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## Factors associated with grief and depression following the loss of a child: A multivariate analysis

Mairi Harper<sup>a\*</sup>, Rory C. O'Connor<sup>b</sup> and Ronan E. O'Carroll<sup>c</sup>

<sup>a</sup>Department of Applied Psychology, Heriot Watt University, Edinburgh, UK; <sup>b</sup>Institute of Health and Wellbeing, University of Glasgow, Glasgow, UK; <sup>c</sup>Department of Psychology, University of Stirling, Stirling, UK

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The present study aims to explore the factors which are associated with grief and depression outcomes in a group of bereaved parents in the first few years following the loss of a child. Sixty-four participants were recruited from bereavement support organisations, between two and 59 months post loss, mean 30 months (SD=15). They completed a questionnaire packet which comprised standard instruments measuring grief, depression, coping styles, continuing bonds and optimism/pessimism, as well as a number of specific bereavement-related questions. Univariate analyses were conducted to establish which factors were associated with grief and depression. Those which were statistically significant were then entered into multivariate analyses to establish their relative importance. High levels of avoidance and depression and lower levels of cognitive restructuring (benefit finding) were associated with higher grief symptoms, whereas higher levels of avoidance and alcohol/substance use were associated with higher depression symptoms. The present study highlights the relative importance of different coping strategies adopted by this group of bereaved parents, compared to the relative unimportance of circumstances around the loss, e.g. sudden or violent death. The use of alcohol and other substances by bereaved parents requires urgent attention as a potentially life-threatening maladaptive coping strategy. The call for further research into risk factors for bereaved parents is emphasised.

**Keywords:** bereavement; parents; grief; adaptation-psychological; depression

### Introduction

Recent research into risk factors for bereavement-related outcomes has been informed by the integrated risk factor framework (Stroebe, Folkman, Hansson, & Schut, 2006). A key feature of this model is its recognition of the importance of multiple domains of independent variables, such as bereavement-related factors (e.g. whether the death was sudden or anticipated), interpersonal risk factors (e.g. social support), intrapersonal risk factors (e.g. gender) and coping mechanisms. Stroebe and colleagues have highlighted that this model is derived largely from the general bereavement literature and that the factors associated with different types of bereavement, including the loss of a child, merit specific investigation.

A recent systematic review of risk factors for complicated grief has highlighted that there is strong support for the following risk factors in prolonged grief: being female,

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\*Corresponding author. Email: [m.harper@hw.ac.uk](mailto:m.harper@hw.ac.uk)

being a spouse or parent of the deceased, low social support, younger age of bereaved, violent death, younger or older age of the deceased, sudden death, avoidant coping styles, low income and low levels of education (Burke & Neimeyer, 2012). All of these factors are included in the present study which aims to identify which of these and other associated factors are most closely associated with prolonged grief and depression in a group of bereaved parents.

## **Method**

### ***Participants***

Participants were recruited from bereavement support groups and were 2–59 months post loss (mean = 30 months, SD = 15 months). The mean parental age was 49 years, SD = 12 years, and the mean child's age at time of death was 19 years, SD = 13 years. The number of mothers agreeing to take part ( $n=59$ ) far exceeded the number of fathers ( $n=5$ ), which is consistent with the previous research carried out with bereaved parents, e.g. Murphy, Tapper, Johnson, and Lohan (2003); Woodgate (2006).

## **Measures**

The following predictor measures were completed – trait optimism/pessimism (Life Orientation Test; revised) (Scheier, Carver, & Bridges, 1994); coping style (Brief Cope) (Carver, 1997); and continuing bonds (Continuing Bonds Scale) (Field, Gal-Oz, & Bonanno, 2003). Categorical factors such as a sudden or violent death and having relationship, financial or employment difficulties were also included.

### ***Outcome measures***

#### *Grief*

Grief was measured using the 19-item Inventory of Complicated Grief (Prigerson et al., 1995) adapted for use with parents by referring to "my child" rather than "this person" in the question wording. The scale was internally consistent in the current study (Cronbach's  $\alpha=.86$ ).

#### *Depression*

Depression was measured using the nine-item Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001). The scale was internally consistent in the current study (Cronbach's  $\alpha=.90$ ).

## **Procedure**

### ***Statistical analyses***

The main analyses consisted of multiple regression analyses predicting (a) grief and (b) depression. Only variables which were found to have a significant univariate association with the outcome variables at  $p<.001$  were included in the multivariate analyses. Depression is known to be a risk factor for prolonged grief (Stroebe, Schut, & Finkenauer, 2001); therefore, this was controlled for in the grief analysis.

Comprehensive details of methods and analyses are available from the first author.

## Results

No categorical factors were found to be associated with a likely diagnosis of prolonged grief. The continuous variables associated with higher grief symptoms were low levels of optimism ( $r = -.62$ ), cognitive restructuring ( $r = -.47$ ) and problem-focused coping ( $r = -.27$ ) and high levels of avoidance ( $r = .53$ ), depression ( $r = .51$ ), pessimism ( $r = .34$ ), self-blame ( $r = .30$ ) and alcohol/substance use ( $r = .27$ ). All these variables were then entered into a multiple regression for the prediction of grief.

### *Predictors of grief: findings from multivariate analysis*

The final model accounted for 44% of the overall variance in grief scores. Avoidance accounted for 28% of the variance, depression accounted for 9% and low levels of cognitive restructuring accounted for a further 7%,  $F(3, 61) = 15.08$ ,  $p < .001$ ; effect size 0.69 (medium).

The only categorical factor associated with depression symptoms was having financial difficulties as a direct result of the bereavement ( $OR = .16$ ,  $CI = .05 - .51$ ). The continuous variables associated with depression symptoms were low levels of problem-focused coping ( $r = -.27$ ), high grief score ( $r = .51$ ), avoidance ( $r = .51$ ) and alcohol/substance use ( $r = .38$ ). All these variables were then entered into a multiple regression for the prediction of depression.

### *Predictors of depression: findings from multivariate analysis*

The final model accounted for 32% of the variation in depression scores. High avoidance-focused coping explained 25% of the variation and high alcohol/substance use explained a further 7% of the variation in depression scores,  $F(2, 61) = 15.55$ ,  $p < .001$ ; effect size 0.47 (medium).

## Discussion

The key factors multivariately associated with higher grief symptoms were high levels of avoidance-focused coping and depression symptoms and low levels of cognitive restructuring. Factors associated multivariately with depression were high avoidance focussed coping and alcohol/substance use.

### *Avoidance*

Avoidance-focused coping was the strongest predictor of both grief and depression symptoms in this group of bereaved parents and is associated with psychological distress generally (O'Connor & O'Connor, 2003), as well as being associated with depression but not grief, in a population who had experienced mixed bereavement types (Boelen, van den Bout, & van den Hout, 2006). There has, however, been contradictory evidence of the impact of avoidance following bereavement with some studies with bereaved spouses indicating that this may be an adaptive coping strategy (Bonnano, Kelner, Holen, & Horowitz, 1995). Since the participants in the present study were in relatively early bereavement, it may be that they are not yet able to begin the process of meaning-making following bereavement – or alternatively, for some participants, this sense-making process may have stalled. This may be evidence of the time when the

bereaved person is neither in a state of attending to the loss or attending to the associated stressors, but needs to take a break from “active grieving” to accommodate the effort involved in this demanding process (Stroebe & Schut, 1999). Further research is required to address these, as yet, unanswered questions.

### ***Cognitive restructuring***

A key risk factor associated with prolonged grief was low levels of cognitive restructuring. The concept of cognitive restructuring refers to the individual reinterpreting the stressor in a positive light; for example, considering that the situation of others may be worse than one’s own (Janoff-Bulman & Frantz, 1997). For the bereaved parent, this reinterpretation could mean feeling that one is making a useful contribution by carrying out some charity fundraising or helping other bereaved parents in a support group. Considering the experiences of others which may in some way be worse than their own bereavement – for example, the cause of death, being able to say goodbye to the child or the child being able to end their life at home – may allow bereaved parents to re-evaluate their experience and find some positive, or perhaps more accurately less negative, aspects of their bereavement. This type of positive meaning-making following bereavement has been associated with a better quality of life in parental discourses (Lichtenthal, Currier, Neimeyer, & Keesee, 2010).

### ***Alcohol/substance use***

Alcohol and/or substance use significantly predicted depression in this population of bereaved parents. Increased alcohol use was found in parents who had experienced stillbirth or infant death (Vance, Najman, & Boyle, 1994) compared to a matched non-bereaved population. The use of alcohol as a “self-medicating” strategy for reducing stress has much support in research literature (Martin, Blum, & Roman, 1992) and may be further evidence of an avoidant coping strategy in the current population under test. There is some evidence to suggest that parental mortality following the death of a child may be linked to alcohol and substance abuse (Harper, O’Connor, & O’Carroll, under review); therefore, the extent and impact of this behaviour must be given urgent attention.

### ***What this study adds***

A key strength of this study is the multivariate analytic approach. Factors which might have been envisaged as fundamental to the bereavement experience (e.g. death by sudden or violent cause) were not, in fact, the strongest predictors of grief and depression symptoms, when examined multivariately.

### ***Limitations of the study***

Two limitations are worthy of comment. First, the recruitment process for this study involved support organisations advertising the study on websites and in newsletters. The websites, in particular, were likely to be visited by those actively seeking support. Replicating this research in a group of non-support-seeking parents in early bereavement would identify how representative the current research is of the global population of bereaved parents.

Second, this group of participants was also comprised mainly of mothers. Previous research with bereaved parents has found that the majority of participants who agree to take part are mothers; e.g. Murphy, Johnson, and Weber (2002); Lohan and Murphy (2007). The perspective of fathers, and any sex differences, should be considered to establish a clear picture of parental bereavement for both parents.

## Conclusion

The factors associated with higher levels of grief and depression in the present study were related to coping styles adopted by the bereaved parent rather than circumstances related to the death. When the relative importance of univariate risk factors is compared multivariately, avoidance appears important for both the grief and depression symptoms. The challenges for identifying and supporting people with avoidance-focused coping styles will require further evaluation and research.

## Ethics approval

The study received ethical approval from the Department of Psychology Ethics Committee within the University of Stirling.

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