



Optimism in prolonged grief and depression following loss: A three-wave longitudinal study

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ABSTRACT

There is considerable evidence that optimism, the predisposition to have generalized favorable expectancies for the future, is associated with numerous desirable outcomes. Few studies have examined the association of optimism with emotional distress following the death of a loved one. Doing so is important, because optimism may be an important target for interventions for post-loss psychopathology. In the current study, we examined the degree to which optimism, assessed in the first year post-loss (Time 1, T1), was associated with symptom levels of prolonged grief and depression six months (Time 2, T2) and fifteen months (Time 3, T3) later, controlling for baseline symptoms and also taking into account positive automatic cognitions at T1. Findings showed that higher optimism at T1 was associated with lower concurrent prolonged grief and depression severity. Higher optimism at T1 was also inversely related with depression symptom severity at T2 and T3, but not prolonged grief severity at T2 and T3. Implications of these findings are discussed.

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1. Introduction

Optimism refers to “an individual difference variable that reflects the extent to which people hold generalized favorable expectancies for their future” (Carver et al., 2010). Optimism is considered a trait, relatively stable over time; yet, variations in optimism (over briefer and longer periods) have been documented and there is some evidence that optimism is amenable to change via cognitive behavioral interventions (Carver et al., 2010). There is considerable evidence that optimism has desirable consequences; it is associated with faster recovery from illness (Carver et al., 2003), lower mortality in old age (Giltay et al., 2004), and has protective effects following exposure to mild (Chang and Sanna, 2003) and severe (Britt et al., 2011; Kivimäki et al., 2005) stressful life events.

Few studies have explored the role of optimism in psychological functioning following the death of a loved one, most of them indicating that optimism has a protective impact. Specifically, Rogers et al. (2005) found that optimism was associated with constructive coping among people who lost a loved to HIV/AIDS. Ai et al. (2006) found personal loss in the 9/11 attacks to be associated with more severe posttraumatic stress disorder (PTSD) symptoms among individuals low in dispositional optimism, but not those who scored high on optimism. Harper et al. (2013) found optimism to be concurrently associated with less severe

complicated grief reactions among parents who lost a child. Wagner et al. (2007) examined optimism as an outcome of online therapy for complicated grief; somewhat in contrast with the aforementioned findings, they did not find evidence that baseline optimism was associated with greater reduction in symptoms over time. In fact, unexpectedly, baseline optimism was significantly associated with a weaker reduction in symptoms of avoidance (and unrelated with other symptoms, including intrusive symptoms, depression, and generalized anxiety).

None of these studies have investigated to what extent optimism is a prospective predictor of lower emotional distress following loss. Studying this issue is important because it enhances our understanding of underlying mechanisms of distress following loss and informs us about the potential usefulness of trying to enhance optimism in the treatment of disturbed grief. The present study—conducted in The Netherlands—used a prospective design to study the association of optimism with symptoms of Prolonged Grief Disorder (PGD) and depression, representing the two most prevalent and debilitating psychological syndromes that may occur following bereavement (Maercker et al., 2013). PGD—criteria of which were proposed and tested by Prigerson et al., 2009—is a clinical condition including persistent separation distress and difficulties accepting the loss and moving on without the lost person causing significant distress and disability, at least 6 months following the loss. PGD symptoms are distinct from, yet correlated with loss-related depression. Provisional epidemiological studies suggest that PGD occurs in 10–20% of bereaved individuals (Shear, 2015). PGD will likely be included

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in the forthcoming revision of the International Classification of Diseases and Related Health Problems (ICD-11) and resembles the condition “Persistent Complex Bereavement Disorder (PCBD)” included in the appendix of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), as a condition requiring further research (Maercker et al., 2013). In a three-wave study, we examined the degree to which optimism, assessed in the first year post-loss (Time 1, T1), was associated with symptom levels of PGD and depression six months later (Time 2, T2), and fifteen months (Time 3, T3) later, controlling for baseline symptoms. At T1, we also assessed current positive automatic cognitions using the Automatic Thoughts Questionnaire-Positive version (ATQ-P; Ingram and Wisnicki 1988). The ATQ-P taps the frequency of self-referent positively valenced cognitions during the past week, reflecting state-like fluctuations in positive thinking (Dozois, 2007). We considered current positive automatic cognitions to elucidate the relative importance of optimism as trait-like positive future thinking versus more transient state-like positive thinking in predicting distress. Based on prior evidence that optimism buffers the impact of stressful events, we predicted that higher dispositional optimism in the first year of bereavement would be associated with lower PGD symptom severity and depression symptom severity, concurrently and prospectively.

2. Method

2.1. Participants and procedure

We used data from two samples of bereaved individuals originally recruited for a research program on cognitive variables in grief. Participants completed questionnaires at inclusion into the program. Individuals bereaved < 1 year ago at inclusion (T1) were invited to complete questionnaires again six months after T1 (at T2) and again 15 months after T1 (at T3). A first sample was recruited via mental health care workers (including social workers, grief counselors, psychotherapists, clergy) who came in contact with bereaved individuals through their work-related or voluntary activities; health care workers were instructed to distribute as much questionnaire packets as they could, resulting in 1128 questionnaire being handed out to bereaved people, 492 (43.6%) of which were returned. A second group was recruited through announcements on the Internet that briefly described goals of the research program on cognitive variables and invited bereaved individuals to participate in a survey study; people interested could immediately complete questionnaires online or—if so wished—ask for paper questionnaires to be sent to their homes. Data for the current study were gathered from those who chose the latter option; 490 questionnaires were sent and 260 (53%) were returned. Written informed consent was obtained from all participants.

Included in the current study were participants who were at least 18 years of age and who lost a loved one within the previous 12 months. At T1, $N=230$ bereaved individuals were included, $n=111$ recruited from caretakers and $n=119$ recruited via the Internet. There were differences in kinship, with the caretaker-subsample including more bereaved partners and the internet-subsample including more bereaved adult children; in addition, those in the former group were older, slightly further removed from their loss, and with less years of education, and had higher scores on the ATQ-P (all $p < 0.01$). However, groups did not differ in gender and cause of loss, symptom levels of PGD and depression, and optimism at T1 (all p 's > 0.14). Therefore, it was considered acceptable to combine groups for this study.¹

The sample at T1 ($N=230$) had a mean age of 44.8 (S.D.=16.7) years, the mean length of education was 15.3 (S.D.=3.2) years, and 78.3% were female.² The average time since loss was 6.6 (S.D.=3.5) months; 116 participants (50.4%) lost a partner/spouse, 25 (10.9%) a child, and 89 (38.7%) a relative other than a partner/spouse or child. Losses were due to a natural cause in 196 (85.2%) cases and an unnatural cause (suicide, homicide, or accident) in 34 (14.8%) cases. Those who continued to

participate at T2 ($N=159$) did not differ from those who did not ($N=71$) on any of the variables that were assessed at T1, except that “stayers” had higher scores on the Automatic Thoughts Questionnaire-Positive version (ATQ-P; $p < 0.02$). Those who continued to participate at T3 ($N=136$) did not differ from those who did not ($N=94$) on any of the variables that were assessed at T1, except that “stayers” had higher ATQ-P scores ($p < 0.05$).

2.2. Measures

Prolonged Grief symptom-severity was assessed using 19 items from the Inventory of Complicated Grief (ICG) representing all proposed criteria for Prolonged Grief Disorder (Boelen et al., 2003; Prigerson et al., 1995, 2009) and other markers of disturbed grief (e.g., “Memories of the lost person upset me”). Items are scored on 5-point scales (0 = *never*; 4 = *all the time*). The ICG has good psychometric properties; a score of > 25 has been used as being indicative of PGD “caseness” (Prigerson et al., 1995). The α 's in this sample were .89 (T1), .84 (T2), and .92 (T3).

Depression symptom-severity was assessed using the Depression-subscale of the Symptom Checklist (SCL-90) (Derogatis, 1983). This scale instructs respondents to rate the presence of 16 symptoms (e.g., “Feeling no interest in things”) during the preceding week, on 5-point scales (1 = *not at all*; 5 = *very much*). The measure has good psychometric properties (Derogatis, 1983). The α 's were .92 (T1) and .93 (T2 and T3).

Positive Automatic Cognitions were assessed using the Automatic Thoughts Questionnaire-Positive version (ATQ-P; Ingram and Wisnicki, 1988). This measure instructs respondents to rate how often that had each of 30 positive cognitions during the past week on 5-point scales (1 = *never*; 5 = *all the time*). The measure has good psychometric properties (Ingram and Wisnicki, 1988). In the current study the α was .95 (T1).

Optimism was assessed with the Life Orientation Test (LOT; Scheier and Carver, 1985). The LOT instructs respondents to indicate their level of agreement with 12 items (8 representing optimism, 4 filler-items) on 5-point scales (0 = *strongly disagree*; 4 = *strongly agree*). The LOT has good psychometric properties (Carver et al., 2010). In the current study the α was .82.

3. Results

3.1. Symptom severity scores

Mean scores on the ICG were: T1, $M=31.5$ (S.D.=12.5), T2, $M=27.0$ (S.D.=12.4), and, T3, $M=24.4$ (S.D.=13.3). Scores declined significantly over time ($F(2, 134)=33.61$, $p < 0.001$), with significant differences both between T1 and T2 ($p < 0.001$) and between T2 and T3 ($p < 0.01$). Mean scores on the SCL-depression scale were: T1, $M=39.3$ (S.D.=13.7), T2, $M=35.2$ (S.D.=12.8), and, T3, $M=32.8$ (S.D.=13.4). Scores declined significantly over time ($F(2, 134)=33.61$, $p < 0.001$), with significant changes between T1 and T2 ($p < 0.001$) and a trend toward a significant decline between T2 and T3 ($p=0.07$). At T1, T2, and T3, 67.4%, 46.5%, and 41.9%, of all participants, respectively, had a > 25 score on the ICG which is indicative of PGD “caseness” (Prigerson et al., 1995).³

3.2. Variation in symptom severity as a function of demographic and loss-related variables

We examined to what extent PGD and depression symptom severity scores at T1, T2, and T3 differed as a function of socio-demographic variables (i.e., age, gender, number of years of education) and loss-related variables (i.e., time since loss, relationship to the deceased, cause of loss). Because we wished to control for relevant background variables (the ones associated with symptom scores) in our subsequent regression analyses, we aimed to reduce Type II error and did not control for alpha inflation. Age was inversely associated with T1 PGD severity ($r = -0.14$, $p < 0.05$) and T1 depression severity

¹ That sample source had no impact on the findings was confirmed by the fact that outcomes of all regression analyses reported below were mostly similar when sample source was included as a control variable. That is, including sample source as a control variable did not change which independent variables emerged as significant or non-significant predictors of PGD-symptoms and depression-symptoms at T1, T2, and T3.

² Women were overrepresented in this study; however, gender was unrelated to PGD symptoms and depression symptoms at T1, T2, and T3 (as reported below) and unrelated to optimism at T1 ($p=0.39$). Therefore, it was unlikely that gender qualified the associations between optimism and outcomes reported below.

³ Notably, this number only provides an indication of PGD “caseness” because data were based on self-report, functional impairment associated with the grief-reactions was not systematically assessed, and not all these participant were beyond the 6 months time threshold required for a diagnosis of PGD (Prigerson et al., 2009); moreover, given that all participants were in the first year of bereavement at T1, none qualified for a diagnosis of PCBD as described in DSM-5 because PCBD-criteria require symptoms to be present at least 12 months beyond the loss.

Table 1

Summary of regression analyses predicting prolonged grief symptom severity.

	ΔR^2 when entered as first block	ΔF when entered as first block	ΔR^2 when entered as last block	ΔF when entered as last block	B in final model	SE B in final model	β in final model
DV = prolonged grief at T1							
Block 1:	0.058	6.93**	0.030	4.70*			
Age					−0.11	0.05	−0.13*
Years of education					−0.63	0.24	−0.16**
Block 2:	0.125	32.47***	0.022	7.05**			
Positive automatic cognition					−0.11	0.04	−0.18**
Block 3:	0.241	72.03***	0.106	33.53***			
Optimism					−0.88	0.15	−0.38***
DV = prolonged grief at T2							
Block 1:	0.540	184.10***	0.354	120.55***			
PGD at T1					0.74	0.07	0.69***
Block 2:	0.076	12.84***	< 0.001	< 1			
Positive automatic cognition					−0.01	0.04	−0.02
Block 3:	0.177	33.71***	0.004	10.31			
Optimism					−0.18	0.16	−0.07
DV = prolonged grief at T3							
Block 1:	0.469	118.49***	0.310	85.14***			
PGD at T1					0.72	0.08	0.66***
Block 2:	0.047	3.29*	0.054	7.45***			
Age					0.22	0.06	0.24***
Years of education					0.06	0.28	0.02
Block 3:	0.072	10.32**	0.003	< 1			
Positive automatic cognition					−0.04	0.05	−0.06
Block 4:	0.145	22.74***	0.002	< 1			
Optimism					−0.15	0.20	−0.05

* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

($r = -0.21$, $p < 0.01$) and positively associated with T2 depression severity ($r = 0.16$, $p < 0.05$), T3 depression severity ($r = 0.32$, $p < 0.001$) and T3 PGD severity ($r = 0.18$, $p < 0.05$). Number of years of education was inversely associated with T1 PGD severity ($r = -0.15$, $p < 0.05$), T3 PGD severity ($r = -0.18$, $p < 0.05$), and T3 depression severity ($r = -0.26$, $p < 0.01$). T3 depression severity varied as a function of kinship ($F(2, 134) = 4.98$, $p < 0.01$) which was due to participants confronted with the loss of a partner/spouse having higher scores than participants who lost a relative other than a partner/spouse or child ($p < 0.01$). PGD and depression severity scores at T1, T2 and T3 did not differ as a function of gender, cause of the loss, or time since loss.

3.3. Regression analyses predicting PGD symptom severity at T1, T2, and T3

We carried out three regression analyses predicting PGD scores at T1, T2, and T3, respectively. In each of these analyses, independent variables were included in distinct blocks, representing (i) relevant background/loss-related variables (i.e., the ones associated with symptoms at T1, T2, and T3); (ii) positive automatic cognitions, and (iii) optimism. In the regression predicting PGD scores at T2 and T3, baseline PGD severity was also controlled. Outcomes are summarized in Table 1; the first column shows the ΔR^2 (and the second column the associated F -test) for each block when entered as a first block to the equation and thus represents the percentage of variance in the dependent variable explained by this block, when not taking into account the variance explained by the other variables in the equation. The third column shows the ΔR^2 (and the fourth column the associated F -test) for each block of variables when entered as a last step to the equation and thus

represents the percentage of variance in the dependent variable explained by this block, after controlling for the variance explained by the other independent variables in the equation. The fifth through seventh columns display the B , SE, and β of the independent variables when these were entered to the regression models simultaneously.

The regression predicting PGD scores at T1 yielded a significant model; $R^2 = 0.290$, $F(4, 228) = 22.86$, $p < 0.001$. All three blocks of variables explained a unique proportion of variance in PGD scores when controlling for the other variables. The regression predicting PGD scores at T2 also yielded a significant model; $R^2 = 0.545$; $F(3, 158) = 61.86$, $p < 0.001$. PGD scores at T1, positive automatic cognitions, and optimism explained significant variance in PGD scores at T2 when entered to the equation as first blocks; PGD severity at T1 was the only variable explaining variance in PGD scores at T2 when controlling for the other variables in the equation. Finally, the regression model predicting PGD scores at T3 was also significant $R^2 = 0.527$; $F(5, 135) = 28.96$; $p < 0.001$. All blocks of variables explained variance in PGD scores at T3 when entered to the equation as first blocks; however, in the equation with all variables entered, PGD scores at T1 and the participant's age were the only variables explaining a unique proportion of variance in PGD scores at T3.

3.4. Regression analyses predicting depression symptom severity at T1, T2, and T3

We carried out three similar regression analyses now including depression scores at T1, T2, and T3 as dependent variables. Outcomes are summarized in Table 2. All three regression models were significant (T1-depression, $R^2 = 0.358$; $F(3, 229) = 42.07$; T2-depression,

$R^2=0.546$; $F(4, 158)=46.35$; T3-depression, $R^2=0.634$; $F(6, 136)=14.59$; $p < 0.001$). All blocks explained unique variance in depression severity at T1, T2, and T3 when entered as a first block to the equations. Most importantly, lower LOT-scores were concurrently and prospectively associated with higher depression scores, when controlling for the other variables in the equations. Specifically, as shown in the third column of Table 2, optimism explained 12.8% of the variance in depression severity at T1, beyond age (the only background variables associated with T1-depression) and positive automatic cognitions. Optimism predicted 1.9% of the variance in T2-depression and 1.8% in T3-depression beyond relevant background variables, positive automatic cognitions, and baseline depression.

4. Discussion

This study examined the association between dispositional optimism, assessed in the first year of bereavement, and concurrently and prospectively assessed symptom levels of PGD and depression. In accord with prior research (e.g., Harper et al., 2013), we found that higher optimism was concurrently associated with lower symptom levels of PGD and depression. Our prospective analyses showed that optimism scores did not predict PGD severity 6 and 15 months beyond baseline, when controlling for baseline PGD severity. Interestingly, higher optimism at T1 was, in fact, associated with lower depression symptom severity 6 and 15 months after T1, when controlling for baseline depression severity, as well as relevant background and loss-related variables and positive automatic cognitions. That optimism predicted concurrent and prospective depression severity beyond positive automatic cognitions indicates that the

linkage of optimism with depression severity was not due to elevated positive automatic thinking at baseline.

Altogether, findings suggest that generalized positive expectancies about the future may reduce the risk of anhedonia, dysphoria and other hallmark features of depression among people confronted with loss; conversely, such positive expectancies do not seem to have a significant impact on how PGD symptoms develop over time. The finding of no linkage with prospective PGD symptom severity is somewhat unexpected; it would seem conceivable that, by contributing to adaptive problem-focused coping, constructive thinking, and effective goal pursuit, optimism would help to alleviate separation distress, preoccupation with the loss, and other symptoms of PGD. However, it seems that optimism affects PGD symptoms less than it affects depression symptoms; although this is somewhat unexpected, it does add to existing evidence that PGD and depression are distinct syndromes with distinct risk-factors (Maercker et al., 2013; Prigerson et al., 2009).

There are several limitations to this study that should be taken into account when considering the present findings. First, it is uncertain to what extent the depressive symptoms reported by our sample were directly associated with the loss or, instead, reflected fluctuations in depressive symptoms linked with pre-existing vulnerabilities or other negative events happening over the course of the current study. Although our findings suggest that optimism influences depression after loss, more research is needed to further elucidate the linkage of optimism and changes in depressive symptoms that are specifically related to bereavement. In a related vein, the present design does not allow to address whether the loss that participants experienced influenced their levels of optimism. It would be interesting for future studies to study changes in optimism from pre- to post-loss and associations of these changes with changes in emotional distress levels from pre- to post-loss.

Table 2
Summary of regression analyses predicting depression symptom severity.

	ΔR^2 when entered as first block	ΔF when entered as first block	ΔR^2 when entered as last block	ΔF when entered as last block	B in final model	$SE B$ in final model	β in final model
DV = depression at T1							
Block 1:	0.042	10.05**	0.018	6.36*			
Age					−0.13	0.05	−0.14*
Block 2:	0.214	62.02***	0.046	16.13***	−0.17	0.04	−0.25***
Positive automatic cognition							
Block 3:	0.283	90.11***	0.128	45.15***	−1.03	0.15	−0.41***
Optimism							
DV = depression at T2							
Block 1:	0.454	130.77***	0.263	89.28***			
Depression at T1					0.58	0.06	0.59***
Block 2:	0.027	4.34*	0.067	22.67***	0.23	0.05	0.26***
Age							
Block 3:	0.119	21.17***	0.007	2.29	−0.06	0.04	−0.09
Positive automatic cognition							
Block 4:	0.236	24.07***	0.019	6.57*	−0.41	0.16	−0.16*
Optimism							
DV = depression at T3							
Block 1:	0.240	42.65***	0.130	28.25***			
Depression at T1					0.43	0.08	0.42***
Block 2:	0.137	7.03***	0.134	9.73***	0.27	0.08	0.29**
Age					−0.48	0.31	−0.12
Years of education					1.27	2.17	0.05
Deceased is partner/spouse							
Block 3:	0.039	5.54*	0.001	< 1	−0.03	0.05	−0.04
Positive automatic cognition							
Block 4:	0.253	11.17***	0.018	3.96*	−0.43	0.22	−0.16*
Optimism							

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

A third limitation is that we used the LOT, not the revised version (LOT-R); although the LOT has adequate psychometric properties, the LOT-R has better construct validity and is now more widely used (Carver et al., 2010). Fourth, all data were based on self-report which may have inflated associations between dependent and independent variables assessed. Fifth, women were overrepresented in the current sample. This likely has not affected our findings, given that we did not find gender differences in PGD severity, depression severity, and optimism. Nevertheless, it would be relevant for future studies on optimisms in grief to recruit a sample with more equal representation of men and women. Sixth, the current sample varied in terms of emotional distress levels and it is possible that the associations between optimism and symptom levels of PGD and depression would be more pronounced among more severely distressed bereaved people. Finally, we cannot draw conclusions about the degree to which optimism differs between people who meet and do not meet criteria for PGD according to Prigerson et al. (2009) or criteria for PCBD included in DSM-5 because we did not systematically assess these criteria.

Notwithstanding these considerations, the current findings shows that optimism is a significant predictor of symptom levels of depression among people confronted with bereavement; as such, these findings complement prior evidence of a linkage between optimism and depression in a range of populations (Carver et al., 2010). If future studies confirm that optimism indeed influences emotional distress following loss, that could have clinical implications. For instance, that would imply that it could be useful to add interventions to boost optimism to the treatment of people having difficulties to recover from loss. Although generally regarded as a stable trait, there is some evidence that increases in optimism can be achieved with relatively simple interventions (Blackwell et al., 2013; Riskind et al., 1996). It would be interesting for future studies to examine if and how such interventions can help to alleviate distress following loss.

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