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To cite this article: Mairi Harper, Rory C. O'Connor & Ronan E. O'Carroll (2015) The relative importance of avoidance and restoration-oriented stressors for grief and depression in bereaved parents, Psychology, Health & Medicine, 20:8, 906-915, DOI: 10.1080/13548506.2014.990908

To link to this article: https://doi.org/10.1080/13548506.2014.990908

Published online: 11 Dec 2014.

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The relative importance of avoidance and restoration-oriented stressors for grief and depression in bereaved parents

Mairi Harper\textsuperscript{a*}, Rory C. O’Connor\textsuperscript{b} and Ronan E. O’Carroll\textsuperscript{c}

\textsuperscript{a}School of Health Sciences, University of Stirling, Stirling FK9 4LA, Scotland, UK; \textsuperscript{b}Institute of Health and Wellbeing, University of Glasgow, 1 Lilybank Gardens, Glasgow G12 8RZ, Scotland, UK; \textsuperscript{c}Department of Psychology, University of Stirling, Stirling FK9 4LA, Scotland, UK

(Received 1 April 2014; accepted 18 November 2014)

Previous research has identified a number of individual risk factors for parental bereavement including the sex of the parent, the sex of the child, avoidance-focussed coping style and time since death. These factors emerged from research where variables were tested univariately and their relative importance is currently unknown. The current research, therefore, aims to investigate which risk factors are important, multivariately, for the outcomes of grief and depression in parents following the death of their child. Psychosocial measures were completed by 106 bereaved parents four years post-loss, recruited from death records in Scotland. The cause of the child’s death included long-term illness and stillbirths as well as sudden and violent deaths. In multivariate regression analyses, depression was predicted by higher avoidance-focussed coping and higher number of restoration-oriented stressors such as relationship difficulties, problems at work and financial issues. Grief was predicted by higher avoidance, restoration stressors and level of continuing bonds. The present study adds to the knowledge about the phenomenon of parental bereavement with participants recruited directly from death records rather than through support, clinical or obituary sources. Factors previously found to be associated with outcomes when tested univariately such as sudden, violent death or sex of the parent were not significant when tested multivariately. This study highlights that different vulnerability factors exist for grief and depression in bereaved parents.

Keywords: grief; bereavement; parent; death of a child; depression; avoidance

Introduction

The Integrated Risk Factor Framework described by Stroebe, Folkman, Hansson, and Schut (2006) indicates that bereavement outcomes are affected by factors from a number of different domains. For bereaved parents, grief has been found to be associated with time since death (Anderson, Marwit, Vandenberg, & Chibnall, 2005; Feigelman, Gorman, & Jordan, 2009; Robinson & Marwit, 2006), emotional coping and avoidance-focussed coping (Anderson et al., 2005; Robinson & Marwit, 2006), social support and subsequent stressors (Hazzard, Weston, & Gutterres, 1992) and the sex of the parent, with mothers experiencing higher levels of grief than fathers (Bohannon, 1991; Littlefield & Silverman, 1991). Losing a male child was linked with higher levels of depression (Hazzard et al., 1992; Robinson & Marwit, 2006) as was the death being sudden (Hazzard et al., 1992) or the child being healthy prior to their death (Littlefield

*Corresponding author. Email: mairi.harper@stir.ac.uk

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& Silverman, 1991). Although most of these factors were found to be associated with levels of depression or grief when tested univariately, the relative importance of each, when compared collectively in multivariate analyses, has not yet been established.

In addition to symptoms of grief, the bereaved may also be experiencing significant levels of depressive symptoms following the loss of a loved one (Stroebe, Schut, & Stroebe, 2007). The factors associated with depressive symptoms may be different from those associated with grief and are, therefore, worthy of investigation (Wijngaards-de-Meij et al., 2005).

The grief experienced by bereaved parents is thought to reduce from the time of bereavement until about three years, when an often unexpected increase in emotional distress is experienced (Rando, 1983). After this time, the parent is believed to experience further improvements in bereavement-related outcomes over time. By four years post-loss, the parent is thought to have lived through the worst times of their loss and should be making a recovery in terms of negative symptoms (Rando, 1983). This period of mid-bereavement, when bereaved parents are believed to be moving towards resolution of their grief, is, therefore, of considerable interest to researchers.

The present study was exploratory in nature and aimed to identify which factors were most closely associated with grief and depression in a group of bereaved parents demonstrating high levels of grief and depression. Unlike most bereavement research, the present sample was identified from death registration data in an attempt to access participants who would not normally be represented when recruiting from either clinical settings or support organisations.

Method
Ethical approval for the study was granted by the ethics committee of the Psychology Department at the University of Stirling. The project was also approved and supported by the General Register Office for Scotland (GROS).

Participants
The GROS provided a list of death records for people who died in Scotland in 2005, aged from 0 to 30 years, and those who were stillborn. The number of bereaved parents in the population group was 2033. Letters were intended to be posted out over a two-week period in two batches, with 1148 (56%) posted in the first batch. Arising from this mailing, 12 complaints were received, mostly relating to the use of personal details; these potential respondents were not aware that their details were in the public domain. Although the number of complaints was small (1% of the total letters sent), the level of distress that was experienced by these people was significant. Consequently, the research team took the decision not to send out any further invitations in order to avoid the possibility of causing further distress. Of the 1148 letters posted, 130 were returned undeliverable; therefore, 1018 parents were assumed to have been contacted.

Measures
The study utilised a combination of published psychological measures, bereavement-specific questions and socio-demographic variables self-administered by the respondents. Two versions of the final questionnaires were created, with the order of questions counterbalanced to minimise order effects.
Continuous variables

**Depression**
Depression was measured using the 9-item Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001) which assesses probable psychiatric caseness (i.e. likelihood of clinical diagnosis) for moderate to severe depression. The total score is used to indicate probable caseness, used in logistic regressions, with a score of 10 or above suggesting moderate to severe depression (Spitzer, Kroenke, & Williams, 1999). The scale was internally consistent in the current study (Cronbach’s α = .93).

**Grief**
The 19-item Inventory of Complicated Grief was used to assess clinical levels of grief (Prigerson et al., 1995). A score of 25 or over indicate that the participant meets the proposed diagnostic criteria for a clinical grief condition, which was the outcome variable used in logistic regressions. The scale was internally consistent in the current study (Cronbach’s α = .93).

**Coping style**
Coping style was measured using the Brief Cope (Carver, Scheier, & Weintraub, 1989), a 28-item questionnaire measuring 14 types of coping. Sub-scales were formed following Harper, O’Connor, and O’Carroll (2014). The internal consistency of the sub-scales was good (problem-focussed coping – Cronbach’s α = .83, avoidance-focussed coping – Cronbach’s α = .78, social support – Cronbach’s α = .81 and cognitive reconstruction coping – Cronbach’s α = .74).

**Continuing bonds**
Continuing Bonds were measured using the Continuing Bonds Scale (CBS) (Field, Gal-Oz, & Bonanno, 2003), adapted as in Harper et al. (2014). The scale was internally consistent in the current study (Cronbach’s α = .83).

**Categorical independent variables**

**Socioeconomic status**
Postal (zip) codes are used in research in Scotland to estimate relative socio-economic status (SES) as defined by a participant’s postcode (McLoone, 2004). The scores are constructed using indices of poverty including level of overcrowding in the home, male unemployment and no car ownership, as recorded in the Census statistics published by GROS. The postcodes given by the participants were checked against the list of all postcode areas in Scotland and their corresponding Carstairs score (index of deprivation was published by McLoone (2004). The scores were then collapsed into three categories to simplify comparisons, following Leyland, Dundas, McLoone, and Boddy (2007). Those participants with scores of 1 or 2 were described as Affluent, those with scores 3, 4 or 5 were described as Intermediate and those with score 6 or 7 were described as Deprived.
**Cause of death**

The cause of death being either violent or non-violent was derived from the underlying cause of death code supplied by GROS on the death records. Violent deaths were those which occurred as a result of accident, murder or suicide in line with previous research (e.g. Neimeyer, Baldwin, & Gillies, 2006). All others were classed as non-violent deaths.

**Death anticipation**

Parents were asked if their child’s death was sudden or anticipated. Of the responses available, those specified as totally unexpected or expected in the hours before death were categorised as sudden and those that were expected for days or expected for some time were categorised as anticipated.

**Statistical analyses**

Crosstabulation chi-squares were run, comparing each of the categorical predictors individually with a likely caseness of either depression or clinical grief. Caseness was defined as “yes” when the individual’s score on grief or depression met the threshold defined by the authors of the measure. Continuous variables were examined using linear regression to determine which were significantly associated with the outcome variables. Here, the depression and grief scores were included as continuous variables. Only those variables which were found to be significant at $p < .001$ were included in further multivariate analyses to control for multiple comparisons and to identify the variables most likely to be clinically important. Given the large number of potential predictors, a forward entry regression method was chosen to examine the relative importance of all significant factors, as recommended by Field (2009).

**Results**

Of the 1018 people contacted, 154 returned positive responses indicating they would like to take part in the research. Of these, 109 actually returned questionnaires. Three were only partly completed and there were, therefore, 106 questionnaires included in the analysis. Missing data were addressed using the method recommended from the WHOQOL Brief manual, i.e. where an item is missing, it is replaced with the mean of the other items in the scale (World Health Organization, 2011).

**Participant demographics**

The demographics of the sample are shown in Tables 1 and 2. Comparisons were carried out using chi-square tests between categorical variables such as the sex of parent, the sex of child and sudden or anticipated death, in the population list and those who participated in the study. Two notable differences were found. First, the proportion of mothers agreeing to take part in the research (69%) was higher than that of the potential population (52%), $\chi^2(1) = 6.05$, $p = .014$. This is consistent with previous research carried out with bereaved parents (e.g. Murphy, Tapper, Johnson, & Lohan, 2003; Woodgate, 2006). Second, the number of participants in the deprived category was under-represented compared with the bereaved population, $\chi^2(2) = 10.76$, $p = .005$. The
mean age of the child at time of death (8.6 years) was lower in the participants who completed the questionnaire compared with those who were in the population list (13.3 years), \( t(994) = 4.07, p < .001 \). The mean age of parents who agreed to take part in the research was 42.8 years (SD = 10.3). Age is not available from the data supplied by GROS; therefore, this cannot be compared with the potential list of participants. Ninety-five participants (90%) were married or in a relationship at the time of the bereavement. Eleven (10%) were single, separated, divorced or widowed. Within the sample, 62 (59%) had a basic high school or college education and 42 (40%) were university graduates or had a postgraduate qualification. Two participants (2%) did not supply their level of education. The mean depression score for the group was 6.1, SD = 6.4 with a range of 0–26 (the maximum possible score being 27). The mean grief score was 22.4, SD = 15.4, with a range of 2–62. The maximum possible grief score is 76. More than half (54%) of this group of bereaved parents met probable diagnostic criteria for a clinical grief disorder and 27% probable caseness for moderate or severe depression.

Factors associated with increased depression

Continuous variables

Linear regressions were run to identify those continuous variables which were univariately associated with higher depression scores. The factors significantly associated with higher depression scores at \( p < .001 \) were avoidance-focussed coping (\( r = .57 \)), number of restoration stressors (such as problems at work, relationship difficulties and financial issues) (\( r = .53 \)), child age (\( r = .30 \)) and continuing bonds score (\( r = .30 \)).

Table 1. Demographic data (continuous variables) showing means and standard deviations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of parent (years)</td>
<td>42.8 (10.4)</td>
</tr>
<tr>
<td>Age of child at time of death (years)</td>
<td>8.6 (10.8)</td>
</tr>
<tr>
<td>Depression score</td>
<td>6.13 (6.4)</td>
</tr>
<tr>
<td>Grief score</td>
<td>28.3 (15.6)</td>
</tr>
</tbody>
</table>

Table 2. Comparison of demographics between parents contacted and the participant group.

<table>
<thead>
<tr>
<th>Category</th>
<th>Sample contacted (( n = 1018 ))</th>
<th>Sample completed (( n = 106 ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers</td>
<td>524 (51.4%)</td>
<td>73 (68.9%)*</td>
</tr>
<tr>
<td>Fathers</td>
<td>494 (48.6%)</td>
<td>33 (31.1%)</td>
</tr>
<tr>
<td>Affluent addresses</td>
<td>344 (34%)</td>
<td>50 (48%)</td>
</tr>
<tr>
<td>Intermediate addresses</td>
<td>409 (40%)</td>
<td>45 (43%)</td>
</tr>
<tr>
<td>Deprived addresses</td>
<td>265 (26%)</td>
<td>9 (9%)*</td>
</tr>
<tr>
<td>Now live outside Scotland</td>
<td>n/a</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Deaths – female</td>
<td>395 (41.1%)</td>
<td>43 (40.6%)</td>
</tr>
<tr>
<td>Deaths – male</td>
<td>566 (58.9%)</td>
<td>63 (59.4%)</td>
</tr>
<tr>
<td>Deaths – unknown sex</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean child age (SD)</td>
<td>13.3 (10.98)</td>
<td>8.6 (10.85)</td>
</tr>
<tr>
<td>Non-violent death</td>
<td>709 (73.8%)</td>
<td>81 (76.4%)</td>
</tr>
<tr>
<td>Violent death</td>
<td>252 (26.2%)</td>
<td>25 (23.6%)</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01.
Categorical variables
Chi-square analyses identified that none of the categorical predictors was associated with a likely caseness of depression or clinical grief at $p < .001$.

Relative importance of factors associated with increased depression scores
The significant factors from the univariate analysis were, then, included in multivariate regressions test to establish which made the greatest contribution to explaining the variation in depression scores, which produced a final model showing that avoidance-focussed coping accounted for 32% of the overall variation in depression scores, with number of restoration stressors accounting for a further 14%, $F(2,99) = 41.22, p < .001$.

Factors associated with increased grief
Continuous variables
Again, univariate linear regressions were run to establish which continuous variables were associated with higher grief scores. Those variables found to have a significant association were avoidance-focussed coping ($r = .66$), number of restoration stressors ($r = .55$), child age ($r = .45$), continuing bonds score ($r = .41$), frequency of grave visitation (negative association) ($r = .36$) and parent age ($r = .29$).

Categorical variables
Chi-square tests were carried out on all of the categorical variables to determine which were associated with the likely diagnosis of a clinical grief disorder. Again, none of the variables tested were significant at $p < .001$.

Relative importance of factors associated with increased grief scores
The factors found to be significantly associated with higher grief scores were entered into a multiple regression analysis with a forward method of analysis. The final model showed that three variables were significantly associated with grief, accounting for 58% of the variation in scores, $F(3,81) = 37.91, p < .001$. Avoidance-focussed coping accounted for 42% of the variance, number of restoration stressors accounted for a further 12% and continuing bonds accounted for a further 4% of the variance in grief score.

Discussion
Higher levels of avoidance-focussed coping and a higher number of restoration-oriented stressors were found to be independently associated with higher depression symptoms in the multivariate analyses. The factors most strongly associated with higher levels of grief were higher levels of avoidance-focussed coping, higher number of restoration stressors and a higher continuing bonds score.

Avoidance
Avoidance-focussed coping has been reliably found to predict clinical grief outcomes (e.g. Boelen, Stroebe, Schut, & Zijerveld, 2006) and psychological distress more
broadly (O’Connor & O’Connor, 2003), but was unexpectedly found not to be a significant mediator of risk factors for clinical outcomes in a recent large-scale study (van der Houwen et al., 2010). The importance of avoidance-focussed coping found in the present study may reflect the method of participant recruitment. Avoidant copers may not participate in support groups or seek clinical intervention. Previous research which has recruited from these sources may, therefore, be under-representing individuals with an avoidance-focussed coping strategy, since by their nature, avoidant copers are unlikely to seek support or interventions for bereavement-related symptoms. To gain a more accurate view of the population of bereaved people, researchers should recruit using similar population-based approaches, thereby reducing the likelihood of missing the potentially overlooked avoidant-focussed copers. Whilst there were issues in using this method of recruitment in the present study, these could have been mitigated by a clearer invitation letter, which indicated that permission had been granted to access death record data for research purposes and by stressing that no further contact would be made with the family if they decided not to take part. Research based on recruiting through support groups may not be accessing people who have avoided the bereavement or reminders of the loss. Further evaluation should be carried out to determine whether participant characteristics are influenced by the method of recruitment.

**Restoration-oriented stressors**

The seminal Dual Process Model of coping with bereavement (Stroebe & Schut, 1999) concludes that the process of bereavement requires an individual to attend to matters relating to the bereavement and to those stressors that are experienced as a result of the loss, for example, changes in financial circumstances, problems at work, etc. The model is widely endorsed by organisations supporting the bereaved, yet relatively little research has been carried out on how restoration stressors emerge and are managed by the bereaved individual. The present study indicates the importance of restoration-oriented stressors and, given that these are readily adaptable if appropriate policies are in force, they merit further investigation as a means of moderating the impact of bereavement on families.

**Continuing bonds**

The CBS was used in the present study; however, this was developed for bereaved partners (Field et al., 2003). Some of the items in the scale may be more relevant in the loss of a partner (e.g. turning to the lost loved one for advice or carrying out the deceased’s wishes) or may not include the types of continuing bonds such as symbolic representations which are typical for parents who experience the loss of a child (Harper, O’Connor, Dickson, & O’Carroll, 2011). Further research is needed before a reliable and validated scale can be used to measure the full range of continuing bond responses experienced by parents.

**Findings from previous research not supported in the present study**

Earlier research identified factors which were univariately associated with grief symptoms. Time since death has previously been found to be associated with grief symptoms (Anderson et al., 2005); however, its impact in the current study may have been reduced since the sample was drawn from a relatively small time frame (four to five years post-loss).
Social support (Hazzard et al., 1992) had previously been found to be associated with grief symptoms, but was not found to be associated with lower levels of grief in the present study. Social support has been strongly supported as a buffer for grief symptoms in other types of loss and is recognised as one of the key factors for reducing the impact of bereavement (Stroebe et al., 2006). The impact of social support in the specific experience of parental bereavement, therefore, requires further investigation.

The sex of the parent was considered important in previous research, with mothers experiencing higher levels of grief than fathers (Bohannon, 1991; Littlefield & Silverman, 1991). In the present study, there was no difference between grief and depression symptoms for mothers and fathers. Likewise, no difference was found in grief or depression symptoms related to the sex of the child, and the loss of a male child did not elicit higher symptoms (Hazzard et al., 1992; Robinson & Marwit, 2006). The present study included a relatively higher number of male participants than in previous research and this may, therefore, have affected the findings. The risk factors for fathers and mothers merits further individual exploration in larger participant groups.

Limitations of the research

The current research, as is the case in any where volunteers are required to take part, is potentially at risk of bias due to only a subsection of those eligible to participate agreeing to proceed. In particular, economically deprived participants were under-represented and the experience of people having low socio-economic status should be reviewed further. In the present study, there was no consideration of ethnic identity or the impact of cultural background on the bereavement experience. This type of analysis should be carried out in an environment more culturally diverse than that found within Scotland.

One notable factor of the present study is the low response rate compared with research, which recruits bereaved participants from clinical settings or support group environments. The findings of this research indicate the importance of avoidance-focussed coping in bereavement, which in the multivariate analysis was more important than other factors previously considered to be key predictors of bereavement outcomes. This may indicate that the present sample drew on the experience of participants who use avoidance-focussed coping style, who may not be present in support seeking samples. Those who have adopted an avoidance-focussed coping style for bereavement are likely to disengage from any reminders of their loss and this may indicate that some of those who chose not to respond may be even more focussed on avoidance than those who did choose to respond. This may, in part, explain the low response rate and should be considered as an important issue for future bereavement research.

Finally, given the low response rate, the representativeness of the sample and its generalisability to the broader bereaved population is uncertain. The sample demonstrates high levels of grief and depression; therefore, the participants may represent those who are more prone to maladaptive coping compared with the general bereaved parent population. Further research should ensure that participants are included from a broader range of levels of grief and bereavement.

Future recommendations for research

The findings of the present study suggest that avoidance-focussed coping may be more important in determining bereavement outcomes than was previously thought. This may be due to the participant recruitment method used, namely recruiting from a broad
section of death records rather than through support networks or clinical settings. Recruitment of avoidance-focussed copers is likely to be problematic, by the very nature of the individual’s response to their loss. A number of strategies could be employed to address this issue. Firstly, the language used in the invitation to participate should point out the importance of participation so that the view of all bereaved people is heard, not just those who engage with services. Secondly, perhaps an initial short questionnaire could be sent to achieve engagement on a general scale, before an authorised follow-up telephone call may explain the implications and importance of subsequent engagement with more detailed questions. Thirdly, the invitation should encourage people to consider responding, even if they feel that they have come to terms with their loss, thus encouraging people with lower levels of bereavement-related distress to consider taking part. All of these options must be considered within the boundaries of ethical consideration, ensuring that no participant feels in any way coerced into taking part.

**Conclusions**

This study presents the findings from a detailed multivariate analysis of risk factors for grief and depression in a sample of bereaved parents with high levels of clinical grief symptoms and depression. Higher depression was predicted by higher levels of avoidance-focussed coping and a higher number of restoration-oriented stressors. A higher grief score was predicted by higher levels of avoidance-focussed coping, higher restoration stressors and a higher level of continuing bonds. These findings provide partial support for the proposed Integrative Risk Factor Framework in the grief of bereaved parents and indicate areas which require further exploration, for example, are avoidant-focussed copers under-represented in recruitment from clinical settings or support networks, and why social support appeared relatively unimportant compared to other risk factors? Further research to explore some of these factors in greater details is essential if the experience of parental bereavement is to be fully understood.

**References**


