

One-Year Follow-Up of an Emotional Expression Intervention for Bereaved Older Adults

Daniel L. Segal, PhD

Carla Chatman, BA

Jay A. Bogaards, MA

Lee A. Becker, PhD

University of Colorado at Colorado Springs

The present study is a 1-year follow-up of the effects of an emotional disclosure intervention among bereaved older adults. In the initial study (Segal, Bogaards, Becker, & Chatman, 1999), 30 bereaved older adults verbally disclosed their thoughts and feelings about the death of their spouse in four 20-minute sessions according to the Pennebaker (1985) disclosure paradigm, with significant therapeutic effects at 1-month follow-up. For those who completed a 1-year follow-up ($n = 20$), the initial decrease in intrusive thoughts was maintained at one year. Total distress (on the Impact of Event Scale) decreased from pretest and from posttreatment to one-year follow-up. Negative thoughts showed no changes across the initial three periods but significantly declined at one year. There were no treatment effects regarding depression, hopelessness, or avoidance. Correlational analyses indicated that higher levels of negative affect (summed Positive and Negative Affect Schedule scores) were associated with greater cognitive changes at one year. Moreover, decreases in negative cognitions were associated with decreases in depression, hopelessness, intrusive thoughts, and avoidance from pretest to one year. This study suggests that therapeutic effects of this intervention remain strong at one year and that reduction in negative cognitions may be a particularly strong therapeutic factor for emotional improvement in bereaved older persons.

The death of one's spouse at any age is often a traumatic experience. Such a loss among older persons can be particularly devastating because their lives may be more intertwined and older persons may also be experiencing other age-related stressors such as physical declines, financial woes, or other social losses. Recently, Segal, Bogaards, Becker, and Chatman (1999) demonstrated that an emotional expression intervention was therapeutic among bereaved older adults.

Studies in the emotional expression area typically follow an influential experimental paradigm developed by Pennebaker (1985). The procedure entails instructing participants to:

1. Write or talk privately (usually 15- to 30-minute disclosure sessions) about personally traumatic experiences over several sessions (usually three to five sessions within a week or

2. While comparison participants describe superficial events.

Notably, emotional disclosure interventions have been directed towards diverse types of traumatic experiences. Overall, results from these studies suggest that the expression of emotions has a salubrious impact on emotional and physical functioning and is a valuable form of therapy (see review by Esterling, L'Abate, Murray, & Pennebaker, 1999). A meta-analysis (Smyth, 1998) indicated that effect sizes of written emotional expression were clinically meaningful and similar to those generated by other psychological interventions. Typical follow-up periods in most studies were 1 month or less.

Our original study (Segal et al., 1999) applied the Pennebaker paradigm to bereaved older adults ($n = 30$) who were randomly assigned to treatment (four 20-minute vocal emotional expression sessions within a 2-week period) or delayed treatment. Assessments were completed at three time periods: pretest, posttreatment, and 1-month follow-up. No immediate effects of treatment were found with the exception that participants receiving treatment showed a decrease in hopelessness relative to participants in delayed treatment. After treatment was provided to the delayed-treatment group, results indicated significant decreases in hopelessness, intrusive thoughts, obsessive-compulsive symptoms, and depression from baseline to 1-month follow-up. We are unaware of any studies of the long-term effects of emotional expression on adjustment to bereavement.

The present study investigated the long-term effects of the emotional expression intervention to determine if positive changes remain stable at one year. We hypothesized that participants will show maintenance of therapeutic gains at 1-year follow-up. In addition, we examined variables that may relate to therapeutic changes at 1-year follow-up. We targeted an analysis of the arousal of negative emotions and the reduction in negative thoughts because these variables have been shown to be related to therapeutic change in other emotional disclosure studies (e.g., Segal & Murray, 1994).

METHOD

Participants and Procedure

At 1-year follow-up, participants in the original study (Segal et al., 1999) were contacted by telephone and asked to participate in one additional assessment session. The same battery of outcome measures used at the original three assessment points was completed. Participants were subsequently debriefed and compensated with \$5. The original sample was composed of 30 older adults ranging in age from 51 to 85 years ($M = 67.0$, $SD = 9.7$). The 1-year follow-up group was composed of 20 of the original 30 (66%) older adults, ranging in age from 51 to 85 years ($M = 67.6$, $SD = 10.1$). See Table 1 for all demographics.

Measures

Brief Symptom Inventory. The Brief Symptom Inventory (BSI; Derogatis, 1993) is a 53-item questionnaire that measures an individual's current psychological state with scores on nine symptom dimensions as well as an overall measure of distress, the Global Severity Index (GSI).

Geriatric Depression Scale. The Geriatric Depression Scale (GDS; Yesavage et al., 1983) is a 30-item yes/no questionnaire that screens for depression in older adults. Scores can range from 0 to 30 with higher scores indicating higher levels of depression.

TABLE 1. Demographic Means (SD)

Variable	Original Treatment Group N = 30	1 Year Follow- Up Group N = 20
Age	67.0 (9.7)	67.6 (10.1)
Sex	23 Female 7 Male	19 Female 1 Male
Ethnicity	30 White	20 White
Length of marriage in years	33.9 (14.6)	33.4 (15.1)
Time since death in months	16.6 (10.0)	15.0 (10.0)
Education in years	14.5 (2.6)	14.8 (2.5)
Quality of relationship (1-100)	86.7 (16.3)	84.4 (17.1)

Geriatric Hopelessness Scale. The Geriatric Hopelessness Scale (GHS; Fry, 1986) is a 30-item yes/no scale that assesses emotional, motivational, and cognitive components of hopelessness in older adults.

Impact of Event Scale. The Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) is a 30-item questionnaire that assesses current subjective distress related to a particular traumatic event. The IES yields intrusion and avoidance subscales, which are summed to produce a total distress score.

Negative Thoughts Index. The Negative Thoughts Index (NTI; Segal & Murray, 1994) is a specific measure of negative thoughts or maladaptive beliefs relevant to the death of a spouse.

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a mood scale that broadly evaluates positive and negative affect.

RESULTS

Equivalence of 1-Year Follow-Up Group Versus Dropout Group

Demographic data were analyzed to determine whether those who completed the 1-year follow-up session ($n = 20$) were similar to those who did not complete the 1-year follow-up session ($n = 10$). Comparisons for nominal scales (e.g., sex, ethnicity) were made using chi-square tests and comparisons for interval scales (e.g., age, length of marriage in years) were made using t -tests. A significant difference was found between groups regarding gender (only one male completed the 1-year follow-up whereas six males dropped out at 1 year). The two groups were similar on all other variables. In addition, differences between groups on outcome measures at pretest and postexperimental were also analyzed to assess whether those who completed the 1-year follow-up were similar to those who did not. No significant differences were found between the two groups, showing that participants in both groups were similar.

One-Year Follow-Up Results

To test our hypothesis that participants will show maintenance of therapeutic gains at 1-year follow-up, data were analyzed to examine changes over time in outcome measures for all participants who completed the 1-year follow-up. One-factor analyses of variance were performed on each outcome measure using time (pretest vs. postexperimental vs. 1-month follow-up vs. 1-year follow-up) as a within-subjects factor (see Table 2). Significant main effects were further analyzed using Tukey's honestly-significant-difference test at $p < .05$. There were no significant changes across time on GDS, GHS, IES Avoidance, and BSI-GSI.

IES-Intrusion. A significant main effect for time was found, $F(1, 19) = 6.09, p < .001$. Tukey's post hoc test showed significant differences between pretest ($M = 15.00, SD = 11.29$) and 1-month follow-up ($M = 10.60, SD = 6.63$), between pretest and 1-year follow-up ($M = 9.00, SD = 8.77$), between postexperimental ($M = 15.15, SD = 7.90$) and 1-month follow-up, and between postexperimental and 1-year follow-up. Thus, participant's intrusion scores significantly decreased from pretest to 1-month follow-up, from pretest to 1-year follow-up, from postexperimental to 1-month follow-up, as well as from postexperimental to 1-year follow-up, indicating that the initial reduction in intrusive thoughts was maintained at 1 year.

IES-Total. A significant main effect for time was found, $F(1, 19) = 3.07, p < .04$. Tukey's post hoc test showed significant differences between pretest ($M = 24.50, SD = 18.68$) and 1-year follow-up ($M = 16.65, SD = 15.68$) and between postexperimental ($M = 24.25, SD = 12.26$) and 1-year follow-up, indicating that total IES scores decreased from pretest to 1-year follow-up and from postexperimental to 1-year follow-up.

TABLE 2. Means (SD) of Outcome Measures at Pretest, Postexperimental, 1-Month Follow-Up and 1-Year Follow-Up Collapsed Across Treatment and Delayed Treatment Groups

Scale	Pretest	Post-Experimental	1-Month Follow-Up	1-Year Follow-Up	F	p <
Geriatric Depression Scale (N = 20)	8.60 (8.18)	7.70 (7.52)	7.95 (7.10)	6.95 (6.36)	1.48	.24
Geriatric Hopelessness Scale (N = 20)	3.60 (3.66)	3.05 (2.58)	2.85 (2.72)	2.80 (2.86)	0.78	.46
Impact of Event Scale-Intrusion (N = 20)	15.00 ^a (11.29)	15.15 ^a (7.90)	10.60 ^b (6.63)	9.0 ^b (8.77)	6.09	.001
Impact of Event Scale-Avoidance (N = 20)	9.50 (8.24)	9.10 (6.20)	8.70 (6.59)	9.0 (8.77)	0.06	.98
Impact of Event Scale-Total (N = 20)	24.50 ^a (18.68)	24.25 ^a (12.26)	19.30 ^{ab} (10.15)	16.65 ^b (15.68)	3.07	.04
Negative Thoughts Index (N = 19)	17.68 ^a (7.25)	17.26 ^{ab} (7.85)	16.53 ^{ab} (6.36)	13.95 ^b (5.85)	3.33	.05
Brief Symptom Inventory-Global Severity Index (N = 20)	56.70 (10.61)	52.95 (10.84)	54.40 (10.24)	56.45 (9.91)	2.39	.10

Note. Across rows, means with different superscripts are significantly different according to Tukey's HSD Post Hoc at $p < .05$. HSD = honestly significant difference.

NTI. A significant main effect for time was found, $F(1, 18) = 3.33, p < .001$. Tukey's post hoc test showed a significant difference between pretest ($M = 17.68, SD = 7.25$) and 1-year follow-up ($M = 13.95, SD = 5.85$). Results indicate that negative cognitions decreased from pretest to 1-year follow-up.

Correlations Between Arousal of Negative Emotion, Quality of Relationship, and Change in Negative Thoughts With Change Scores of Outcome Measures

To examine potentially important mechanisms of therapeutic change, change scores for each of the outcome measures were calculated by subtracting the score on the pretest measure from the score at 1-year follow-up. The change score represents the change in score from pretest to 1-year follow-up. A total negative affect score was created as a sum of all eight negative affect scores on the PANAS (pre and post for four disclosure sessions). The outcome change scores and total negative affect scores were correlated to determine any significant relationships. NTI change score was also calculated by subtracting the score on the pretest measure from the score at 1-year follow-up and this was used to examine how changes in cognitions relate to outcome. The quality of relationship score (subjective rating at pretest of the overall quality of the marital relationship, higher scores = higher quality) was also correlated with all outcome measure change scores. Table 3 shows the simple correlation coefficients between the variables.

The total negative affect score was significantly correlated with the NTI change score ($r = -.47$), indicating that higher levels of negative affect were associated with greater decreases in negative cognitions. Results for the NTI change score indicated strong and significant positive correlations between the NTI change score and GDS

TABLE 3. Correlations (*p* Values) of Summed PANAS Total Negative Affect, Quality of Relationship, and NTI Change Score With Outcome Measure Change Scores (1-Year Follow-Up Minus Pretest)

Measure	Summed Total Negative Affect	Overall Quality of Relationship	NTI Change Score
Geriatric Depression Scale	-.35 (.07)	-.09 (.36)	.62* (.002)
Geriatric Hopelessness Scale	-.28 (.12)	.05 (.42)	.91* (.000)
Impact of Event Scale-Intrusion	-.29 (.11)	.27 (.13)	.67* (.001)
Impact of Event Scale-Avoidance	-.24 (.16)	.15 (.26)	.57* (.005)
Impact of Event Scale-Total	-.31 (.09)	.25 (.14)	.66* (.001)
NTI Change Score	-.47* (.02)	-.05 (.42)	— —
Brief Symptom Inventory- Global Severity Index	-.14 (.27)	-.37* (.05)	.23 (.17)

Note. NTI = Negative Thoughts Index; PANAS = Positive and Negative Affect Schedule.

* $p < .05$.

change score ($r = .62$), GHS change score ($r = .91$), IES Intrusion change score ($r = .67$), IES Avoidance change score ($r = .57$), and IES total change score ($r = .66$). These results indicate that decreases in negative cognitions are associated with decreases in several dimensions of distress (depression, hopelessness, intrusion, avoidance, and intrusion/avoidance total). The quality of the relationship score was significantly correlated with the BSI-GSI change score ($r = -.37$), showing that higher quality of relationship scores at baseline were associated with greater decreases in overall distress.

DISCUSSION

The purpose of this study was to examine the long-term effectiveness of an emotional disclosure intervention among bereaved older persons and to examine predictors of therapeutic effects. The hypothesis that participants will show maintenance of therapeutic gains at 1-year follow-up was partially supported. IES Intrusion results indicated that not only did the participants' intrusion scores significantly decrease during the course of the intervention, but also that the therapeutic gains (the reductions in intrusive thoughts) were maintained at one year. The IES total and NTI results indicated that therapeutic gains were shown at one year. These findings extend our initial results (Segal et al., 1999) showing significant decreases in distress at 1-month follow-up among bereaved older persons who were encouraged to vent their emotions in an emotional disclosure intervention. Overall, it appears that emotional expression may diminish long-term distress following the death of a spouse.

It has been argued that the process of actively confronting traumatic experiences plays a significant role in decreasing intrusive thoughts (e.g., Pennebaker, 1993). Pennebaker's famous inhibition model suggests that constraining one's thoughts associated with traumatic events is stressful and also reduces the recovery from the trauma. Our intervention (the verbal expression sessions in which participants disclosed their intimate thoughts and feelings about the death of their spouse) specifically encouraged participants to face the traumatic event that, if ignored, may surface in the form of intrusive thoughts. Our results provide further support for the idea that the active and conscious reexamination of trauma appears to lessen the experience of unwanted thoughts about the trauma. Of course, it is also possible that the mere passage of time could account for the therapeutic results.

What about predictors of therapeutic change in our study? Our analysis of the role of the arousal of negative emotions produced some interesting results. Whereas the arousal of negative affect was not related to therapeutic change for most variables, the most striking result for negative affect was its strong correlation with reductions in negative thoughts at 1-year follow-up. Also, greater reductions in negative thinking were strongly related to greater emotional improvements at one year. A potential explanation for these results is the idea that the expression of deep emotions is related to the thoughts tied to those emotions. It is possible that when a person expresses deep emotions previously held in, the emotional expression might increase access to the cognitions associated with those emotions. Once one has access to those cognitions, one then has an opportunity to understand them better and make sense of the problem (Pennebaker, 1993). Changes in cognitions therefore may result in changes or reduction in affective symptoms. Indeed, the cognitive paradigm of psychotherapy focuses on how people structure and make sense of

their experiences. In accordance with the cognitive paradigm, changing maladaptive thoughts is key to decreasing psychological symptoms. A widely held view of depression places the blame on unhealthy cognitions. Results from this study indicate that changes in negative thoughts were strongly associated with decreases in depression, hopelessness, intrusive thoughts, and avoidant thoughts, thus providing support for a cognitive theory of emotional symptoms. Affective arousal is possibly one important mechanism of accessing "hot cognitions" in the cognitive paradigm (Segal & Murray, 1994).

The present study also found that higher quality of relationship scores at baseline were associated with greater decreases in overall distress at one year. One explanation for this result is that individuals who felt positive about the marital relationship processed the loss better. Such persons were likely to be less ambivalent about the loss and have a preponderance of happy memories. In contrast, people who felt negative about the relationship had more difficulty getting over the loss, possibly because of unresolved conflicts, ambivalence, and unexpressed feelings that can never be communicated directly to the deceased partner.

Limitations of our study include having no control condition for the 1-year follow-up because of the delayed-treatment design of the original study (Segal et al., 1999), attrition of participants at one year, and the low number of male participants at follow-up. More older men should be included in future emotional processing studies because it seems important to understand how older men, a traditionally emotionally unexpressive group, might respond. Future studies should include larger samples with more diverse participants (i.e., different ethnic groups) to increase generalizability. Future studies may also examine the potentially important impact that one's religiosity and the type of loss (e.g., expected after a long illness; sudden and unforeseen) may have on the appraisal of and ability to cope with the death of one's spouse.

Emotional expression research with older adults coping with spousal loss is important because spousal loss negatively impacts the lives of many older adults. Unfortunately, older adults as a group are typically reluctant to seek psychotherapy for a variety of reasons. The effects of emotional expression, as indicated by results of this study, can be beneficial and long-lasting, and the intervention does not necessarily have to occur within the confines of traditional therapy. Overall, the present results provide encouraging evidence of the durability of the effects of an emotional expression intervention among older adults dealing with the death of a spouse. This activity should be encouraged for those bereaved elders who are holding in or repressing their feelings, and our findings suggest that older adults will likely benefit in both the short term and long term by confronting this painful experience.

REFERENCES

- Derogatis, L. R. (1993). *The Brief Symptom Inventory (BSI): Administration, scoring, and procedures manual* (3rd ed.). Minneapolis, MN: NCS, Inc.
- Esterling, B. A., L'Abate, L., Murray, E. J., & Pennebaker, J. W. (1999). Empirical foundations for writing in prevention and psychotherapy: Mental and physical health outcomes. *Clinical Psychology Review, 19*, 79-96.
- Fry, P. S. (1986). Assessment of pessimism and despair in the elderly: A Geriatric Scale of Hopelessness. *Clinical Gerontologist, 5*, 193-201.

- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective distress. *Psychosomatic Medicine*, 41, 209-218.
- Pennebaker, J. W. (1985). Traumatic experience and psychosomatic disease: Exploring the role of behavioral inhibition, obsession, and confiding. *Canadian Psychology*, 26, 82-95.
- Pennebaker, J. W. (1993). Putting stress into words: Health, linguistic, and therapeutic implications. *Behaviour Research and Therapy*, 31, 539-548.
- Segal, D. L., Bogaards, J. A., Becker, L. A., & Chatman, C. (1999). Effects of emotional expression on adjustment to spousal loss among older adults. *Journal of Mental Health and Aging*, 5, 297-310.
- Segal, D. L., & Murray, E. J. (1994). Emotional processing in cognitive therapy and vocal expression of feelings. *Journal of Social and Clinical Psychology*, 13, 189-206.
- Smyth, J. M. (1998). Written emotional expression: Effect sizes, outcome types, and moderating variables. *Journal of Consulting and Clinical Psychology*, 66, 174-184.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Yesavage, J. A., Brink, T. L., Rose, T. L., Lum, O., Huang, V., Adey, M., & Leirer, V. O. (1983). Development and validation of a geriatric depression screening scale: A preliminary report. *Journal of Psychiatric Research*, 17, 314-317.

Offprints. Requests for offprints should be directed to Daniel L. Segal, PhD, Department of Psychology, University of Colorado at Colorado Springs, 1420 Austin Bluffs Pkwy., P. O. Box 7150, Colorado Springs, CO 80933-7150.