Sense of self, depression and adaption to grief, in emerging adults who suffered parental loss

Abstract

The death of a parent is a traumatic event usually accompanied by profound grief and psychological challenges. This study explored some of the factors which may predict sense of self, depression and adaption to grief in 328 parentally bereaved emerging adults. Our findings revealed a presence of pathological grief among young adults. The results also highlighted a strong negative relationship between sense of self and depression. Furthermore, depression was accounted for by sense of self, adaption to grief and time since loss of the parent/s. Interventions for parentally bereaved emerging adults should aim at strengthening their sense of self, for example through boosting resilience, social and professional support, meaningful relationships and ameliorative lifestyle changes.

Keywords: emerging adulthood, depression, grief, bereavement, parental death, sense of self

Introduction

The loss of a parent is an expected life course transition and typically, a universal experience. However, the timing of significant life events, like parental loss, can have a profound impact (Hutchison 2011). ~~Life course theory (Elder 1998) defines *off-time events* as an occurrence that takes place earlier or later than what societal or cultural norms permit as normative. These off-time events are usually unexpected, and consequently, are associated with developmental challenges (Porter and Claridge 2019). Population-based studies of children and adolescents have exemplified these recurrently in their findings.~~ For example, ~~early~~ paternal death during childhood and adolescence has been associated with increased vulnerability to depression and psychiatric disorder (Brent et al. 2012; Dowdney 2000; Mack 2001), elevated risk of morbidity and premature death (Li et al. 2014; Smith et al. 2014) and a greater likelihood of alcohol and substance misuse (Hamdan et al. 2013). ~~The off-time death of a~~ Early parental loss has also been associated with lower academic attainment (Abdelnoor and Hollins 2004), lower self-esteem (Mack 2001; Worden and Silverman 1996) and an increased risk of criminal behaviour (Draper and Hancock 2011).

While many studies have focussed on the effects of parental loss in childhood and adolescence (Berg et al. 2016; see also Dowdney 2000; Pham et al. 2018 for a review), there is comparatively little research into the impact of early parental death on young and emerging adults throughout their twenties (Feigelman et al. 2017). *Emerging adulthood* is a relatively new concept coined by Arnett (2000) to define the transitional period into adulthood. Though there is variance in existing literature, it is typically agreed that emerging adulthood begins at 18 years old and lasts until 30 years old in high-income societies (Arnett et al. 2014). Emerging adulthood has been labelled the "age of identity formation" and "age of instability" (Arnett 2007). It is a progressive period in the life course where individuals become more self-sufficient and autonomous decision-makers, renegotiate their relationships with their parents, enter marriages and start families, follow their chosen career paths and become more

financially independent (Cohen et al. 2003). However, navigating an uncertain transition into adulthood makes emerging adults vulnerable to adversity and increases their risk of developing mental health issues (Arnett et al. 2014; Mechling 2015; Porter and Claridge 2019). Moreover, emerging adults are typically not fully certain of their independence from their parents as they continue to seek out financial assistance, co-residence, emotional and moral support, and mentorship (Arnett 2000; Fingerman 2017). Emerging adults are placed at high risk of complicated and prolonged following the loss of a loved one (Brent et al. 2012; Herberman Mash et al. 2013; Shear at al. 2011). Furthermore, evidence shows that greater dependence on the deceased loved on increases the likelihood of experiencing depression and maladaptive or complicated grief (Mash et al. 2013; Johnson et al. 2008; Manoogian et al. 2018). Given this, it is expected that emerging adults' adaption to grief will be governed by their dependence on their deceased parent. ~~Consequently, the early or off time death of a parent has been shown to cause added stress, affect life trajectories, exacerbate developmental challenges, lower self-esteem and increase life dissatisfaction (Melcher et al. 2013; Porter and Claridge 2019). It is therefore unsurprising that past research (Brent et al. 2012; Herberman Mash et al. 2013; Shear et al. 2011) also places emerging adults at high risk of complicated and prolonged grief following the loss of a loved one. For example, in a quantitative study of young adults aged 17-29, Mash et al. (2013) found that 34% of respondents suffered mild to severe depression after the loss of a close friend or relative, whilst 16% met criteria for complicated grief. Such study, among others, supports the notion~~~~Futhermore, evidence shows~~ ~~that a greater dependence on the deceased loved one~~ (Herberman Mash et al. 2013; J. G. Johnson et al. 2008; Manoogian et al. 2018)~~. Given this, it is expected that emerging adults' adaption to grief will be governed by their dependence on their deceased parent.~~

Time since loss is also considered an important factor in predicting how parentally bereaved emerging adults adapt to grief (Feigelman et al. 2017). For example, a recent study by Andriessen et al. (2018) interviewed 39 adolescent and emerging adult participants aged between 13 and 27 who had experienced the loss of a parent, grandparent, sibling or close peer approximately five years beforehand.

Retrospectively, many participants regarded the death as a turning point in their lives, which became a catalyst for positive change to their perceptions of self, including confidence, self-reliance, resilience, mental health and self-awareness. As such, it is common that depression and maladaptive grief will occur when a loss is recent, but these feelings are usually expected to diminish over time, allowing for positive outcomes to transpire (Lobb et al. 2010; Maciejewski et al. 2007; Schwartz et al. 2018; Shuchter and Zisook 2010).

Complicated and intense reactions to grief are more likely among young adults as they may not have developed the emotional, social and structural support required to cope with bereavement (Hayslip et al. 2015; McCoyd and Walter 2015). Consequently, age of the bereaved individual is important when considering how emerging adults are expected to adapt to grief. Literature attributes this to younger adults remaining more dependent on parents (Taub and Servaty-Seib 2008) and consequently, experiencing a greater sense of loss (Meshot and Leitner 1993).

Furthermore, past research has identified that loss can cause a persistent sense of uncertainty about the self (Boelen et al. 2006). Parents are believed to be fundamental in identity development by allowing emerging adults to form understandings of themselves through contrast and continuity (Schultz 2007). Consequently, early parental loss is conceded as a potentially life and identity-changing event for emerging adults whom are in a significant stage of the lifespan for navigating their identity and developing a coherent sense of self (Schwartz et al. 2005). As a result, the off-time loss of a parent is associated with a weakened sense of self (Harris 1996). Research into gender differences suggests that parental attachments, particularly maternal relationships, are more significant in female identity formation compared to men (Josselson 1987; Samuolis et al. 2001). Hence, the early loss of a parent and/or significant attachment figure is expected to be more disruptive to sense of self for female emerging adults. ~~This weakened self of self has been found to contribute further to maladaptive grief and depression among emerging adults. For example, Horowitz (2015) used case studies to exemplify how trauma, like the loss of a loved one, can lead to an altered sense of self, which provokes feelings of inferiority, incompetence or identity diffusion. He recognised the impact of this on post-bereavement~~

~~symptoms, making intrusive memories, anxiety and depression more intense. Despite this, research has yet to appropriately examine the complex interplay between adaption to grief, sense of self and mental health issues post-loss in a population-based study~~.

As indicated, emerging adults are a population that have received comparatively little attention in grief and bereavement studies. As a result, research into how emerging adults respond and adapt to the loss of a parent is scarce, with much of what is known the result of qualitative enquiry. This study intends to address these identified gaps by adopting a cross-sectional, quantitative design to explore the predictors of adaption to grief, sense of self and depression in parentally bereaved emerging adults.

Based on the findings presented thus far, it is expected that:

Hypothesis 1: ~~Participants' adaption to grief will be predicted by (1) age of participant, (2) gender of deceased parent, (3) dependence on deceased parent and (4) time since loss. This study expects that~~ less time since loss, a younger age, the loss of a mother (instead of a father) and higher dependence on deceased parent will result in lower adaption to grief.

Hypothesis 2: ~~Participants' sense of self will be predicted by (1) age of participant, (2) gender of deceased parent, (3) dependence on deceased parent, (4) time since loss, (5) adaption to grief and (6) depression. Based on previous research, it is expected that~~ depression scores will most significantly predict sense of self. Furthermore, it is predicted that participants who reported less dependence on deceased parent and greater adaption to grief will have a higher sense of self.

Hypothesis 3: ~~Participants' depression scores will be predicted by (1) age of participant, (2) gender of deceased parent, (3) dependence on deceased parent, (4) time since loss, (5) adaption to grief and (6) sense of self. In consideration of the literature discussed, it is expected that~~ depression scores will be higher among participants who experienced the loss of their mother and those who reported higher dependence on their deceased parent. This study also predicts that less adaption to grief and lower sense of self will result in higher depression scores.

Materials and Methods

Participants

The sample included 328 emerging adults, aged 18-30 years old, who reported having lost a parent (mother or father) during emerging adulthood. ~~It was recommended that anyone experiencing psychiatric or neurological disorder should not participate in this study.~~

Recruitment via social media was considered the most appropriate way to target the population of interest to this study as grieving emerging adults have cited social media as a place of support and connection with other grieving individuals (Getty et al. 2011). Participants were also recruited through the University of East London's student forum. All participants took part in the study of their own volition and no incentive to participate was offered. Participants were excluded if they could not be classified as emerging adults (i.e. between the ages of 18 and 29) and had not experienced any parent loss during their emerging adulthood. It was also recommended that anyone experiencing psychiatric and/or neurological disorder should not participate in this study.

This study was conducted according to BPS Guidelines for Ethical Research and was approved by the Ethics Committee of the University of East London prior to commencing data collection.

----------**Table 1 about here**----------

Demographic details are presented in Table 1. The mean age of participants was 26.29 (*SD*= 2.76), and the majority of the sample identified as female (95.7%, *n*=314). Respondents were predominantly white (87.5%, *n*=289) but the sample was also inclusive of other ethnic backgrounds, including Asian, Black, mixed ethnicity and Hispanic ~~(see Table 1)~~. M~~m~~ost participants had experienced the death of their mother (49.4%, *n*=162). Some respondents had lost both parents (16.8%, *n*=55) during their life course. These participants were still included in the sample and only excluded if both parental deaths had occurred in their period of emerging adulthood. This decision was made to have a more homogeneous sample. ~~but most participants had experienced the death of their mother (49.4%, *n*=162). Remaining participants had lost their father (33.8%, *n*=111). T~~Finally, this study was concerned with emerging adults who had experienced parental loss between the ages of 18 and 30 years old. Therefore, data from

45 participants was omitted from the final sample *(N=328)* as they indicated their parent had died before they had turned 18. ~~Demographic details are presented in Table 1~~. ~~Additionally, 55 participants reported that they had lost both parents during emerging adulthood. Consequently, this data was also removed from the final sample (*N=328*) as only participants who lost their "mother" or "father" during emerging adulthood were of interest to this study.~~

Questionnaires

Online questionnaires were set up on an online survey platform (Qualtrics, Provo, UT), which included the following:

Factors Relating to Parental Loss

Participants were asked to provide information relating to the loss of their parent, for example, the gender of their deceased parent~~. Questions also included,~~ age of parent when they died, time since loss (in months) and whether the death was expected or sudden. Their dependence on their deceased parent prior to their death was measured on a 4-point Likert-type scale ranging from 1 "*I was very independent of deceased parent"*, 2 "*I was mostly independent of deceased parent*", 3 "*I was somewhat dependent on deceased parent*" and 4 "*I was very dependent on deceased parent*". ~~-~~Finally, if participants ~~they~~ stated they had lost both parents, they were shown an additional question (not presented to those who selected 'mother' or 'father'), asking which parent they had lost during emerging adulthood.

Texas Revised Inventory of Grief-II Scale *(Faschingbauer et al. 1987)*

The Texas Revised Inventory of Grief (TRIG) is a widely used self-evaluation instrument that quantifies the intensity of grief reactions by assessing past and present thoughts, emotions and behaviours (Hansson et al. 2010; Neimeyer et al. 2014). It utilises two scales, which are answered using a 5-point Likert scale ranging from 1 "*completely true"*, 2 "*mostly true"*, 3 "*true & false"*, 4, "*mostly false"*, to 5, "*completely false"*. The first subscale, TRIG-I (past feelings) measures concerns, feelings and actions at the time of

loss. However, this study only utilised the second subscale, TRIG-II (present feelings), which measures adaption to grief through 13 statements about grieving at the present time, including emotional distress, lack of acceptance, rumination and painful memories. TRIG-II is frequently used independently in literature due to its focus on the present situation~~, which was of interest to this study~~ (Holland et al. 2013), which was of interest to this study. ~~The scale is typically used to distinguish between "normal" versus "pathological" grief, with a lower score (below 50th percentile) indicating more severe grief (Faschingbauer et al. 1987). A cross-cultural meta-analysis found coefficient alphas of .82 and .90 for TRIG-I and TRIG-II, respectively, indicating strong internal consistency (Montano et al. 2016). No previous published research was found using the TRIG scale to measure adaption to parental loss in emerging adults.~~

Sense of Self Scale *(Flury and Ickes 2007)*

The Sense of Self Scale (SOSS) is a 12-item measure used to assess whether the respondent has a strong or weak sense of self. Respondents are required to answer in a Likert-scale format that ranges from 1 "*very uncharacteristic of me*" through to 4 "*very characteristic of me*" with some items coded in reverse. Participants receive a score ranging between 12 and 48, where 12 indicates a very strong sense of self and 48 reflects a very weak sense of self. ~~The 12 scale items were selected to measure four components of a weak sense of self defined by Flury & Ikes (2007). These include: (1) difficulty understanding oneself and distinguishing self from others (e.g. ''It's hard for me to figure out my own personality, interests, and opinions''); (2) inconsistency in feelings, opinions, and values (e.g. ''I wish I were more consistent in my feelings''); (3) a need for self-definition from others due to lack of understanding of oneself (e.g., ''I need other people to help me understand what I think or feel''); and finally, (4) feelings of a tenuous existence (e.g., ''I often think how fragile my existence is''). The results of a study that sampled 302 participants showed no significant difference in scores across gender. Internal consistency was measured at .86 using Cronbach's alpha (Flury and Ickes 2007).~~

Beck's Depression Inventory-II *(Beck et al. 1996)*

Beck's Depression Inventory-II (BDI-II) is a 21-items ~~a~~ multiple-choice symptom scale that was used to measure depressive mood among participants. It is one of the most frequently used instruments in research and clinical practice to detect depression in adults and adolescents (Joe et al. 2008). ~~The self-report scale consists of 21-items that assess the severity of depression according to the criteria for diagnosing depressive disorder outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association, 2013). Respondents were instructed to answer questions relating to their feelings, beliefs and behaviours over the past two weeks.~~ Each question is answered against four increasing levels of severity, with items ranging between 0 to 3, for example, (0) "*I do not feel sad"*; (1) "*I feel sad"*; (2) "*I am sad all the time and I can't snap out of it"*; (3) *"I am so sad or unhappy that I can't stand it"*. The respondents total score is the sum of all responses, which can range from 0 to 63, with higher scores reflecting a greater presence and severity of depressive symptoms. ~~The scales sensitivity, validity and psychometric properties have been strongly supported following extensive use within psychiatric and non-psychiatric contexts (Wang and Gorenstein 2013). BDI-II has a high-level of internal consistency with a reported coefficient alpha of 0.9 (Beck et al. 1996).~~

Procedure

The initial invitation to participate included a brief summary of the study, background on the researchers and a link to an online questionnaire. Due to the sensitive nature of the research topic and its potential to cause distress, the research study was clearly outlined in a participant information letter. This detailed the study's aims, inclusion criteria and what participation would entail. Yet, the study's hypotheses remained concealed. It also addressed participant confidentiality, storage of data and right to withdrawal. It was advised that any individuals affected by psychiatric or neurological disorders should not participate. Participants were encouraged to read all pertaining information in detail before giving their

informed consent to participate. Once they gave their consent, participants were asked to provide information relating to the loss of their parent/s and to fill in the questionnaires mentioned above.

Research design and data analysis

This study adopted a non-experimental, quantitative design, which explored the research hypotheses ~~using a combination of Mann-Whitney U testing and~~through a series of multiple regressions. Independent variables and dependent variables differed depending on the hypothesis being tested. Table 2 presents the variables of interest to this study and summarises how they were measured.

----------Table 2 about here----------

Initially, this study intended to utilise path analysis design to explore direct and indirect effects of independent (exogeneous) variables in the model on dependent (endogenous) variables. However, when tested, goodness of fit indices indicated a poorly fitting model. Path analysis is particularly sensitive to model specifications (Stage et al. 2004), therefore, poor fit was likely due to inclusion of unrelated variables, omission of crucial variables and/or testing paths between variables that are un-related (Streiner 2005). The present study aimed at identifying the predictors of adaption to grief, sense of self and depression, as supported by literature, opposed to testing a prespecified causal model, which path analysis is most frequently used for (Stage et al. 2004). Consequently, a series of multiple regression were carried out instead to test the hypothesised relationships of interest in hypothesis 1, 2 and 3.

Firstly, data was tested to ensure it met the assumptions of multiple regression. These assumptions include: a linear relationship between predictor and outcome variables, normal distribution of the residual values, homoscedasticity and an absence of multicollinearity.

All target variables were continuous and predictor variables were measured either continuously, ordinally or dichotomously. To include dichotomous variables (i.e. gender of deceased parent) in the multiple regression model, they were first dummy coded using either *0* or *1* to convey group membership, which

allows the categories to be treated as a low or high score (Salkind 2012). Ordinal variables were entered directly into the model. Although this approach is debated among researchers (Winship and Mare 1984), it often accepted to treat ordinal variables as numerical (Schwartz et al. 2018). This method is relatively commonplace in statistical analysis (Johnson 2009), however, only strong results should be considered meaningful, and even then, should be interpreted with caution.

Results

All quantitative data was downloaded from Qualtrics and exported to a Microsoft Excel document where it was screened for errors, missing data and scored. When scoring, individual items for each measure were scored or reverse-scored based on their respective values and summed to create a total score for each variable according to their scale of measurement. Data was then uploaded into IBM SPSS Statistics for Windows, version 23 (IBM Corp., Armonk, N.Y., USA), where it was coded appropriately and then analysed. A confidence level of 95% and an α level of 0.05 was used for all statistical tests.

The dataset included only participants who completed the questionnaire in its entirety. Therefore, cases of missing data were removed by disregarding responses belonging to 27 participants who started but did not complete the questionnaire. As previously mentioned, data belonging to participants who reported losing a parent before the age of 18 was also removed. Data from 328 participants was then checked for outliers and screened to ensure it met the assumptions of its respective statistical test. A small number of outlier values were detected, although, we did not remove or adjust these as they represented actual values of the population under investigation (Freedman et al. 2007), which should only be removed if they are believed to be indicative of an error (Dancey 2011). Furthermore, in the context of multiple regression, a univariate outlier may not be considered extreme when combined with scores on two or more variables (Cousineau and Chartier 2010).

Descriptive statistics for each variable, including mean, standard deviations and score ranges are outlined in Table 3.

----------**Table 3 about here**----------

Mean scores on TRIG-II were below the 50th percentile, which indicates that emerging adults in this study presented with low adaption to grief (Faschingbauer et al. 1987). According to Beck's Depression Inventory (Beck et al. 1996), on average, participants fell into the category of "moderate depression", and presented as having a "moderate sense of self" (Flury and Ickes 2007).

Hypothesis 1

Bivariate relationships between variables were first analysed using Pearson's *r* (Table 4). As predicted, adaptation to grief correlated positively with time since loss (r=.29, p<0.001) and negatively with dependence on deceased parent (r=-.21, p<0.001). However, adaption to grief was not found to have a statistically significant correlation with gender of the deceased parent or age of participant. Although weakly associated, all predictor variables also significantly correlated with one another. As expected, an association existed between dependence on deceased parent and gender of deceased parent (r=.27, p<0.001).

----------**Table 4 about here**----------

The predictor variables were entered into the multiple regression model simultaneously, using the forced entry method (see Table 5).

----------**Table 5 about here**----------

The model was statically significant at predicting adaption to grief, F(4,323) = 15.61, p<0.001, and showed a moderate association between target and predictor variables (Multiple R = .40). Collectively,

dependence on deceased parent, gender of deceased parent, time since loss and age of participant explained 16% of the variation in the target variable.

In this model, regression coefficients for dependence on deceased parent [-2.00 (95% CI = -2.79 – -1.26)] and time since loss [4.53 (95% CI = 3.19 – 5.87)] were statistically significant. Time since loss was the most significant predictor of adaption to grief (β= .35, t(327)= 6.64, p<0.001). Dependence on deceased parent negatively predicted adaption to grief (β= -.27, t(327)= -5.01, p<0.001), age of participant was a weaker negative predictor (β= -.12, t(327)= -2.27, p= .024) and gender of deceased was not significant.

Hypothesis 2

Pearson correlation coefficients between variables are presented in Table 6. Depression showed a statistically significant moderate positive correlation with sense of self (r=.57, p<0.001), followed by adaption to grief (r= -.26, p<0.001) and age of participant (r= -.12, p<0.05), which were both significantly negatively correlated with sense of self. Time since loss did not significantly correlate with sense of self and, contrary to research predictions, nor did dependence on deceased parent. Though some predictor variables displayed significant moderate and weak correlations with one another, there was no evidence of multi-collinearity.

----------Table 6 about here----------

Sense of self was regressed onto the predictor variables, using the forced entry method (Table 7).

----------Table 7 about here----------

Results of the multiple regression indicate there was a collective significant effect of the predictor variables on sense of self, F(6,321) = 26.66, p<0.001. The regression model depicts a moderate

association (Multiple R = .58) and was able to predict 33% of the variance in the target variable. Individually, depression was able to explain approximately 25% of the variance in sense of self.

Depression was the only predictor variable that had a statistically significant regression coefficient [.34 (95% CI = .28 –.40)]. Therefore, as hypothesised, it was also the strongest predictor of sense of self (β= .58, t(327)= 10.91, p<0.001*).* When put into the regression model, no other independent variable was a significant predictor of sense of self.

Hypothesis 3

Bivariate correlations between variables are shown in Table 8. All predictor variables, except gender of deceased parent, significantly correlated with depression. As previously indicated, sense of self and depression have a moderate positive correlation with one another (r= .57, p<0.001). Dependence on deceased parent also positively correlated with depression, though the association was weak (r= .13, p<0.05). Adaption to grief and depression were found to be moderately negatively correlated (r= -.48, p<0.001). Finally, time since loss and age of participant also significantly negatively correlated with depression. Once more, predictor variables significantly correlated with one another, however, analysis of collinearity statistics show that multicollinearity assumptions had not been violated.

----------Table 8 about here----------

A multiple regression was run to predict depression from the predictor variables, which were entered into the model using the forced entry method (Table 9). The model statistically significantly predicted the target variable, F(6,321) = 45.80, p<0.001, and accounted for 46% of the variance in depression scores. There was a moderate-strong correlation between the target and predictor variables in the model (Multiple R = .68).

----------Table 9 about here----------

Regression coefficients for sense of self [.79 (95% CI =.65 –.93)], adaption to grief [-.48 (95% CI = -.62 – -.34)], and time since loss [-2.46 (95% CI = -4.21 – -.70)] were significant. Consistent with findings in hypothesis 2, sense of self was also the strongest positive predictor of depression in the model (β= .47, t(327)= 10.91, p<0.001). Therefore, as expected, depression scores were higher among participants with lower sense of self. Adaption to grief was the next strongest negative predictor of depression (β= -.31, t(327)= -6.79, p<0.001), followed by time since loss (β= -.12, t(327)= -2.75, p=.006). Although dependence on deceased parent had a bivariate correlation with depression, the variance was not significant alongside other variables in the regression model.

Discussion

This study set out to investigate parental bereavement during emerging adulthood. Our findings revealed the presence of pathological grief among young adults, where a strong association was observed between a weaker sense of self and the presence of depression. ~~It explored the key predictors of adaption to grief, sense of self and depression, which had been outlined in past literature to include dependency on deceased parent and other loss-related factors (i.e. gender of deceased parent, time since loss and age of participant). Overall, this study elicited significant result, which partially confirmed the research hypotheses.~~

Contrary to expectations, gender of parent was not a significant predictor of participants' adaption to grief~~, (H1), sense of self (H2) or depression (H3).~~ Consequently, hypothesis 1 was only partially supported as, despite the model's ability to successfully predict adaption to grief, only time since loss, dependence on deceased parent and age of participant produced a significant relationship. The strongest result uncovered by this study was the relationship between a low sense of self and high depression scores in parentally bereaved emerging adults. This was supportive of hypotheses 2 and 3. However, the results of this study also only partially supported these hypotheses as not all predictor variables accounted for variance in the target variable. For example, no other variable - except depression - significantly predicted variance in sense of self (H2). Furthermore, depression was predicted by sense of self, adaption to grief

and time since loss, whilst dependency and gender of deceased parent failed to reach significance. These findings will now be discussed and positioned within the current body of knowledge about parental loss during emerging adulthood. The strengths and limitations of this study will also be addressed.

Hypothesis 1

The first hypothesis was concerned with emerging adults' 'adaption to grief' following parental loss. Descriptive statistics (Table 3) elucidate that, as a collective, participants scored low on adaption to grief, indicating a presence of pathological grief among the research sample (Faschingbauer et al. 1987). This corroborates with literature that finds emerging adults to be high risk of maladaptive grief following the off-time loss of a parent (Brent et al. 2012; Mash et al. 2013; Melhem et al. 2004; Shear et al. 2011). The regression model successfully predicted adaption to grief, though the predictor variables only accounted for relatively low variation (16%). Despite this, regression analysis yielded some insightful results.

Time since loss was found to be the most significant predictor of adaption to grief. As expected, participants who experienced parental loss more recently presented with lower adaption. This finding assimilates with existing literature that finds visceral reactions to grief, disbelief, anger and difficulties coping with everyday life, are likely when a bereaved individual is in the acute stages of grief (Scharlach 1991; Shear 2015). Concurrent with findings of this study, these intense grief reactions are expected to subside as time passes and the bereaved individual adjusts to life without the deceased (Feigelman et al. 2017; Lobb et al. 2010; Shuchter and Zisook 2010). Stage theories of grief have been condemned for their oversimplification of individualised reactions to grief. Despite this, they provide further evidence for the importance of time by indicating that feelings of *acceptance* (Kubler-Ross 1969) and *recover*y (Bowlby 1973) will likely be experienced by parentally bereaved emerging adults once adequate time has passed and sanctioned for adaption to take place. Consequently, time should be used to classify complicated or maladaptive grief in parentally bereaved emerging adults when atypical grief reactions persist beyond what societal norms expect (Shear 2015).

A characteristic underpinning emerging adulthood is a sustained dependence on parents (Arnett 2000, 2005). This study offers evidence that dependency increases emerging adults' risk of maladaptive grief as findings illustrate, as predicted, that higher dependency is associated with less adaption to grief. These findings are consistent with past literature that associates high dependency on the deceased with chronic or complicated grief (Bonanno et al. 2002; Shuchter and Zisook 2010). This relationship has been well observed in studies depicting parental loss (Bergman et al. 2017; Johnson et al. 2002; Scharlach 1991), as well as other close losses e.g. spouse, peers, siblings (Denckla et al. 2011; Herberman Mash et al. 2013; J. G. Johnson et al. 2008; Shuchter and Zisook 2010). Consequently, emerging adults who exert greater dependence on their deceased parent are at heightened risk of experiencing symptoms of chronic grief, like intense yearning and persistent distress (Lobb et al. 2010).

Findings also show that age of participant predicted adaption to grief. Typically, research indicates that younger adults remain more dependent on their parents, which results in a greater sense of loss, more negative outcomes and intense grief (Hayslip et al. 2015; Meshot and Leitner 1993; Taub and Servaty-Seib 2008). In contrast, this study found adaption to grief was higher among younger participants. Although the negative relationship uncovered in this study was significant, it should be interpreted with caution as the beta coefficient was weak, and no bivariate correlation was detected between adaption to grief and age (Table 4). Furthermore, the age range under study was restricted to include only emerging adults. As a result, the effect of age is unlikely to produce noteworthy results as participants were selected based on similarities that were characteristic of their age bracket. Therefore, accounting for other variables, that may more appropriately signal emerging adults' developmental stage (e.g. career, homeownership, marital status, children etc.), could have better explained adaption to grief.

Hypothesis 2

Hypothesis 2 investigated the predictors of 'sense of self'. Overall, the emerging adults in this study averaged a mean score that fell mid-range on the Sense of Self Scale (Flury and Ickes 2007), indicating that, on average, they possess moderate sense of self. This is somewhat contrary to previous literature, which predicts low sense of self among young adults and adolescents who have experienced the early

loss of a parent (Currier et al. 2008; Harris 1996; Horowitz 2015). Emerging adulthood is considered an important developmental period for forming a coherent identity, therefore, some fragmentation to sense of self is expected (Schwartz et al. 2013). At present, there are no studies that quantitatively investigate sense of self in non-parentally bereaved emerging adults. Consequently, without a comparative study, it is unknown whether sense of self is significantly lower in parentally bereaved emerging adults. This would form a valuable area for future investigation.

The regression model significantly predicted variation in sense of self, albeit the only significant predictor of sense of self was depression. The relationship between depression and sense of self is agreed in research, which finds symptoms of depression and anxiety, unstable feelings and self-doubt to be common among non-bereaved individuals with a weak sense of self (Erikson 1950; Flury and Ickes 2007; Schwartz et al. 2012). The moderate positive association, which was the strongest result found in this study, verifies that this relationship is also true for parentally bereaved emerging adults, which has not previously been addressed in literature.

Depression is recurrently associated with low adaption to grief (Lobb et al. 2010; Näppä et al. 2016; Shear 2015; Stroebe et al. 2007). As the relationship between depression and sense of self was proven in this study, it was also expected that low adaption to grief would predict weak sense of self. However, although a significant negative bivariate correlation was detected, when entered into the regression model, adaption to grief was not found to significantly predict sense of self. These findings differ from previous research that documents how the loss of a loved one leads to a weakened sense of self, which contributes to an increased risk of maladaptive grief, depression and anxiety (Horowitz 2015). In concordance, researchers have observed a more defined sense of self in bereaved individuals who have adapted to grief (Andriessen et al. 2018; Balk 1991, 1996; Schultz 2007). This study may have failed to identify adaption to grief as a significant predictor of sense of self due to the predictive power of depression in the model. Depressive symptomology is common among bereaved individuals who have experienced recent loss or are presenting with maladaptive grief (Bonanno et al. 2002; Fried et al. 2015; Herberman Mash et al. 2013). Therefore, although they are two distinct constructs, literature has

discussed how their simultaneous presentation can cause difficulty when attempting to distinguish between grief and depression in bereaved individuals (Schwartz et al. 2018).

Furthermore, dependency on deceased parent also did not significantly predict sense of self. Past literature has acknowledged the importance of parental attachments when emerging adults are approximating their sense of self (Flum and Lavi-Yudelevitch 2002; Pearce 2011; Schultz 2007). Therefore, this study diverges from existing literature, which expects emerging adults to experience greater identity disturbance post-loss if they were more dependent on their deceased parent (Maccallum and Bryant 2013). Moreover, models of parental attachment suggest that mothers play a more significant role than fathers in identity formation (Josselson 1987; Samuolis et al. 2001). Therefore, a greater distortion to sense of self was expected following maternal loss. However, this research also did not find gender of deceased parent to significantly predict sense of self. ~~As a result, although the regression model significantly predicted sense of self, hypothesis 2 is only partially supported due to adaption to grief, gender of deceased parent, time since loss, dependency on deceased parent and age of participant failing to significantly explain variance in the model.~~

Hypothesis 3

Analysis of scores on Beck's Depression Inventory (Beck et al. 1996) indicated that participants collectively presented with "moderate depression". Hypothesis 3 was interested in predicting the determinants of depression among these parentally bereaved emerging adults. Firstly, it was predicted that depression scores would be higher among participants whose mother had died, as greater depressive symptomology has been detected in young adults who lost a mother compared to those who lost their father (Lawrence et al. 2005). Inversely, the findings of the present study did not find gender of deceased parent to be a significant predictor of depression. Therefore, these results are in accordance with an opposing body of literature (Brent et al. 2009; Gray et al. 2011; Jacobs and Bovasso 2009) which finds no convincing evidence that maternal loss increases risk of negative mental health following parental bereavement.

Sense of self was found to be the most significant positive predictor of depression. This replicates the findings discussed in hypothesis 2. These findings meaningfully indicate that a strong sense of self is preventative against depression in parentally bereaved emerging adults. As it was the strongest predictor, a well-defined sense of self may also limit the psychological impact caused by other loss-related factor included in this study. This aligns with existing research that finds a strong sense of self can elicit self-esteem and protect against feelings of anxiety and depression (Kernis 2005; Schwartz et al. 2013). Furthermore, although adaption to grief was not found to be a significant predictor of sense of self (H2~~3~~), correlations suggest that a relationship does exist. Thus, a strong sense of self could also be protective against maladaptive grief. According to the dual process model of bereavement (Stroebe and Schut 1999), a strong sense of self could be an important internal resource that supports emerging adults to cope with loss-orientation, like preoccupation or yearning for the deceased. This signifies the importance of well-developed restoration-orientation factors, including resilience (Ong et al. 2010) and social support, to assist emerging adults when redefining their sense of self after parental loss. In addition, intervention should highlight the importance of fulfilling adult roles and responsibilities for parentally bereaved emerging adults, which are believed to be important for forming a coherent sense of self (Schwartz et al. 2013).

In support of hypothesis 3, adaption to grief was found to be the next strongest predictor of depression. As expected, instances of depression were higher among participants who presented with low adaption to grief. This finding is consonant with past literature, which has linked maladaptive grief with poor mental health outcomes (e.g. Näppä et al. 2016; Shear 2015; Stroebe et al. 2007). For example, Shuchter & Zisook (2010) observed more depressive symptomology in individuals presenting with unresolved grief. It was also expected that high dependency on deceased parent would predict more depression among emerging adults. This prediction was not supported. Consequently, these findings are antithetical to previous research that identifies dependency on the deceased as a pertinent factor relating to loss, which moderates the risk of developing mild or severe depression (Mash et al. 2013; Manoogian et al. 2018). Nonetheless, this study did detect a significant bivariate correlation between

dependency and depression, suggesting a relationship does exist. As a result, this study does not refute previous research, as it is plausible that predictor variables in the model, which reached significance and shared a bivariate correlation with dependency, may have also accounted for some shared variance. Methodological issues could also provide an alternative explanation for this null result. The variable, dependency on deceased parent, was measured on a 4-point ordinal scale and entered into the multiple regressions as a continuous variable, which is an approach endorsed by Schwartz, Wilson and Goff (2018). However, other literature suggest that this is only reliable if ordinal variables have five or more categories (Sullivan and Artino 2013). Therefore, this result may be unreliable and should be interpreted with caution. To our knowledge, at present, there is no validated scale to measure a bereaved individual's dependency upon the deceased prior to loss. Existing scales measuring dependency, e.g. Dependency subscale of the Depressive Experiences Questionnaire (Blatt et al. 1995), were deemed inappropriate due to their focus on present relationships rather than past. Nonetheless, further quantitative study that adopts a more robust measurement tool is recommended.

Depressive symptomology is common following parental bereavement (Dowdney 2000), with emerging adults particularly at risk for developing internalising disorders (Brent et al. 2012; Gray et al. 2011; Porter and Claridge 2019). However, depressed feelings are expected to diminish over time as individuals adapt to their grief (Lobb et al. 2010; Schwartz et al. 2018). Given that adaption to grief significantly predicted depression, and that time since loss was the most significant predictor of adaption to grief (H1~~2~~), it is unsurprising that time since loss was also found to significantly predict depression. Findings of this study indicated that less time since loss contributed to more depression among parentally bereaved emerging adults, which is supportive of the research hypothesis and past research on this topic.

Though this study makes contribution to literature, it is not without its limitations. First, the study adopted a correlational and cross-sectional design, which limit us to inferring associations between variable rather than causal relationships. Second, data was collected using self-report questionnaires, which may elicit biased results and inaccurate reporting due to respondents' lack of introspective ability, social desirability and feelings at the time of completion. Time since loss, which ranged from 3 months to 13 years, may

have also influenced results when participants were reflecting on their feelings retrospectively. Nevertheless, both quantitative and qualitative research have their respective limitations when studying bereavement. Hence, Stroebe et al (2003) make a reasoned argument for methodological pluralism, which future research should consider to more fully comprehend grief experiences of emerging adults. A strength of this study was its relatively large sample size (*n*=328), however, lack of diversity in the sample reduces generalisability of results as respondents were predominantly white (87.5%) and female (95.7%). Furthermore, there were potentially confounding variables not included in this study, thus, future research should include mental health history, broader demographic characteristics (e.g. sexuality, socioeconomic status, education level) and consider incorporating developmental milestones that are typically achieved during emerging adulthood (e.g. marriage, parenthood, homeownership, established career path etc.) when determining impact of bereavement outcomes. Also, parental gender in this study was limited to "mother" or "father" binary labelling and did not account for diversity of familial composition (for ex. multiple fathers, multiple mothers, adoptive parents, or stepparents). Hence, future studies may want to consider these factors and include them in their analyses to see what role these may play in the emerging adults' psychology following a parental loss.

Notwithstanding these limitations, this study makes valuable contribution to bereavement literature through its purposeful focus on the impact of parental loss during emerging adulthood, which has thus far has received insufficient attention. This study can also be merited for its quantitative design, population-based approach and respectively large sample, which is lacking among emerging adults, whom remain an understudied population.

Conclusive remarks

The most significant finding of this study was the relationship between a weak sense of self and depression. Whilst this relationship has received considerable attention in existing literature, no study ~~(to our knowledge~~, to our knowledge, has previously acknowledged this within parentally bereaved emerging adults. Therefore, this work offers confirmatory evidence that a weaker sense of self in parentally

bereaved emerging adults corresponds with greater depressive symptomology (Flury and Ickes 2007; Schwartz et al. 2012). Overall, the emerging adults in this study had poorly adapted to grief following the death of their parent, though the effect of this ~~was found to get better~~were found to alleviate with time. Whilst time since loss and adaption to grief were significant predictors of depression, ~~Furthermore, this study found that~~ sense of self and depression were found to be the strongest predictors of one another in this population.~~.~~ This indicates that emerging adults~~those~~ with a lower sense of self, prior to loss, may be at greater risk of depression following parental bereavement, irrespective of other loss-related factors. Whilst those with a higher sense of self may be better equipped to deal with parental loss. Consequently, this study concludes that a more~~a~~ robust ~~strong~~ sense of self could be considered an important internal resource and restoration factor that makes parentally bereaved emerging adults less vulnerable to depression, ~~maladaptati~~maladaptive grief ~~on~~ and psychopathology. Building a healthy self-esteem is considered an important restoration factor also linked to a strong sense of self (Kernis 2005; Schwartz et al. 2013). Therefore, interventions for parentally bereaved emerging adults , such as counselling, therapy or grief support groups, should support individuals to build a stronger sense of self by helping them to rebuild their identity separate from the deceased ~~-~~and cultivate alternative restoration-orientation factors, for example, resilience, self-esteem, social and professional support, meaningful relationships and lifestyle changes that offer a new understanding of self. Future interventions could also make use of social media, which have been shown to promote engagement and foster social connectedness (Alvarez-Jimenez et al. 2019; Rice et al. 2016). The use of therapeutic social networks could also encourage the creation of an embodied experience that provides young people with a sense of self-recognition and belonging (Valentine et al. 2020), and that can ultimately improve the symptomatology related to depression and loneliness following a bereavement (Fried et al. 2015).

Data Availability

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest

The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed Consent was obtained from all participants included in the study.

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