Trajectories of depression following spousal and child bereavement: A comparison of the heterogeneity in outcomes

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ABSTRACT

Our understanding of how individuals react to the loss of a close loved one comes largely from studies of spousal bereavement. The extent to which findings are relevant to other bereavements is uncertain. A major methodological limitation of current studies has been a reliance on retrospective reporting of functioning and use of samples of individuals who have self-selected for participant in grief research. To address these limitations, in the current study we applied Latent Growth Mixture Modelling (LGMM) in a prospective population-based sample to identify trajectories of depression following spousal and child bereavement in later life. The sample consisted of 2512 individual bereaved adults who were assessed once before and three times after their loss. Four discrete trajectories were identified: Resilience (little or no depression; 68.2%), Chronic Grief (an onset of depression following loss; 13.2%), Depressed-Improved (high pre-loss depression that decreased following loss; 11.2%), and Pre-existing Chronic Depression (high depression at all assessments; 7.4%). These trajectories were present for both child and spousal loss. There was some evidence that child loss in later life was associated more strongly with the Chronic Grief trajectory and less strongly with the Resilience trajectory. However these differences disappeared when covariates were included in the model. Limitations of the analyses are discussed. These findings increase our understanding of the variety of outcomes following bereavement and underscore the importance of using prospective designs to map heterogeneity of response outcomes.

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1. Introduction

In recent years there has been a transformation in our understanding of how people respond to the loss of close loved ones. Emerging longitudinal studies have highlighted the significant heterogeneity in bereavement outcomes: Some people experience ongoing, disabling levels of distress, some people experience symptoms that gradually decline, and others experience little or no disruption in functioning (e.g., Bonanno et al., 2004; Bonanno et al., 2002; Galatzer-Levy and Bonanno, 2012; Mancini et al., 2011; Thomas et al., 2013). Latent growth mixture modelling (LGMM) has emerged as a particularly strong methodology to explore such population heterogeneity. LGMM tests whether the population under investigation is best represented by a single response

trajectory or is composed of several discrete populations each characterized by a different growth curve (Curran and Hussong, 2003). LGMM has been used to investigate heterogeneity in a wide variety of potentially stressful life events, including injury, cancer, combat, and bereavement (Bonanno et al., 2012; Bryant et al., 2015; Burton et al., 2014; Galatzer-Levy and Bonanno, 2012; Karstoft et al., 2013; Pietrzak et al., 2014).

In the context of bereavement, Bonanno and colleagues (Boerner et al., 2005; Bonanno et al., 2004, 2002) identified trajectories of depression following spousal loss in a prospective sample of participants drawn from the changing Lives of Older Couples (CLOC) study, who were followed up to 48 months post-bereavement. LGMM analysis identified a robust model solution characterized by four distinct trajectories (Galatzer-Levy and Bonanno, 2012): Participants who reported little or no depression at any time point (Resilience; 66.3%); participants who reported a high level of depression at all points (Pre-existing Chronic; 14.5%); participants who reported high levels of depression at the pre-bereavement assessment followed by lower levels of post-

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bereavement depression (Improved; 10.1%); and participants who reported low pre-bereavement levels of depression followed by high post-bereavement levels (Chronic grief; 9.1%; see also Lotterman et al., 2014). Underscoring the utility of identifying distinct trajectories, financial stress was associated with elevated depression for all classes, whereas poor health was associated with higher depression in the resilient and remitting classes only. That is, financial stress appeared to be a general stressor, whereas, health impacted depression only in populations that were otherwise doing well. Age did not predict response trajectories for any class.

To date, our understanding of the distinct trajectories of bereavement comes largely from studies examining spousal bereavement (e.g., Galatzer-Levy and Bonanno, 2012; Holland et al., 2014; Utz et al., 2012). The extent to which these trajectories are present following other bereavements has yet to be investigated. It is possible that the number, shape, and predictors of response trajectories may vary across loss type, indicating that bereavement response differs by loss type. This may be the case as studies have suggested that individuals who experience the death of a child are more likely to show chronically high levels of distress (Dyregrov et al., 2003; Meert et al., 2011). However this research has relied on samples of individuals who have self-selected for participation in bereavement studies and most involve the loss of young children (e.g., Arnold et al., 2005; Bonanno et al., 2005; Dyregrov et al., 2003; Meert et al., 2011). The extent to which such findings are representative of the population of individuals who have experienced the death of a child is unknown (Levav et al., 1988). Moreover, existing studies have typically relied on retrospective self-report or longitudinal assessments lacking pre-loss assessments, which may also introduce bias associated with self-report of past emotional functioning (Watkins, 2002). True prospective studies are important, however, not only for overcoming memory biases, but also for identifying the full set of population trajectories. In the CLOC study, more than half of participants with high levels of post-bereavement depression were in fact depressed prior to their spouse's death. However, not all individuals who were depressed prior to the death remained depressed (Galatzer-Levy and Bonanno, 2012). Thus, while existing investigations of the impact of child loss have been helpful in highlighting potential differences between child and spousal loss, there is a critical need for the issue to be examined using a prospective design in a sample of individuals not self-selected for bereavement.

We addressed this issue in the current study using data from the Health and Retirement Study, a large nationally representative longitudinal survey that collects data from individuals on an array of family, health, and economic variables every 2 years. Of particular value for addressing questions relating to bereavement, loss information has been recorded but individuals have not been included on the basis of their losses, thus minimizing the possible impact of selection biases. The database also allows for ongoing assessment of pre- and post-loss functioning. It has previously been used to map the heterogeneity of responses to such events as cancer and chronic pain (Burton et al., 2014; Zhu et al., 2014). Accordingly, in the current study, we applied LGMM to the HRS to identify prospective trajectories of depression following spousal and child bereavement. We expected that the trajectories associated with spousal bereavement would be similar to those identified in Galatzer-Levy and Bonanno (2012; see also Bonanno et al., 2004). We hypothesized that we would observe a large class of resilient individuals and three smaller classes comprising pre-existing chronic depression, chronic grief, and improved depression. In the case of child bereavement, we expected that similar trajectories would be identified; however, based on existing literature we anticipated that the proportion of individuals classified into the chronic grief trajectory would be greater (Dyregrov et al., 2003;

Meert et al., 2011). As the HRS comprises mainly older respondents, and the majority of the children in the sample were adults at the time of their death, we included age of the deceased among the potential predictors of trajectory membership.

2. Materials and methods

2.1. Data

Data were taken from the Health and Retirement Study (HRS), a nationally representative longitudinal study designed to explore numerous aspects of aging in American adults. The study commenced in 1992 and collected data every 2 years. Data for the current analysis were drawn from 9 waves (1994–2010) from the RAND HRS vM and RAND family database. Data from Wave 1 (1992) were excluded as that wave used an alternate measure of depression. (For details of the survey and sampling methods see Sonnega et al., 2014). Data was received and analyzed following approval from the Teachers College Columbia University Institutional Review Board (IRB).

2.2. Participants

Participants were asked at each time point about marital status and if immediate family members were alive or deceased. Individuals who indicated that they were widowed at any time point between 1996 and 2006 inclusive, but had been married at the previous time point comprised the spousal bereaved group. Similarly, participants in the child bereavement group had a son or daughter deceased between 1996 and 2006 but alive at the previous time point. Data were organized using a floating baseline methodology (Galatzer-Levy and Bonanno, 2014; Galatzer-Levy et al., 2010). Using this method, measures were centered on the wave where the loss was first reported and trajectories were modelled over a 6 year period, including one pre-loss assessment. For modeling purposes we restricted the sample to individuals who had experienced one type of loss (spousal or child), were alive for the four time points under investigation, and had data for at least two of the four time-points, including immediately before and after the loss. Although this is not a requirement of LGMM we used this method because the sample size was large and time points were widely dispersed. We were concerned that we would over-identify trajectories if we included participants who did not provide information immediately before and after the loss (Galatzer-Levy and Bonanno, 2014). We also restricted the child loss sample to individuals who had experienced the loss of a biological child (rather than a stepchild or child-in-law) as there was no data regarding the length of time non-biological children had been included as a family member. The final sample consisted of 2512 participants (see Table 1 for sample characteristics). 12.6% of participants had data available at two time points only, 14.3% had data available at three time points, and 73.1% of participants had data available at all four time points.

2.3. Measures

Depression: Depression symptoms were measured using eight items from the Center for Epidemiologic Studies-Depression (CES-D) scale (Radloff, 1977). This version of the CES-D asked participants to endorse whether they had experienced any of the listed symptoms during the past week. It has demonstrated high external and construct validity (Karim, Weisz, Boibi, & ur Rehman, 2014; Kohout et al., 1993).