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# Parental bereavement and the loss of purpose in life as a function of interdependent self-construal

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## Abstract

Children are often inextricably linked to their parents' hopes and dreams. As such, the loss of a child often represents one of the most traumatic experiences possible. The current research explores how this specific loss relates to one's sense of purpose in life. We further explore whether the loss of a child is particularly detrimental to one's sense of purpose for highly interdependent parents. Analyses of parents from the Midlife in the United States (MIDUS) data set revealed, as expected, that the loss of child negatively predicts one's sense of purpose in life, and that this effect is most pronounced for parents high in interdependent self-construal. Potential mechanisms and implications of the present findings are discussed.

## 1. Introduction

People from diverse backgrounds commonly believe that children provide life with meaning and fulfillment (Stanley et al., 2003; Toulemon, 1996). Corroborating these beliefs, a series of studies recently demonstrated that parents experience more positive emotions, less negative emotions, and greater life satisfaction and meaning in life through child-care activities compared to non-parents (Ashton-James et al., 2013; Nelson et al., 2013; see Blanchflower and Oswald, 2004; Evenson and Simon, 2005; Kohler et al., 2005; McLanahan and Adams, 1987; White and Dolan, 2009, for supporting and contradictory findings).

While children often imbue life with purpose and meaning, the loss of child can shake the foundation of one's existence and detrimentally influence both physical and psychological health. Research shows, for instance, bereaved parents suffer from a wide array of physical and mental illness, including higher incidences of cancer (Li et al., 2002), increased mortality (Li et al., 2003), more severe grief symptoms (Hazzard et al., 1992), post-traumatic stress disorder (Murphy et al., 1999; Sporeen et al., 2001), increased anger and hostility (Rando, 1983), shattered personal identity and self-concepts (Neimeyer et al., 2002), and doubts in their world-views (Janoff-Bulman, 1989; Matthews and Marwit, 2003).

39 Parental bereavement is posited to reduce one's sense of meaning and purpose in life (Janoff-  
40 Bulman and Frantz, 1997). Indeed, a set of empirical data and qualitative investigations demonstrate  
41 that bereaved parents often fail to find meaning in the loss experience for an extended period of time  
42 after the loss of their child, and that these parents report higher mental distress and lower physical  
43 health compared to those who successfully construct a sense of meaning in the loss experience  
44 (Braun and Berg, 1994; Keese et al., 2008; Lehman et al., 1987; Lichtenthal et al., 2013; Murphy et  
45 al., 2003; see also Park, 2010 for a review). While prior research has focused primarily on how  
46 *situational* meaning and a sense of purpose serve as coping resources following the loss of a child,  
47 the present study directly examines how losing a child influences parents' *global* purpose in life.  
48

49 Researchers have defined purpose in life as a central, self-organizing life aim that provides a  
50 person with a framework for pursuing life goals (McKnight and Kashdan, 2009). Providing an  
51 overarching sense of goals and direction in life, purpose in life has been found to be positively  
52 associated with happiness and well-being (Bronk et al., 2009; Burrow and Hill, 2011; Byron and  
53 Miller-Perrin, 2009; Ryff, 1989). More recently, Hill and Turiano (2015) demonstrated that purpose  
54 in life serves to buffer against mortality risk across adulthood using data from the Midlife in United  
55 States (MIDUS) sample (see also Boyle et al., 2009). The present research aims to explore the  
56 possibility that experiencing the loss of a child may violate parents' overarching goals and  
57 fundamental beliefs about life, and thus reducing their sense of purpose.  
58

59 A secondary goal of the current research is to explore an unexamined psychological factor  
60 that may moderate the effect of loss of child on purpose in life (e.g., Lehman et al., 1987; McIntosh  
61 et al., 1993). In the present study, we suggest that individual differences in interdependent self-  
62 construal play a pivotal role in the extent to which bereaved parents find it difficult to extract purpose  
63 in life from the loss experience. People who hold interdependent self-construals value harmony in  
64 social relationships and place close others in the core part of their self-concept, whereas those who  
65 hold independent self-construals value autonomy and maintain uniqueness by distancing others from  
66 their self-concept (Markus and Kitayama, 1991; Singelis, 1994). The closeness between self and  
67 significant others among those high in interdependent self-construal is particularly salient between  
68 caregivers and children. For example, among Eastern Asians (i.e., interdependent people), one's self  
69 is predominantly described in terms of their caregivers (Bochner, 1994; Markus and Kitayama, 1991)  
70 and, for these people, neural activity that processes self-relevant information does not distinguish  
71 between stimuli related to one's self and one's mother, for example (Chiao et al., 2009; Zhu et al.,  
72 2007). Likewise, children are a central part of the self-concept of parents who possess interdependent  
73 self-construals.  
74

75 Based on the relevant literature on parental bereavement and cultural psychology, we  
76 hypothesize that A) losing a child will detract from one's overall sense of purpose in life and B) this  
77 relationship will be stronger for parents high in interdependent self-construal than for those low in  
78 interdependent self-construal. To test this hypothesis, we employed a longitudinal data set that  
79 includes American adult respondents. Specifically, we used the same data set (MIDUS) that Hill and  
80 Turiano (2015) analyzed to demonstrate that purpose in life predicts decreased mortality rates.  
81 Although investigations of self-construal are often conducted in a cross-cultural manner (e.g., East  
82 vs. West), there is also great variability in self-construal within cultures (Oyserman et al., 2002). The  
83 current research focuses on how individual differences in self-construal, rather than cultural  
84 differences, moderate the relationship between the loss of a child and purpose in life. From both  
85 cross-sectional and longitudinal analyses of the data, we expect that decreased purpose in life by the  
86 loss of a child would be more pronounced for parents high in interdependent self-construal compared  
87 to their low interdependent self-construal counterparts.

## 88 2. Method

### 89 2.1. Participants

90 We used two waves of the data sets from MIDUS to test our hypotheses. This data set is  
 91 composed of a nationally representative group of individuals aimed at examining age-related  
 92 differences in physical and mental health. An initial survey was conducted in 1995–1996 (Wave 1)  
 93 and recruited a sample of 7,108 noninstitutionalized adults from the 48 contiguous states via random-  
 94 digit dialing of telephone numbers. In a follow-up survey conducted in 2004–2006 (Wave 2), seventy  
 95 percent of the initial sample participated again. The final sample of 4,963 respondents (females =  
 96 2,647, males = 2,316), who participated both in Wave 1 and 2 surveys, was entered in the current  
 97 analyses. The ages of these participants ranged from 20 to 75 years at Wave 1 ( $M = 46.46$  years,  $SD$   
 98 = 12.51) and ranged from 28 to 84 years at Wave 2 ( $M = 55.43$  years,  $SD = 12.45$ ).

### 99 2.2. Measures

#### 100 2.2.1. Self-construal

101 Participants completed the Self-Construal scale, which consists of interdependent self-  
 102 construal and independent self-construal subscales (Singelis, 1994). Interdependent and independent  
 103 self-construal was assessed only at Wave 2. Each scale contained three items (“My happiness  
 104 depends on the happiness of those around me,” “I often have the feeling that my relationships with  
 105 others are more important than my own accomplishments,” and “It is important to listen to other’s  
 106 opinions” for the interdependent self-construal subscale; “I act in the same way no matter who I am  
 107 with,” “I enjoy being unique and different from others in many respects,” and “Being able to take  
 108 care of myself is a primary concern for me” for the independent self-construal subscale). Participants  
 109 rated the extent of their agreement with each item on a 7-point scale (1 = *strongly disagree*, 7 =  
 110 *strongly agree*). Average scores of the items in each scale were computed to form separate  
 111 composites for the interdependent and independent self-construal scales ( $M_{\text{inter}} = 4.72$ ,  $SD = 1.13$ ;  
 112  $M_{\text{indep}} = 5.25$ ,  $SD = 1.07$ ). Consistent with the previous literature, the two self-construal subscales  
 113 were not correlated ( $r = .01$ ,  $p = .51$ ).

#### 114 2.2.2. Loss of child

115 The experience of losing a child was assessed in two ways. First, participants reported  
 116 whether they have ever experienced a loss of a child. This self-report was only measured in the Wave  
 117 2 survey. There were 2,394 respondents who provided this information, and 14.2 percent of them  
 118 (339) reported that they lost at least one child in their lifetime. While this measure is the most face  
 119 valid measure of loss in the data set, it did not allow us to control for when the loss might have  
 120 occurred (e.g., 30 years vs. 1 year ago). To help control for this concern, for our second measure of  
 121 loss, we subtracted the number of children at Wave 2 from the number of children at Wave 1, and  
 122 defined those having a negative number for this difference score as parents who had experienced  
 123 child loss. There were 4,064 respondents who provided the number of children both at Wave 1 and 2,  
 124 and 7.3 percent of these participants (364) had fewer children at Wave 2 than Wave 1.

#### 125 2.2.3. Purpose in life

126 Purpose in life was measured by using the purpose in life subscale of Psychological Well-  
 127 Being scale (PWB; Ryff, 1989). The subscale consisted of three items (“I live life one day at a time  
 128 and don’t really think about the future (reversed),” “Some people wander aimlessly through life, but I  
 129 am not one of them,” and “I sometimes feel as if I’ve done all there is to do in life (reversed),” at  
 130 Wave 1, at Wave 2), which were rated on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*).  
 131 A sum of the items was calculated and used as an indicator of purpose in life ( $M = 16.73$ ,  $SD = 3.50$   
 132 at Wave 1;  $M = 16.21$ ,  $SD = 3.42$  at Wave 2).

#### 133 2.2.4. Covariates

134 Age, gender, level of education, income, number of children (alive), and Big Five personality  
 135 from the Wave 2 data were used as covariates in our analyses. The level of education was measured  
 136 by asking the highest grade of school or year of college participants completed using a 12-point scale  
 137 (1 = *no school or some grade school*, 7 = *3 or more years of college, no degree yet*, 12 = *Ph.D., MD,*  
 138 *or other professional degree*;  $M = 7.20$ ,  $SD = 2.52$ ). The personal annual income was assessed on a  
 139 42-point scale (1 = *less than \$0/loss*, 42 = *\$200,000 or more*). The median income was 14 (\$22,500 -  
 140 \$24,499). The average number of children was 2.50 ( $SD = 1.76$ ).

### 141 3. Results

#### 142 3.1. Cross-sectional analyses

143 We first conducted a hierarchical linear regression analysis using the self-reported loss of a  
 144 child variable in a cross-sectional manner to test our hypothesis. The main effects of interdependent  
 145 self-construal (centered) and the self-report item assessing losing a child (effect coded; -1 = *no loss*, 1  
 146 = *loss of child*) were entered in Step 1, and their interaction term was entered in Step 2. As presented  
 147 in Table 1, we found that both the loss of a child ( $b = -.31$ ,  $p = .002$ ) and interdependent self-  
 148 construal ( $b = -.17$ ,  $p = .007$ ) negatively predicted purpose in life. Importantly, however, the  
 149 interaction effect was significant ( $b = -.22$ ,  $p = .01$ ). As shown in Figure 1A, the experience of losing  
 150 a child predicted less purpose in life for people high in interdependent self-construal ( $b = -.56$ ,  $p <$   
 151  $.001$ ), whereas losing a child was unrelated to purpose in life for those low in interdependent self-  
 152 construal ( $b = -.07$ ,  $p = .60$ ). This interaction pattern remained consistent even when relevant  
 153 covariates (i.e., age, gender, education level, income, number of children, Big Five) were accounted  
 154 for (see Table 2).

155 **Table 1. Cross-sectional analysis.** A hierarchical linear regression analysis predicting purpose in life  
 156 from loss of child experience, interdependent self-construal (Step 1), and interaction between loss of  
 157 child and interdependent self-construal (Step 2)

Predictor		Purpose in life W2			$\Delta R^2$
		<i>B</i>	$\beta$	<i>t</i>	
Step 1	LOSS	-.308	-.063	-3.08**	.007***
	INTER	-.167	-.055	-2.70**	
Step 2	LOSS $\times$ INTER	-.215	-.071	-2.58*	.003*

158 *Note.* LOSS = Loss of Child (-1 = *no loss*, 1 = *loss*); INTER = Interdependent Self-Construal; W2 =  
 159 Wave 2.

160 \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

161 **Table 2. Cross-sectional and longitudinal analyses.** Hierarchical linear regression analyses  
 162 predicting purpose in life from covariates (Step 1), loss of child experience, interdependent self-  
 163 construal (Step 2), and interaction between loss of child and interdependent self-construal (Step 3)

	Predictor	Cross-sectional analyses				Longitudinal analyses			
		Purpose in life W2			$\Delta R^2$	Purpose in life W2			$\Delta R^2$
		<i>B</i>	$\beta$	<i>t</i>		<i>B</i>	$\beta$	<i>t</i>	
Step 1	Age	-.034	-.123	-5.03***		-.023	-.080	-4.17***	
	Gender	.223	.034	1.42		.131	.020	1.04	
	Income	.016	.056	2.27*		.013	.048	2.38*	
	Education	.208	.158	7.00***		.095	.072	3.91***	
	# Children	.110	.059	2.72**		.065	.032	1.83†	
	EXTRA	.268	.047	1.74†		.328	.056	2.60**	
	NEURO	-.446	-.085	-3.75***		-.304	-.057	-3.15**	
	OPEN	.379	.061	2.34*		.401	.064	3.10**	
	CONS	1.385	.181	7.99***		.887	.117	6.25***	
	AGREE	.309	.047	1.82†	.137***	.074	.011	.53	
	PIL W1					.347	.356	20.04***	.249***
Step 2	LOSS	-.054	-.011	-.52		-.175	-.029	-1.68†	
	INTER	-.067	-.023	-1.06	.001	-.065	-.022	-1.28	.001
Step 3	LOSS ×								
	INTER	-.170	-.057	-2.00*	.002*	-.250	-.084	-2.75**	.002**

164 *Note.* Gender: Female = 0, Male = 1; # Children = Number of Children; EXTRA = Extraversion;  
 165 NEURO = Neuroticism; OPEN = Openness; CONS = Conscientiousness; AGREE = Agreeableness; PIL  
 166 = Purpose in Life; LOSS = Loss of Child (-1 = *no loss*, 1 = *loss*); INTER = Interdependent Self-  
 167 Construal; W1 = Wave 1; W2 = Wave 2.  
 168 †  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

169 Next, we ran the same hierarchical linear regression analysis, substituting independent self-  
 170 construal for interdependent self-construal, that is, entering the main effect terms of independent self-  
 171 construal (centered) and the self-report of losing child (effect coded) in Step 1, and their interaction  
 172 term in Step 2. Again, loss of a child predicted lower purpose in life ( $b = -.31$ ,  $p = .002$ ), but  
 173 independent self-construal ( $b = .04$ ,  $p = .50$ ) and the interaction term ( $b = .11$ ,  $p = .23$ ) did not  
 174 significantly predict feelings of purpose.

### 175 3.2. Longitudinal analyses

176 Using the change in number of child between Wave 1 and Wave 2 as a proxy for the  
 177 experience of losing child, we tested our hypothesis again in a longitudinal manner. We ran a similar  
 178 hierarchical linear regression analysis by entering purpose in life at Wave 1 (centered) in Step 1, as a  
 179 covariate, the change in number of child (effect coded; -1 = *no loss*, 1 = *loss of child*) in Step 2, and  
 180 its interaction with interdependent self-construal in Step 3 as predictors of purpose in life at Wave 2.  
 181 As presented in Table 3, we found that purpose at Wave 1 (Step 1), losing a child, and interdependent  
 182 self-construal (Step 2) each significantly predicted purpose in life at Wave 2 ( $b = .43$ ,  $p < .001$ ;  $b = -$   
 183  $.27$ ,  $p = .004$ ;  $b = -.14$ ,  $p = .003$ , respectively). As predicted, however, these main effects were  
 184 qualified by a significant interaction effect ( $b = -.22$ ,  $p = .008$ ). The pattern was consistent with the  
 185 cross-sectional findings (see Figure 1B). Simple slope tests revealed that the experience of losing  
 186 child predicted lowered purpose in life for parents high in interdependent self-construal ( $b = -.51$ ,  $p <$   
 187  $.001$ ), whereas the same experience was not related to purpose in life for those low in interdependent

188 self-construal ( $b = -.03, p = .83$ ). Results were unchanged when other relevant covariates were  
 189 included in the analysis (see Table 2).

190  
 191 We performed the same analyses, substituting independent self-construal for interdependent  
 192 self-construal. The main effects of purpose in life at Wave 1, losing a child, and independent self-  
 193 construal were significant predictors of purpose in life at Wave 2 ( $b = .43, p < .001$ ;  $b = -.29, p =$   
 194  $.003$ ;  $b = .11, p = .022$ , respectively). However, the interaction term failed to predict purpose in life  
 195 ( $b = -.04, p = .65$ ).

196 **Table 3. Longitudinal analysis.** A hierarchical linear regression analysis predicting purpose in life  
 197 at Wave 2 from purpose in life at Wave 1 (Step 1), loss of child experience, interdependent self-  
 198 construal (Step 2), and interaction between loss of child and interdependent self-construal (Step 3)

Predictor	Purpose in life W2			$\Delta R^2$
	$B$	$\beta$	$t$	
Step 1 PIL W1	.432	.446	28.28**	.199**
Step 2 LOSS	-.273	-.045	-2.86*	
INTER	-.141	-.046	-2.95*	.004**
Step 3 LOSS $\times$ INTER	-.215	-.071	-2.65*	.002*

199 *Note.* PIL = Purpose in Life; LOSS = Loss of Child (-1 = *no loss*, 1 = *loss*); INTER = Interdependent  
 200 Self-Construal; W1 = Wave 1; W2 = Wave 2.

201 \*  $p < .01$ . \*\*  $p < .001$ .

### 202 3.3. Additional analyses

203 We also conducted the additional analyses to examine how interdependent self-construal and  
 204 parental bereavement predict other well-being variables (i.e., subjective well-being and depression)  
 205 that were available in MIDUS. The results of these analyses did not reveal consistent patterns,  
 206 indicating that the interactive effect between interdependent self-construal and parental bereavement  
 207 existed only with regard to purpose in life (see Supplementary Material for tables depicting these null  
 208 effects).

## 209 4. Discussion

210 These findings support our hypothesis that loss of a child erodes one's sense of purpose in life  
 211 and that this impact is particularly pronounced for those with an interdependent self-construal. In  
 212 both cross-sectional and longitudinal analyses, we found that experiencing loss of a child  
 213 significantly lowered purpose in life among highly interdependent parents, whereas bereavement did  
 214 not affect purpose in life among parents low in interdependent self-construal. In both analyses,  
 215 independent self-construal did not moderate the effect of loss of children on purpose in life. These  
 216 findings are consistent with extant research on hedonic adaptation demonstrating that important  
 217 individual differences may bear on the restoration of psychological equanimity after the experience  
 218 of a negative life event (e.g., Lucas et al., 2003; Luhmann et al., 2012).

219  
 220 Although our results found that purpose in life among parents low in interdependent self-  
 221 construal did not seem to be affected by a loss of a child, we do not suggest that these people are

222 immune to negative responses from these types of traumatic events. Rather, we believe that this  
223 indicates that they may be better at “bouncing back” from the trauma than highly interdependent  
224 parents. They may, for example, have better coping strategies that help them reconstruct purpose in  
225 life (e.g., they may find it easier to focus on other domains in life such as work). Of course, it is also  
226 possible that the initial experience of bereavement is stronger for highly interdependent individuals  
227 (cf., Lucas et al., 2003). The adaptation process might be homogenous for all parents but, because of  
228 this initial difference, those with interdependent self-construal may take much longer to regain their  
229 sense of purpose. Future research needs to explore the mechanisms underlying the different levels of  
230 purpose in life between bereaved parents high and low in interdependent self-construal.

231

232         Interestingly, independent self-construal did not affect purpose in life among bereaved  
233 parents. This finding suggests that experiencing parental bereavement life events is uniquely  
234 associated with interdependent self-construal rather than independent self-construal, which is  
235 consistent with prior research demonstrating that the dimensions of independent and interdependent  
236 self-construals are orthogonal and thus can coexist in individuals (e.g., Singelis, 1994). However, it is  
237 possible that other types of personal loss, that have more individualistic implications (e.g., losing  
238 one’s eyesight), might relate to purpose in life more strongly for people high in independent self-  
239 construal. Future research should investigate whether the various types of personal loss uniquely  
240 interact with independent and interdependent self-construal to predict a sense of purpose.

241

242         Hedonic well-being is described as a subjective state of feeling pleasure and satisfied with  
243 one’s life, whereas eudaimonic well-being is defined as a state of human flourishing that is achieved  
244 from pursuing goals expressing one’s true self and giving purpose and meaning to his life (Ryan &  
245 Deci, 2001). These two aspects of well-being often operate in tandem (e.g., King et al., 2006) but are  
246 also theoretically and empirically distinct (e.g., Baumeister et al., 2013). Previous literatures on  
247 adaptation following critical life events primarily focus on changes in hedonic aspects of happiness  
248 (i.e., subjective well-being; Lucas et al., 2003; Luhmann et al., 2012). However, eudaimonic aspects  
249 of happiness are also influenced by various life events (Durkin and Joseph, 2009; Uchida et al., 2014;  
250 Waterman, 2007). Our research highlights purpose in life as one particular dimension of eudaimonic  
251 well-being that is affected by the loss of a child. Future research should examine how self-construal  
252 and specific types of trauma uniquely detract from hedonic and eudaimonic sources of happiness.

253

254         The current findings have implications for cultural psychology by showing that the impact of  
255 parental bereavement on purpose in life is more pronounced for interdependent people than  
256 independent people. An obvious limitation is that we only compared interdependent and independent  
257 people within the same culture. Future research should examine whether the same pattern of results  
258 emerges in direct cross-cultural comparisons. For example, is it possible that the loss of a child is  
259 more traumatic for people from Eastern cultures compared to Western cultures? Or, perhaps people  
260 from Eastern cultures have other types of coping mechanisms that help them regain a sense of  
261 purpose following the loss of a child? These possibilities remain to be addressed by future research.

262



263 In conclusion, our findings demonstrate that the loss of a child threatens parents' sense of  
 264 purpose and that it may be particularly difficult for highly interdependent parents to rediscover  
 265 meaningful goal pursuits after such tragedy. It is our hope that future research will uncover the  
 266 underlying mechanisms driving this effect and the variables that help highly interdependent people  
 267 cope with the loss of a child.

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## 272 **Author Contributions**

273 JK and JH developed the research hypothesis. JK performed analysis, interpreted data, and prepared  
 274 manuscript. JH supervised data analysis and helped data interpretation and manuscript preparation.

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396

397 **Figure legends**

398 **Figure 1: Regression lines predicting purpose in life as a function of losing a child for**  
399 **individuals  $\pm 1 SD$  from the mean on interdependent self-construal in the cross-sectional (Panel**  
400 **A) and longitudinal (Panel B) analyses.**

Figure 1.JPEG

