (2020) conceptual framework of widowed families recognized that bereaved parents face multiple challenges in providing an environment for the healthy development of their bereaved child while dealing with their grief and multiple stressors after the loss. This framework highlights the role that parent-child relationships play in children's bereavement outcomes and the interdependence of parent's and children's adjustment.

Caregivers' self-compassion may have important implications for parent-child relationships and for both the children's and caregivers' bereavement outcomes. Neff (2003a) proposed that self-compassion is a dynamic balance between three intertwined aspects: mindfulness (versus overidentification), self-kindness (versus self-judgment), and common humanity (versus isolation). Specifically, mindfulness refers to the nonjudgmental awareness and acceptance of one's negative experience, whereas overidentification refers to the state of being "fused" with one's negative experience which can cause avoidance or rumination. Self-kindness involves the caring and responding attitude toward oneself in the face of negative experiences, whereas self-judgment involves criticizing oneself for having flaws or making mistakes. Common humanity points to the understanding that all humans encounter difficulties in life and that one is not alone in their suffering, whereas isolation gives rise to feelings of disconnectedness and loneliness (Neff, 2003a). Self-compassion has been found to be a protective factor in stressful situations (Leary et al., 2007) and a malleable trait that can be cultivated and strengthened through training and practices (e.g., Mindful Self-Compassion program, Neff & Germer, 2013; Compassion Cultivation Training program, Jazaieri et al., 2013).

The death of a close family member can lead to a wide range of mental health problems including psychological distress, depression, anxiety, and trauma symptoms (Currier et al., 2008; Stroebe et al., 2007), and these problems may be associated with low self-compassion. Indeed, studies with non-bereaved individuals showed that self-compassion was associated with lower psychological distress, such as depression, anxiety, and stress in adults, with moderate-to-large effect sizes (MacBeth & Gumley, 2012). A meta-analysis of 27 randomized, controlled trials of group or individual-based self-compassion interventions found improvements in a range of psychological benefits, including reduced stress, depression, and anxiety, negative affect, self-criticism, and rumination, and increased self-compassion and dispositional mindfulness (Ferrari et al., 2019).

In addition to psychological distress, complicated grief is a unique bereavement outcome that may be related to low self-compassion. While grief reactions tend to abate over time, about 10% of bereaved adults experience complicated grief — a range of significant emotional and behavioral impairments that either worsen or persist over a prolonged period of time (Shear et al., 2011). Normal grief and complicated grief differ by their severity and persistence over time (Holland et al., 2009). Research has shown that complicated grief is distinguishable from other bereavement-related distress symptoms, such as depression and anxiety (Prigerson, Frnk, et al., 1995a). There are theoretical reasons why self-compassion may be related to low complicated grief or psychological distress after loss. Wada and Park (2009) discussed how self-compassion may mitigate self-pity or self-criticism that interferes with psychological adjustment to loss. Self-compassion may also relate to adaptive emotion regulation that facilitates adaptive grief, leading to reduced psychological distress and complicated grief (Maccallum & Bryant, 2013). In particular, self-compassion has been found to be as effective as other adaptive emotion regulation strategies (i.e., cognitive appraisal and acceptance) to reduce depressed mood among people with major depressive disorder (Diedrich et al., 2014). Thus, self-compassionate people tend to use adaptive rather than maladaptive emotion regulation strategies that could worsen their distress or grief such as rumination (Eisma et al., 2014). Only one prior study (Lenferink et al., 2017) has examined the relation between self-compassion and mental health outcomes among individuals who experienced loss, and found that self-compassion was concurrently related to lower posttraumatic stress symptoms, depression, and complicated grief in a sample of family members of missing persons.

Both psychological distress and complicated grief of caregivers may be associated with children's mental health problems in bereaved families. There is considerable evidence that parents' mental health problems are associated with child's internalizing and externalizing problems (e.g., Connell & Goodman, 2002; Xerxa et al., 2021). Although no prior studies have investigated the relation between caregivers' grief and child's adjustment, theoretically, caregivers' complicated grief could increase child's internalizing and externalizing problems. A caregiver's complicated grief could affect the child's emotion regulation — the processes of "initiating, maintaining, and modulating the occurrence, intensity, and expression of emotions" (Morris et al., 2007, p. 3). Negative emotion dynamics between the caregiver and the child can impact the normal development of emotion regulation of the child through behavioral and physiological synchrony processes during caregiver-child interactions, leading to internalizing and externalizing problems (Eisenberg et al., 2001; Morris et al., 2014). Moreover, a caregiver with complicated grief may engage in non-supportive

parenting in the emotion domain, which hinders the socialization of the child's emotions, leading to internalizing and externalizing problems (Eisenberg et al., 1998).

Finally, self-compassion may be related to parenting which in turn is related to child adjustment in bereaved families. A number of studies have found that self-compassion is associated with effective parenting (Gouveia et al., 2016; Nemati et al., 2020). Illustratively, Psychogiou et al. (2016) found that mothers with higher self-compassion used less critical comments when describing their preschoolers, and fathers reported less distress and more supportive reactions to their preschoolers who displayed negative emotions. They also found that parental self-compassion was negatively associated with preschoolers' internalizing and externalizing problems, but the associations became non-significant after controlling for the effects of covariates. Theoretically, there are several aspects of self-compassion that may lead to more effective parenting. Self-compassion involves nonjudgmental awareness of negative thoughts and emotions and a sense of empathy (Neff & Germer, 2013), which can enable the caregiver to pay attention and respond to their own and their child's stress or distress. As a result, it facilitates sensitive, responsive, and positive parenting and decrease harsh, withdrawal, or inconsistent parenting behaviors, which are at least in part due to poor self-regulation (Crandall et al., 2015; Sanders et al., 2019). Self-compassion also emphasizes acceptance of one's flaws and inadequacies, which relates to self-efficacy. Self-criticism has been found to be negatively associated with goal-driven behaviors, mediated by low self-efficacy (Power et al., 2012). Thus, self-compassion may enhance self-efficacy and goal-driven pursuit that facilitate effective parenting (Coleman & Karraker, 1998).

The current study examines the prospective relations between caregivers' self-compassion and bereaved children's internalizing and externalizing problems, and further tests whether the relations were mediated by hypothesized mediators while controlling for the stability of mediators over time as well as possible confounders. Data is drawn from a two-wave secondary dataset from a study designed to evaluate an intervention known as the Resilient Parenting for Bereaved Families. We hypothesized that caregivers' self-compassion

at baseline (T1) would be associated with lower child internalizing and externalizing problems 20 weeks later (T2). As shown in Fig. 1, we hypothesized that caregivers' T1 self-compassion would be associated with four plausible T2 mediators — lower complicated grief, lower psychological distress, higher parental warmth, and higher consistent discipline — which in turn would be associated with lower child internalizing and externalizing problems at T2.

## Method

### Participants

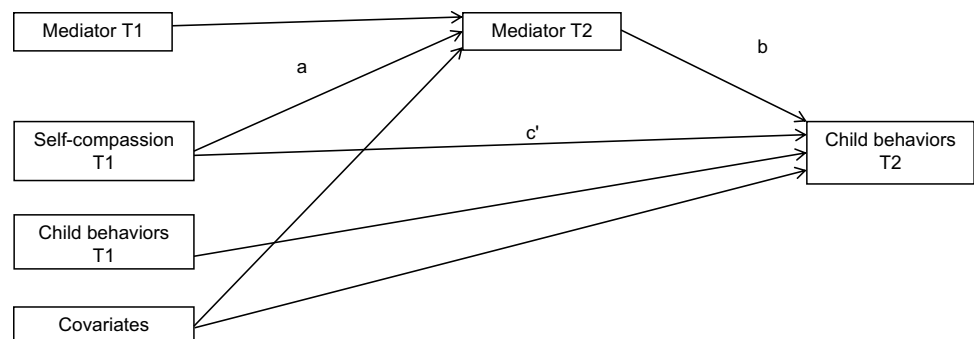
A total of 74 caregivers (female = 78.4%) participated in the study. They were on average 43.8 years ( $SD = 7.95$ , range 26–65) and primarily non-Hispanic (82.4%) and White (64.9%), with 21% being African American, 4.1% Asian American, 2.7% multi-races, and 6.8% other races. Their education levels were high school (13.5%), some college (9.5%), diploma or certificate beyond high school (10.8%), associate degree (10.8%), Bachelor's degree (29.7%), Master's degree (21.6%), or doctorate degree (4.1%). Their children's age averaged 10.58 years old ( $SD = 3.67$ , range = 3–17) and half (52.7%) were female.

Relative to the bereaved child, the caregivers were as follows: parent (87.7%), adopted or stepparent (4.1%), grandparent (4.1%), other family relatives (4.1%). The deceased parent was their husband (45.9%), wife (14.9%), ex-husband (6.8%), ex-wife (2.7%), non-married partner (14.9%), or other family members (17.5%). The death occurred an average of 20.5 months prior to the study ( $SD = 16.4$ ; range = 3–80). The most frequent cause of death was illness (heart disease [21.6%], cancer [24.3%], and other types of illness [24.3%]), followed by accident (10.9%), homicide (8.1%), and suicide (9.5%).

### Procedures

Data were drawn from a project that evaluated a community-based program for bereaved families in which caregivers were recruited at four agencies serving bereaved families in

**Fig. 1** Hypothesized mediation model. *Note:* T1, baseline assessment; T2, about 20 weeks post-baseline



four states in the USA. Eligibility criteria were as follows: death occurred more than 3 months prior to the beginning of the study; caregiver had at least one child (<18 years) who was living at home; and caregiver could complete the assessments in English. During the study period, about 40% ( $n = 30$ ) of the sample received the services typically provided by the agency, whereas 60% ( $n = 44$ ) received a group-based program in addition to service-as-usual. Because the goal of the current study was not to examine the effects of the group-based intervention, service type was a covariate in the analyses. Caregivers completed surveys via phone interviews at baseline (T1) and posttest (20 weeks post-baseline; T2). For the larger project, participants answered a total of 180 to 243 questions (varied across intervention status and time point), and the median duration of interviews was 53 min. Compensation for their time was \$45 at each assessment. All participants' consent was obtained prior to the study. All study procedures were approved by the University Institutional Review Board.

## Measures

**Self-Compassion** The 12-item Self-Compassion Scale-Short Form (Raes et al., 2011) was used, which measures individuals' self-compassionate responses to their stressful experiences. The short form has been found to have the same factor structure as the original scale (Neff, 2003b), and its scores are strongly correlated with those on long form (Raes et al., 2011). The SCS consists of six subscales (three positive and three negative subscales): mindfulness (e.g., “when something painful happens I try to take a balanced view of the situation”) versus over-identification (e.g., “when I fail at something important to me I become consumed by feelings of inadequacy”), self-kindness (e.g., “I try to be understanding and be patient towards those aspects of my personality I don't like”) versus self-judgment (e.g., “I'm disapproving and judgmental about my own flaws and inadequacies”), and common humanity (e.g., “when I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people”) versus isolation (e.g., “when I'm feeling down, I tend to feel like most other people are probably happier than I am”). While there have been questions regarding the psychometrical properties of the SCS (e.g., Williams et al., 2014), the use of total scores of the short form as an overall measure of self-compassion is justified (see Neff, 2016). Thus, total scores were calculated by reverse coding the negative subscales and then averaging the item scores. Higher total scores indicate more balanced responses characterized by higher mindfulness, self-kindness, and common humanity and lower over-identification, self-judgment, and isolation. Cronbach's  $\alpha$  was 0.87 in this sample, which is comparable to previous studies ( $\alpha = .86$  and  $\alpha = .87$  for English and Dutch samples; Raes et al., 2011).

Moreover, because the SCS consists of half positive and half negative responses, we also calculated two scores by averaging the positive items (6 items,  $\alpha = .75$ ) and the negative items (6 items,  $\alpha = .84$ ), respectively, to distinguish self-compassionate responses and lack of it. The correlation between the positive and negative response scores is  $-.58$  ( $p < .001$ ) in the current sample.

**Complicated Grief** The 19-item Inventory of Complicated Grief (ICG; Prigerson, Maciejewski, et al., 1995b) was used. Respondents rated their feelings over the past month on a 5-point scale (1 = almost never or not at all in the past month; 5 = always or several times a day). An example item is “you think about [deceased name] so much that it's hard for you to do things you normally do”. The scale has demonstrated good validity (Prigerson, Maciejewski, et al., 1995b). Cronbach's  $\alpha$ s for the current study were 0.89/0.90 at T1/T2, which are comparable to Cronbach's  $\alpha$  from the original study ( $\alpha = .94$ ; Prigerson, Maciejewski, et al., 1995b). Although complicated grief was used as a continuous variable in this study, the majority of the sample (95.9% at T1 and 91.4% at T2) scored above the clinical cutoff of the ICG ( $> 25$ ; Prigerson, Maciejewski, et al., 1995b), indicating impairments in social, mental health, and physical health domains.

**Psychological Distress** The Demoralization Scale of the Psychiatric Epidemiology Research Interview (PERI-D; Dohrenwend et al., 1980) was used, which asks about a range of symptoms over the past month including physiological symptoms, sadness, dread, self-esteem, anxiety, confused thinking, helplessness, and hopelessness. Research has demonstrated its validity (Roberts & Vernon, 1981). The scale had a total of 25 items after dropping two items that had low correlations with the overall scale and used time frames other than the past month (e.g., “how often in your life have you acted like a coward”). Items were rated on a 5-point scale ranging from 1 (never or strongly disagree) to 5 (very often or strongly agree). Higher scores indicate higher levels of distress. Cronbach's  $\alpha$  was 0.91 for both T1 and T2, consistent with other studies that have used the PERI-D in community samples (e.g., 0.86, Burnam et al., 1984).

**Parenting** Parental warmth and consistent discipline were assessed using the caregiver version of the Children's Report of Parental Behavior Inventory (Schaefer, 1965). Caregivers rated items that describe parenting behaviors during the previous month on a 3-point scale ranging from 1 (like you) to 3 (not like you). The scale has been used to assess quality of parenting in parentally bereaved families (Kwok et al., 2005; Acceptance  $\alpha = .91$ , Rejection  $\alpha = .87$ , and Inconsistent Discipline  $\alpha = .86$ ) and has demonstrated good validity (Wolchik et al., 2000). For parental warmth, the Acceptance (16 items,

e.g., “you were not interested in changing [child’s name] but liked him/her the way he/she was”) and the Rejection (16 items, e.g., “you made [child’s name] feel he/she was not loved”) subscales were used. Cronbach’s  $\alpha$ s at T1/T2 were 0.74/0.82 for Acceptance and 0.78/0.69 for Rejection. The two subscales were moderately correlated ( $r = -.48/- .47$  at T1/T2,  $ps < .05$ ) and were combined such that higher scores indicated higher acceptance and lower rejection. Cronbach’s  $\alpha$ s for the combined scale were 0.84/0.85 at T1/T2. For consistent discipline, the Inconsistent Discipline subscale (8 items, e.g., “You punished [child’s name] for doing something one day but you ignored it the next day”) was used. Higher scores indicated higher consistent discipline. Cronbach’s  $\alpha$  was 0.79 at both T1 and T2.

**Children’s Internalizing and Externalizing Problems** The two subscales of the Brief Problem Monitor scale (Achenbach et al., 2011) were used, which included items from the Children’s Behavior Checklist, which has good validity (Achenbach et al., 2011). Items were rated on a 3-point scale ranging from 1 (Not true) to 3 (Very true). Cronbach’s  $\alpha$ s for the current study were 0.81 at T1/T2 for internalizing problems and 0.83/0.75 at T1/T2 for externalizing problem, which are consistent with Cronbach’s  $\alpha$ s for internalizing ( $\alpha = .80$ ) and externalizing problems ( $\alpha = .88$ ) in the original study (Achenbach et al., 2011). T-scores adjusting for child age and gender were used in the analyses.

**Covariates** Gender, sex, type of death, and education have been studied in relation to health outcomes of spousally bereaved adults (see Stroebe et al., 2007). In bereaved children, worse mental health problems have been found in younger children (Berg et al., 2016), those whose parent died from external causes (i.e., accidents, homicide or suicide) (Appel et al., 2013; Berg et al., 2016), and those who experienced more recent parental death (Brent et al., 2009). Thus, the following covariates were included in the analyses: (1) caregiver’s education; (2) caregiver’s gender; (3) child age; (4) child gender; (5) time since death (in months); (6) sudden death (homicide, suicide, or accident = 1, illness = 0); and (7) service type (0 = service-as-usual; 1 = group-based program plus service-as-usual).

## Data Analyses

All data are available at the Open Science Framework (<https://osf.io/n5sm3/>). Screening of normality of data distribution for mediators and dependent variables found that skewness and kurtosis were all in the acceptable range. Missing data was equal to or less than 5.4% on all variables except for externalizing problems at T2 ( $n = 5$ ; 6.8%). Little’s MCAR test showed that the assumption of missingness completely at random was not rejected ( $p > .05$ ). Missing data

was handled in the path analyses with Full Information Maximum Likelihood in Mplus 8 (Muthén & Muthén, 2017). A series of Box’s M Tests (Box, 1949) showed that the multiple variance-covariance matrices were homogeneous across the two groups of caregivers who received different services ( $ps > .05$ ), indicating that the associations of the studied variables were consistent across the two groups.

For hypotheses testing, regression models were first applied to examine the direct relations of self-compassion (T1) to child internalizing (T2) and externalizing problems (T2), separately, controlling for the stability of the outcome variable in each model as well as covariates, with separate models, using the self-compassion total scores, the SCS positive items’ scores, and the negative items’ scores. Next, mediation models were computed separately for each mediator and dependent variable. Specifically, each mediation model included a T2 mediator (complicated grief, psychological distress, parental warmth, or consistent discipline) and a T2 dependent variable (internalizing problems or externalizing problems), while controlling for the stability of the mediator and dependent variable, as well as the effects of covariates on both the mediator and the dependent variable. Similar to the regression models in the first step, separate models were computed by using the self-compassion total scores, positive items’ scores, and negative items’ scores. In each mediation model, the a path (independent variable  $\rightarrow$  mediator), b path (mediator  $\rightarrow$  dependent variable), and c’ path (independent variable  $\rightarrow$  dependent variable after controlling for mediation effect) were estimated. If both a and b paths were statistically significant ( $\alpha = .05$ ), bias-corrected bootstrapped 95% confidence intervals (CIs) for the indirect (mediation) effect ( $a*b$ ) were computed (MacKinnon et al., 2002) based on 5000 bootstrap resamples. Mediation effects were considered statistically significant if the CIs did not include zero. The bootstrapped method has better power than several other methods to detect mediation effects (MacKinnon et al., 2002). All models were estimated using the maximum likelihood estimator in Mplus 8 (Muthén & Muthén, 2017). Model fit indices were evaluated using recommended criteria (McDonald & Ho, 2002), including chi-square ratio (below 2.0), comparative fit index (CFI; above 0.95), standardized root-mean-square residual (SRMR; below .08), and root-mean-square error of approximation (RMSEA; below .06).

## Results

Descriptive statistics and inter-correlations among the key study variables were computed (Table 1). Caregivers’ self-compassion was moderately to strongly correlated with their own complicated grief, psychological distress, child’s externalizing problems, and parental warmth and consistent

discipline. Caregivers' psychological distress, but not complicated grief, was significantly moderately correlated with child's internalizing or externalizing problems. Parental warmth was weakly correlated with consistent discipline. Parental warmth was moderately to strongly correlated with externalizing problems and discipline was weakly correlated with externalizing problems. Each model reported below was also re-computed with only service type as a covariate without other covariates, and the findings remained consistent.

### Associations between Caregivers' Self-Compassion and Child's Outcomes

After controlling for T1 internalizing problems and covariates, results from regression models showed a negative association of T1 SCS-SF total scores with T2 internalizing problems ( $b$  [unstandardized coefficient] =  $-2.167$ ,  $SE = 0.893$ , 95% CIs =  $[-3.918, -0.416]$ ,  $p < .05$ ;  $\beta$  [standardized coefficient] =  $-.229$ ). Similarly, results supported an association between T1 SCS-SF positive items' scores to T2 internalizing problems ( $b = -1.882$ ,  $SE = 0.942$ , 95% CIs =  $[-3.728, -0.035]$ ,  $p < .05$ ,  $\beta = -.192$ ), and an association between T1 SCS-SF negative items' scores to T2 internalizing problems ( $b = 1.582$ ,  $SE = 0.708$ , 95% CIs =  $[0.195, 2.969]$ ,  $p < .05$ ,  $\beta = .215$ ). No covariates were associated with internalizing problems.

After controlling for T1 externalizing problems and covariates, results from regression models showed a negative association of T1 SCS-SF total scores with T2 externalizing problems ( $b = -1.875$ ,  $SE = 0.950$ , 95% CIs =  $[-3.737, -0.012]$ ,  $p < .05$ ,  $\beta = -.214$ ). Results supported an association of T1 SCS-SF positive items' scores ( $b = -2.620$ ,  $SE = 0.944$ , 95% CIs =  $[-4.470, -0.770]$ ,  $p < .01$ ,  $\beta = -.287$ ), but not negative items' scores ( $b = 0.827$ ,  $SE = 0.778$ , 95% CIs =  $[-0.698, 2.352]$ ,  $p = .29$ ,  $\beta = .12$ ), with T2 externalizing problems at T2. Child age was significantly and positively associated with externalizing problems ( $\beta = .220 \sim .251$ ,  $ps < .05$ ).

### Complicated Grief, Psychological Distress, Warmth, and Discipline as Mediators

As shown in Table 2, multiple a and b paths within the hypothesized mediation model were supported. In terms of the a paths, caregivers' T1 SCS-SF total scores were significantly associated with complicated grief, psychological distress, warmth, and discipline at T2, in the expected directions. The small-to-moderate effects of caregivers' self-compassion on complicated grief and psychological distress were driven by the negative items of SCS-SF. The small-to-moderate effect of self-compassion on warmth was driven by the positive items of SCS-SF. And the effect of

self-compassion on consistent discipline was evident when using total scores, positive items' scores, and negative items' scores, showing larger effect when using the positive items' scores. Of note, the effect of T1 self-compassion on T2 complicated grief remained statistically significant when controlling for both T1 complicated grief and T1 psychological distress, indicating that the unique effect of self-compassion on complicated grief in bereaved caregivers was above and beyond the effect of psychological distress.

In terms of the b paths, after controlling to the corresponding T1 variable, the effects of warmth and consistent discipline on externalizing problems (but not internalizing problems) were both statistically significant, and the effects of warmth were larger than the effect of discipline.

Bias-corrected bootstrapped 95% CIs were calculated when statistically significant a and b paths were evident, showing that parental warmth significantly mediated the association between SCS-SF total scores and externalizing problems, 95% CIs =  $(-2.004, -0.136)$ , and the association between SCS-SF positive items scores and externalizing problems, 95% CIs =  $(-2.498, -0.184)$ . Consistent discipline also mediated the association between SCS-SF total scores and externalizing problems, 95% CIs =  $(-1.883, -0.040)$ , and the association between SCS-SF negative items' scores and externalizing problems, 95% CIs =  $(0.034, 1.389)$ .

### Post Hoc Analyses

Due to small sample size, each regression and mediation model, noted above, was estimated separately. A post hoc model was computed to test the contribution of each mediator when controlling for the other mediator's effects. This model included both T2 warmth and discipline as mediators and both T2 internalizing and externalizing problems as dependent variables. Results of this model showed that both warmth and discipline mediated the association between SCS-SF total scores and child's externalizing problems, bias-corrected bootstrapped 95% CIs =  $[-1.937, -0.115]$  for warmth and 95% CIs =  $[-1.824, -0.037]$  for discipline. However, these results should be cautiously considered given the insufficient statistical power.

### Discussion

This study provides evidence that caregivers' self-compassion is prospectively related to bereaved children's adjustment, and that this relation is mediated through parenting but not caregivers' mental health. The effects remained statistically significant after controlling for the effects of potential confounders.

**Table 1** Descriptive statistics and correlation matrix of study variables

| Variables                         | 1      | 2      | 3      | 4     | 5      | 6      | 7      | 8      | 9      | 10    | 11    | 12    | 13    | 14    | 15    |
|-----------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 1 SCS-SF total scores T1          | –      |        |        |       |        |        |        |        |        |       |       |       |       |       |       |
| 2 SCS-SF positive items scores T1 | .85**  | –      |        |       |        |        |        |        |        |       |       |       |       |       |       |
| 3 SCS-SF negative items scores T1 | -.92** | -.58** | –      |       |        |        |        |        |        |       |       |       |       |       |       |
| 4 Complicated grief T1            | -.35** | -.16   | .44**  | –     |        |        |        |        |        |       |       |       |       |       |       |
| 5 Complicated grief T2            | -.41** | -.16   | .51**  | .74** | –      |        |        |        |        |       |       |       |       |       |       |
| 6 Psychological distress T1       | -.60** | -.41** | .63**  | .59** | .49**  | –      |        |        |        |       |       |       |       |       |       |
| 7 Psychological distress T2       | -.58** | -.35** | .63**  | .52** | .66**  | .74**  | –      |        |        |       |       |       |       |       |       |
| 8 Warmth T1                       | .37**  | .28*   | -.36** | -.12  | -.09   | -.33** | -.25*  | –      |        |       |       |       |       |       |       |
| 9 Warmth T2                       | .37**  | .45**  | -.24*  | .01   | -.07   | -.17   | -.20   | .62**  | –      |       |       |       |       |       |       |
| 10 Discipline T1                  | .32**  | .28*   | -.29*  | -.09  | -.17   | -.19   | -.20   | .31**  | .11    | –     |       |       |       |       |       |
| 11 Discipline T2                  | .43**  | .41**  | -.35** | -.15  | -.36** | -.20   | -.40** | .15    | .16    | .62** | –     |       |       |       |       |
| 12 Externalizing problems T1      | -.40** | -.27*  | .42**  | .16   | .25*   | .46**  | .41**  | -.67** | -.38** | -.23  | -.10  | –     |       |       |       |
| 13 Externalizing problems T2      | -.33** | -.30*  | .29*   | -.04  | .16    | .22    | .31**  | -.50** | -.52** | -.21  | -.28* | .53** | –     |       |       |
| 14 Internalizing problems T1      | -.21   | -.17   | .20    | .04   | .11    | .44**  | .34**  | -.32** | -.14   | -.09  | -.08  | .44** | .35** | –     |       |
| 15 Internalizing problems T2      | -.29*  | -.24*  | .27*   | .05   | .20    | .37**  | .34**  | -.18   | -.26*  | .04   | -.15  | .35** | .39** | .63** | –     |
| N                                 | 74     | 74     | 74     | 74    | 70     | 74     | 70     | 74     | 70     | 74    | 70    | 73    | 69    | 74    | 70    |
| Min                               | 1.92   | 2.00   | 1.00   | 20.00 | 19.00  | 26.00  | 28.00  | 67.00  | 69.00  | 11.00 | 13.00 | 50.00 | 50.00 | 50.00 | 50.00 |
| Max                               | 5.00   | 5.00   | 4.83   | 83.00 | 81.00  | 100.00 | 106.00 | 96.00  | 96.00  | 24.00 | 24.00 | 74.00 | 72.00 | 75.00 | 74.00 |
| Mean                              | 3.34   | 3.59   | 2.91   | 48.17 | 43.80  | 61.55  | 54.33  | 86.90  | 88.19  | 20.36 | 20.89 | 56.74 | 56.30 | 62.26 | 61.29 |
| Standard deviation                | 0.78   | 0.75   | 1.00   | 14.10 | 13.86  | 16.62  | 15.90  | 6.64   | 6.43   | 3.04  | 2.80  | 7.16  | 6.88  | 7.56  | 7.47  |

Note: SCS-SF, Self-compassion Scale – Short Form. T1, baseline assessment; T2, about 20 weeks post-baseline. \* $p < .05$ . \*\*  $p < .01$

**Table 2** Estimates of each mediation model ( $n = 74$ )

| IV (T1)                       | Mediator (T2)          | DV (T2)       | Path estimates  |       |         |                  |       |         |                 |       |         |
|-------------------------------|------------------------|---------------|-----------------|-------|---------|------------------|-------|---------|-----------------|-------|---------|
|                               |                        |               | a               |       |         | b                |       |         | c'              |       |         |
|                               |                        |               | b               | S.E.  | $\beta$ | b                | S.E.  | $\beta$ | b               | S.E.  | $\beta$ |
| Total<br>Positive<br>Negative | Complicated grief      | Internalizing | <b>-3.366*</b>  | 1.379 | -.191   | 0.075            | 0.057 | .141    | -1.646          | 0.966 | -.175   |
|                               |                        |               | -2.340          | 1.427 | -.128   | 0.096            | 0.054 | .179    | -1.515          | 0.946 | -.155   |
|                               |                        |               | <b>2.927**</b>  | 1.118 | .212    | 0.076            | 0.059 | .142    | 1.102           | 0.793 | .150    |
| Total<br>Positive<br>Negative | Complicated grief      | Externalizing | <b>-3.367*</b>  | 1.374 | -.191   | -0.027           | 0.061 | -.055   | <b>-2.061*</b>  | 1.032 | -.235   |
|                               |                        |               | -2.379          | 1.420 | -.130   | -0.015           | 0.056 | -.030   | <b>-2.704**</b> | 0.967 | -.296   |
|                               |                        |               | <b>2.910**</b>  | 1.115 | .211    | -0.008           | 0.064 | -.016   | 0.872           | 0.875 | .127    |
| Total<br>Positive<br>Negative | Psychological distress | Internalizing | <b>-4.118*</b>  | 1.866 | -.200   | 0.039            | 0.056 | .084    | -1.755          | 1.071 | -.186   |
|                               |                        |               | -2.621          | 1.745 | -.122   | 0.063            | 0.051 | .138    | -1.422          | 1.005 | -.145   |
|                               |                        |               | <b>3.539*</b>   | 1.543 | .220    | 0.042            | 0.059 | .092    | 1.202           | 0.877 | .163    |
| Total<br>Positive<br>Negative | Psychological distress | Externalizing | <b>-4.137*</b>  | 1.860 | -.201   | 0.003            | 0.058 | .007    | -1.843          | 1.131 | -.210   |
|                               |                        |               | -2.678          | 1.740 | -.125   | 0.003            | 0.052 | .008    | -2.619          | 1.022 | -.287   |
|                               |                        |               | <b>3.527*</b>   | 1.540 | .220    | 0.038            | 0.061 | .089    | 0.481           | 0.945 | .070    |
| Total<br>Positive<br>Negative | Warmth                 | Internalizing | <b>2.057**</b>  | 0.752 | .252    | -0.141           | 0.118 | -.121   | -1.656          | 0.982 | -.174   |
|                               |                        |               | <b>2.877***</b> | 0.740 | .340    | -0.162           | 0.121 | -.138   | -1.221          | 1.052 | -.123   |
|                               |                        |               | -0.885          | 0.616 | -.139   | -0.166           | 0.122 | -.141   | 1.222           | 0.739 | .164    |
| Total<br>Positive<br>Negative | Warmth                 | Externalizing | <b>2.050**</b>  | 0.753 | .251    | <b>-0.408**</b>  | 0.119 | -.377   | -0.721          | 0.931 | -.082   |
|                               |                        |               | <b>2.886***</b> | 0.741 | .341    | <b>-0.362**</b>  | 0.123 | -.336   | -1.354          | 0.984 | -.148   |
|                               |                        |               | -0.877          | 0.617 | -.138   | <b>-0.435***</b> | 0.115 | -.403   | 0.178           | 0.718 | .026    |
| Total<br>Positive<br>Negative | Consistent discipline  | Internalizing | <b>1.055**</b>  | 0.324 | .293    | -0.121           | 0.261 | -.046   | <b>-1.987*</b>  | 0.973 | -.210   |
|                               |                        |               | <b>1.202***</b> | 0.338 | .322    | -0.159           | 0.266 | -.061   | -1.629          | 1.033 | -.166   |
|                               |                        |               | <b>-0.628*</b>  | 0.262 | -.224   | -0.183           | 0.253 | -.070   | 1.414           | 0.742 | .192    |
| Total<br>Positive<br>Negative | Consistent discipline  | Externalizing | <b>1.055**</b>  | 0.324 | .293    | <b>-0.608*</b>   | 0.267 | -.245   | -0.855          | 1.018 | -.096   |
|                               |                        |               | <b>1.207***</b> | 0.338 | .323    | -0.508           | 0.262 | -.205   | -1.762          | 1.022 | -.191   |
|                               |                        |               | <b>-0.627</b>   | 0.262 | -.223   | <b>-0.700**</b>  | 0.258 | -.282   | 0.056           | 0.791 | .008    |

Note: IV, independent variable; DV, dependent variable. Total, Self-compassion Scale – Short Form total scores; T1, baseline assessment; T2, about 20 weeks post-baseline; Positive, Self-compassion Scale – Short Form positive items’ scores; Negative, Self-compassion Scale – Short Form negative items’ scores. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Caregivers’ self-compassion was found to be prospectively associated with low levels of child’s internalizing and externalizing problems. The associations can be explained by multiple family processes particularly relevant to bereaved children. First, more self-compassionate caregivers are assumably also more compassionate toward their grieving child, which facilitate child-centered behaviors (Saldinger et al., 2004) that protect children from evitable environmental stressors (e.g., taking over excessive family duties) that could increase internalizing and externalizing problems. In particular, the common humanity component of self-compassion reflects an appreciation that the self and others are inseparable. Kabat-Zinn and Kabat-Zinn (2014) wrote, “How many times do our children seem to be caught up in spells of their own...? Can we as parents... see past the surface appearance... to the true being behind the spell? And how many times do we as parents get caught up in spells of our own...?” (p.51). These viewpoints may facilitate positive parenting and enable caregivers to empathize with their child during difficult circumstances. Second, self-compassionate caregivers play a role in modeling self-regulatory and goal-driven behaviors (Power et al., 2012; Terry & Leary,

2011), teaching their child adaptive coping strategies that enable post-loss adaptation, which decrease internalizing and externalizing problems (Sandler et al., 2007). Although the current study lacked measures on children’s exposure to environmental stressors or coping strategies, future studies should test these hypotheses.

Several possible ways exist in which self-compassion may lead to higher quality of parenting. First, neurobiological evidence has shown that when individuals process information related to personal inadequacy, having self-compassionate responses was associated with brain activity in regions related to empathy for others (Longe et al., 2009). Parental empathy, or the understanding and feelings of concern for children, is related to reflective functioning (i.e., understanding children’s behaviors in relation to their mental state). Caregivers with higher levels of self-compassion may have higher empathy and reflective functioning, which are necessary for warmth and consistent discipline. Both empathy and reflective functioning have been related to secure attachment in children as well as quality of parenting (Borelli et al., 2021). Second, self-compassion may serve as an adaptive emotion regulation strategy that lowers caregivers’ stress



reactions and promotes positive parenting, as noted above. Third, self-compassion is related to dispositional mindfulness and mindful parenting, which have been shown to support parental warmth and consistent discipline (Gouveia et al., 2016). Notably, dispositional mindfulness and self-compassion have the same roots in Eastern Buddhism, but each concept has distinguishable focus in its operational definition (Neff & Germer, 2013). A mindfulness-based intervention designed for bereaved parents who lost their child to death (Thieleman & Cacciatore, 2020) was found to improve dispositional mindfulness — which involves observing, describing, awareness, nonjudgement, and non-reactivity (Baer et al., 2008) — but not self-compassion. More studies are needed to reveal the specific relations of self-compassion and dispositional mindfulness to bereavement outcomes.

Caregivers' self-compassion was also prospectively associated with decreased internalizing problems in bereaved children, but we did not find evidence supporting mediation effects. Previous studies with larger sample sizes have supported relations of parental warmth and effective discipline to both internalizing and externalizing problems in bereaved children (Kwok et al., 2005; Tein et al., 2006). According to Fritz and MacKinnon (2007), our sample size had sufficient statistical power to detect mediation effects using the bias-corrected bootstrap method for medium-to-large effects for both the a and b paths, but not small effects. A larger sample may be needed to detect relations between self-compassion and child internalizing problems.

We found significant prospective effects of self-compassion on decreased complicated grief and psychological distress. Prior research has supported the relations between caregivers' self-compassion and psychological adjustment in other highly stressed family contexts (Bohadana et al., 2019; Hawkins et al., 2019; Neff & Faso, 2015). Our finding advanced the knowledge with respect to the effect of self-compassion on complicated grief, because only one cross-sectional study exists on this topic that focused on a sample of family members who experienced ambiguous loss (Lenferink et al., 2017). The longitudinal design of this study and control for confounders' effects allow stronger inferences to be drawn about the direction of the relations and the unique effects of self-compassion above and beyond other confounders. That is, self-compassion was uniquely related to decreased complicated grief above and beyond the effect of psychological distress. Understanding the processes through which self-compassion may intervene complicated grief requires further investigations.

A prior study with a larger sample of parentally bereaved families showed that bereaved children's externalizing problems did not affect caregivers' complicated grief (Sandler et al., 2016). In our study, both bivariate correlations and mediation analyses did not support the effects of caregivers'

complicated grief on children's internalizing and externalizing problems. It is possible that caregivers' complicated grief affects bereaved children's internalizing and externalizing problems indirectly (e.g., through parenting) rather than directly. Alternatively, caregivers' complicated grief may affect children's socioemotional development in specific domains (e.g., children's grief) rather than global problem behaviors. More research is needed in this area.

## Limitations and Future Research

Several limitations of the study should be noted. First, our sample size is small which may be the reason why some of the hypothesized associations were not detected. It also prevented us from conducting moderation analyses to test if factors such as child age and gender moderate the effects of caregivers' self-compassion on children's outcomes and the mediational pathways. Second, the uses of self-report on all variables posit common methods biases (Podsakoff et al., 2012), which need to be addressed in future research by using multiple informants and/or objective assessments. For example, child problem outcomes can be reported by teachers, and parenting behaviors can be assessed using observational methods. Third, the mediators and dependent variables were measured at the same time point. A time lag between the mediator and dependent variable would render stronger inferences (Cole & Maxwell, 2003).

It is important for future research to identify the psychological processes underlying the positive effects of self-compassion on complicated grief, for example, by examining whether emotion regulation plays a role as a mediator. With regard to the association between caregivers' self-compassion and children's psychological outcomes such as internalizing problems or grief, researchers may assess parental emotion socialization or grief facilitation as possible pathways.

**Author Contribution** NZ: conceptualized the research questions, conducted the data analyses, wrote the paper. IS: designed and executed the larger study, collaborated with the conceptualization of the research questions, revised the drafts. JYT: assisted the data analyses, revised the drafts. SW: revised the drafts. ED: revised the drafts. All author approved the final version of the manuscript for submission.

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## Declarations

**Ethical Approval** The study was approved by the Ethics Committee at Arizona State University and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. All participants' informed content was obtained prior to their participation in the study.

**Conflict of Interest** The authors declare no competing interests.

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