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## GENDER DIFFERENCES IN EMOTIONAL PROCESSING AMONG BEREAVED OLDER ADULTS

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*This study investigated gender differences in an emotional disclosure intervention for bereaved older adults. Participants verbally disclosed their thoughts and feelings about the death of their spouse in four 20-minute sessions, in accordance with the Pennebaker (1985) disclosure paradigm. Results showed similar therapeutic benefits for males ( $n = 13$ ) and females ( $n = 23$ ) over 3 time periods, but process measures indicated that males experienced a greater upsurge in negative feelings from pre-session to post-session. Females showed a steady decrease in negative feelings across disclosure sessions, whereas males remained moderately negative. Correlational analyses indicated differential mechanisms of improvement among males and females. For females, higher levels of negative affect and greater decreases in negative thoughts were associated with greater therapeutic changes. For males, the mechanisms of change were less clear. Despite differences in the way widowers and widows experience the process of emotional expression, both can expect to benefit equally from this intervention.*

The death of any loved one is typically extremely painful, but the loss of a spouse has been found to be the most difficult for older adults (Arbuckle & de Vries, 1995). The extensive bonds forged during a marriage of many years are known to persist beyond the death of one partner (Moss, Moss, & Hansson, 2001), but the survivor's social, emotional, and cognitive worlds are typically severely disrupted and require reorganization. Increasingly, the process of recovery among bereaved older persons is being investigated and teased apart (Fry, 1998), although much remains unknown (Moss et al., 2001). Emotional processing is the process whereby emotional disturbances, such as those associated with the loss of a spouse, are absorbed and decline to the extent that

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other behaviors can proceed without disruption (Rachman, 1980). Many studies of emotional processing have followed an influential experimental paradigm developed by Pennebaker (1985) in which participants write or talk privately (usually 20- to 30-minute disclosure sessions) about personally traumatic experiences over several sessions (usually 3 to 5 sessions within 1 or 2 weeks) while comparison participants describe superficial events. Notably, emotional disclosure interventions have been applied to diverse types of traumatic experiences, and a large body of evidence shows that emotional disclosure has salubrious impacts on emotional and physical functioning and is a valuable and meaningful form of therapy (see review by Esterling, L'Abate, Murray, & Pennebaker, 1999; Segal & Murray, 2001).

Recently, Segal, Bogaards, Becker, and Chatman (1999) applied an emotional disclosure intervention to a group of 30 bereaved older adults who participated in four 20-minute disclosure sessions in which they verbalized their intimate thoughts and feelings about the death of their spouse. Results indicated that the procedure was beneficial (there were significant and meaningful decreases in hopelessness, intrusive thoughts, obsessive-compulsive symptoms, and depression from baseline to 1-month follow-up) and that the arousal of negative affect predicted more positive outcomes. A follow-up study including 20 of the original 30 participants showed that the positive effects were maintained at 1 year and that a decrease in negative thoughts was related to therapeutic change (Segal, Chatman, Bogaards, & Becker, 2001). However, a major question remains unanswered: Is this type of disclosure intervention equally effective for older males and females, or are there important gender differences? In the original studies, a gender analysis could not be completed due to the low number of males.

Research has indicated that widowers are less likely than widows to agree to talk about their loss in interviews (Stroebe, 1998), and widowers are less likely to attend support groups than widows (Carverhill, 1997). Moreover, widows tend to have a larger social network than widowers do (Stroebe, 1998), perhaps as a result of anticipatory socialization for the role of a widow; most women expect to outlive their husbands (Lee, Willetts, & Seccombe, 1998). Older males are also at a possible psychological disadvantage because they are typically uncomfortable expressing negative feelings due to their socialization experiences. Schut, Stroebe, van den Bout, and de Keijser (1997) report that bereaved men usually attempt problem-focused coping, whereas bereaved women generally engage in emotion-focused coping. These factors suggest that widowers might have an aversion to an emotional disclosure intervention and that this form of treatment may be more easily and successfully

administered to widows. We endeavored to examine empirically gender differences in emotional disclosure by adding several males to the original sample. We hypothesized that females would have a greater therapeutic response to the intervention than males and that predictors of therapeutic change would differ among females and males.

## Method

### *Participants*

The original sample (Segal et al., 1999) consisted of 30 Caucasian older adults (23 females, 7 males). For the present study, 6 additional males were recruited. Thus, the full sample comprised 36 Caucasian older adults ( $M$  age = 69.1 years,  $SD$  = 10.4 years, range = 51 to 88 years;  $M$  years of marriage = 35.8,  $SD$  = 14.8;  $M$  months since death of spouse = 17.7,  $SD$  = 11.4;  $M$  years of education = 14.7,  $SD$  = 2.6;  $M$  subjective rating of overall satisfaction of marital relationship [1–100 scale] = 87.6,  $SD$  = 15.6).

Demographics for the male sample ( $n$  = 13) are as follows:  $M$  age = 73.4 years,  $SD$  = 10.3 years, range = 56 to 88 years;  $M$  years of marriage = 41.6,  $SD$  = 12.2;  $M$  months since death of spouse = 22.4,  $SD$  = 13.0;  $M$  years of education = 15.2,  $SD$  = 3.2; and  $M$  subjective rating of overall satisfaction of marital relationship = 92.9,  $SD$  = 9.1. Demographics for the female sample ( $n$  = 23) are as follows:  $M$  age = 66.7 years,  $SD$  = 9.9 years, range = 51 to 83 years;  $M$  years of marriage = 32.6,  $SD$  = 15.4;  $M$  months since death of spouse = 15.1,  $SD$  = 9.8;  $M$  years of education = 14.4,  $SD$  = 2.2; and  $M$  subjective rating of overall satisfaction of marital relationship = 84.5,  $SD$  = 17.7.

### *Outcome Measures*

#### ***Geriatric Depression Scale (GDS; Yesavage et al., 1983)***

The GDS is a 30-item yes/no questionnaire developed to measure depression specifically in older adults. Scores can range from 0 to 30, with higher scores indicating higher levels of depression. The GDS is widely used and validated in psychotherapeutic studies of older adults.

#### ***Geriatric Hopelessness Scale (GHS; Fry, 1986)***

The GHS is a 30-item yes/no scale that assesses emotional, motivational, and cognitive components of hopelessness in older adults. It has excellent reliability and validity (Fry, 1986).

### ***Brief Symptom Inventory (BSI; Derogatis, 1993)***

The BSI is a 53-item questionnaire that measures an individual's current psychological state. Items are rated on a 5-point Likert-type scale, with symptom distress ranging from 0 (*not at all*) to 5 (*extremely*). The BSI provides scores on nine symptom dimensions as well as an overall measure of distress called the Global Severity Index. The BSI has excellent psychometric properties (Derogatis, 1993).

### ***Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979)***

The IES is a 30-item questionnaire that assesses current subjective distress related to a specific traumatic event. The IES yields two subscales, intrusion and avoidance, which are summed to produce a total distress score. Possible score ranges are 0–35 on the intrusion subscale, 0–40 on the avoidance subscale, and 0–75 on the total distress score, with higher scores indicating increased distress. The IES is a popular instrument for trauma intervention studies.

### ***Negative Thoughts Index (NTI; Segal & Murray, 1994)***

The NTI is a 9-item self-report inventory that measures negative (maladaptive) thoughts relevant to the death of a spouse. The measure used for this study was modified from the measure developed by Segal and Murray (1994) in a similar emotional processing study. The NTI is answered on a 5-point scale (1 = *very slightly*, 3 = *moderately*, 5 = *extremely*). Test-retest reliability was tested by Segal and Murray between NTI total scores at baseline and termination ( $r = .50, p < .01$ ), suggesting that the NTI is a state measure of negative thoughts and is sensitive to change over time.

## ***Process Measures***

### ***Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988)***

The PANAS is a self-report mood scale that broadly evaluates positive and negative affect. Four depression items were added to the PANAS due to a deficit in this area. These additional items load on the negative affect factor (Segal & Murray, 1994). The two scales are largely independent, and there is strong evidence of reliability and validity (Watson et al., 1988). The PANAS is widely used in clinical research to assess mood changes resulting from therapeutic sessions.

### ***Painfulness Scale***

Since the PANAS is a general mood measure, a specific 1-item measure of feelings about the death of one's spouse was used: "How painful is it for you to think about the death of your spouse right now?" Participants answered on a 7-point Likert scale (1 = *not painful*, 4 = *somewhat painful*, 7 = *very painful*).

### ***Procedure***

In the original study, older adult participants were recruited from advertisements in local newspapers, and no special consideration of gender was made. An eligibility requirement was that each participant was presently experiencing at least modest distress about the death of his or her spouse. For the present study, the same procedure was used, except that ads specifically recruited male participants. Once recruited, participants were informed that they would be asked to disclose deeply personal feelings concerning the death of their spouse and to fill out questionnaires at numerous time periods. Experimental sessions were conducted at each participant's home due to transportation barriers. Participants were paid \$10 after completing the study. Participants completed four 20-minute verbal disclosure sessions while alone in a room. The sessions were spread over 2 weeks. Participants were prompted with the following instructions (modified from Pennebaker, Kiecolt-Glaser, & Glaser, 1988):

During each of the four sessions, I want you to talk about the loss of your spouse. The important thing about this is that you verbalize your deepest thoughts and feelings. Please use the entire twenty minutes. If you finish before the time is over, you can think through the event again and describe certain aspects of it more deeply. You will be left alone in this room, and your description will be audiotaped.

Process measures (PANAS and the painfulness scale) were obtained before and after each disclosure session. The battery of outcome measures was completed at three time points: pretreatment (baseline), posttreatment (immediately following the last disclosure session), and 1-month follow-up.

## **Results**

### ***Nature of Groups***

Pretreatment differences between males and females were analyzed via independent samples *t* tests (age, length of marriage, months since spouse passed

away, years of education, and satisfaction with the relationship). No significant differences were found ( $p > .05$ ), showing that the two groups were demographically similar. A series of  $t$  tests was also conducted on each dependent measure to determine equivalency of groups at pretreatment. A difference between males and females was found on IES Total: Males ( $M = 16.2$ ,  $SD = 11.0$ ) scored significantly lower in total impact than females ( $M = 27.4$ ,  $SD = 19.9$ ),  $t(33.99) = -2.176$ ,  $p < .05$ . Another gender difference was found on the BSI Depression subscale: Males ( $M = 65.9$ ,  $SD = 7.7$ ) were significantly more depressed than females ( $M = 57.7$ ,  $SD = 10.5$ ),  $t(31.58) = 2.70$ ,  $p < .05$ . No significant differences between males and females were found on any other scale at pretreatment.

### *Outcome Effects*

All outcome measures were analyzed using a  $2 \times 3$  analysis of variance with gender as a between-subjects factor and time of measurement (pretreatment, posttreatment, or 1-month follow-up) as a within-subject factor. Significant main effects and interactions were determined with an alpha level of .05. Significant findings were further analyzed by pairwise comparisons with a Sidak adjustment at  $p < .05$ . No significant main effects or interactions were found on nine scales: GDS, GHS, IES Avoidance, IES Total, NTI, BSI Hostility, BSI Phobic Anxiety, BSI Paranoid Ideation, and BSI Psychoticism.

Five measures produced a significant main effect for time, although the main effects for gender and the Gender  $\times$  Time interactions were non-significant for these five scales. The pattern of these results showed that the intervention resulted in therapeutic effects across the outcome time periods, but the changes were similar among males and females. These five significant main effects are described next. For IES Intrusion, the main effect for time,  $F(2, 66) = 5.31$ ,  $p = .007$ , indicated a decrease in intrusive thoughts from posttreatment ( $M = 14.0$ ,  $SE = 1.6$ ) to follow-up ( $M = 10.1$ ,  $SE = 1.4$ ). For BSI Somatization, the main effect for time,  $F(2, 66) = 4.23$ ,  $p = .019$ , showed a decrease in somatization from pretreatment ( $M = 54.5$ ,  $SE = 1.8$ ) to follow-up ( $M = 50.4$ ,  $SE = 1.7$ ). For BSI Obsessive-Compulsive, the main effect for time,  $F(2, 66) = 3.28$ ,  $p = .044$ , revealed a decrease in obsessive-compulsive symptoms from pretreatment ( $M = 60.1$ ,  $SE = 1.9$ ) to follow-up ( $M = 57.2$ ,  $SE = 1.8$ ). For BSI Interpersonal Sensitivity, the main effect for time,  $F(2, 66) = 4.10$ ,  $p = .021$ , demonstrated a decrease in interpersonal sensitivity from pretreatment ( $M = 54.0$ ,  $SE = 1.8$ ) to follow-up ( $M = 50.2$ ,  $SE = 1.7$ ). Finally, for BSI Global Severity, the main effect for time,  $F(2, 66) = 8.25$ ,  $p = .001$ ,

showed that overall distress decreased from pretreatment ( $M = 58.5$ ,  $SE = 1.9$ ) to posttreatment ( $M = 55.8$ ,  $SE = 2.0$ ) and from pretreatment to follow-up ( $M = 54.4$ ,  $SE = 1.8$ ).

One scale (BSI Depression) showed a significant main effect for time as well as a significant main effect for gender. The main effect for time,  $F(2, 66) = 8.93$ ,  $p = .0005$ , indicated a decrease in depression from pretreatment ( $M = 62.0$ ,  $SE = 1.7$ ) to follow-up ( $M = 58.0$ ,  $SE = 1.7$ ) and from posttreatment ( $M = 60.5$ ,  $SE = 1.7$ ) to follow-up. The main effect for gender,  $F(1, 33) = 5.04$ ,  $p = .032$ , showed that, collapsed over the three assessment points, males ( $M = 63.7$ ,  $SE = 2.5$ ) were more depressed than females ( $M = 56.6$ ,  $SE = 1.9$ ). The Gender  $\times$  Time interaction was nonsignificant.

One scale (BSI Anxiety) indicated a significant Gender  $\times$  Time interaction,  $F(2, 66) = 3.38$ ,  $p = .04$ . There were no significant differences between males and females in anxiety at the pretreatment or posttreatment periods. At follow-up, males ( $M = 46.5$ ,  $SE = 2.6$ ) scored significantly lower on anxiety than females ( $M = 54.1$ ,  $SE = 2.0$ ). The pattern of means showed that males and females experienced a similar decrease in anxiety from pretreatment to posttreatment. However, from posttreatment to the follow-up, males experienced a slight decrease in anxiety, whereas females experienced a slight increase in anxiety.

### *Mood Changes During Treatments*

The outcome measures showed that the male and female participants generally experienced similar reductions in distress symptoms across the outcome time periods, but how did participants feel after the sessions? All process measures were analyzed using a  $2 \times 4 \times 2$  analysis of variance with gender as a between-subjects factor and day of measurement (Sessions 1 through 4) and pre/post (presession vs. postsession) as within-subject factors. Significant main effects and interactions were determined with a primary alpha level of .05. Significant findings were further analyzed by pairwise comparisons with a Sidak adjustment at  $p < .05$ .

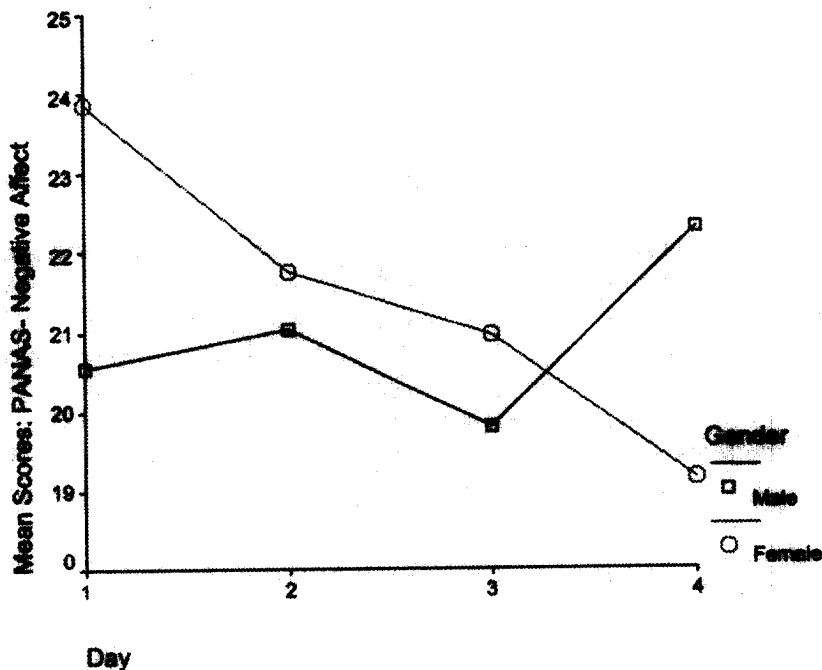
### **PANAS Positive Affect**

Positive affect scores yielded no significant main effects or interactions.

### **PANAS Negative Affect**

The main effects for gender and day were nonsignificant. The Gender  $\times$  Pre/Post, Day  $\times$  Pre/Post, and Gender  $\times$  Day  $\times$  Pre/Post interactions were

also nonsignificant. However, the main effect for pre/post was significant,  $F(1, 33) = 15.38, p = .0005$ , partial  $\eta^2 = .318$ . Negative affect increased from pre-session ( $M = 19.8, SE = 1.3$ ) to postsession ( $M = 22.6, SE = 1.5$ ). The Gender  $\times$  Day interaction was significant,  $F(3, 99) = 7.18, p < .0001$ , partial  $\eta^2 = .179$  (see Figure 1). As shown in Figure 1, there was a steady decline in negative mood over the four experimental sessions for females, whereas males remained stable at a moderate level of negative mood over the first three sessions but then sharply increased at Session 4. There was also a trend toward significance for the Gender  $\times$  Pre/Post interaction,  $F(1, 33) = 3.84, p = .058$ , partial  $\eta^2 = .104$ , suggesting a somewhat sharper increase in negative mood from pre- to postsession for males (pre  $M = 18.8, SE = 1.4$ ; post  $M = 23.0, SE = 2.4$ ) than for females (pre  $M = 20.7, SE = 1.7$ ; post  $M = 22.1, SE = 1.8$ ). The Gender  $\times$  Day interaction and the Gender  $\times$  Pre/Post interaction trend are best viewed in light of a trend toward



**FIGURE 1** Subjective negative mood over course of treatment: Mean PANAS negative affect scores for males and females, collapsed over pre- and postsession each day, over four sessions of treatment.

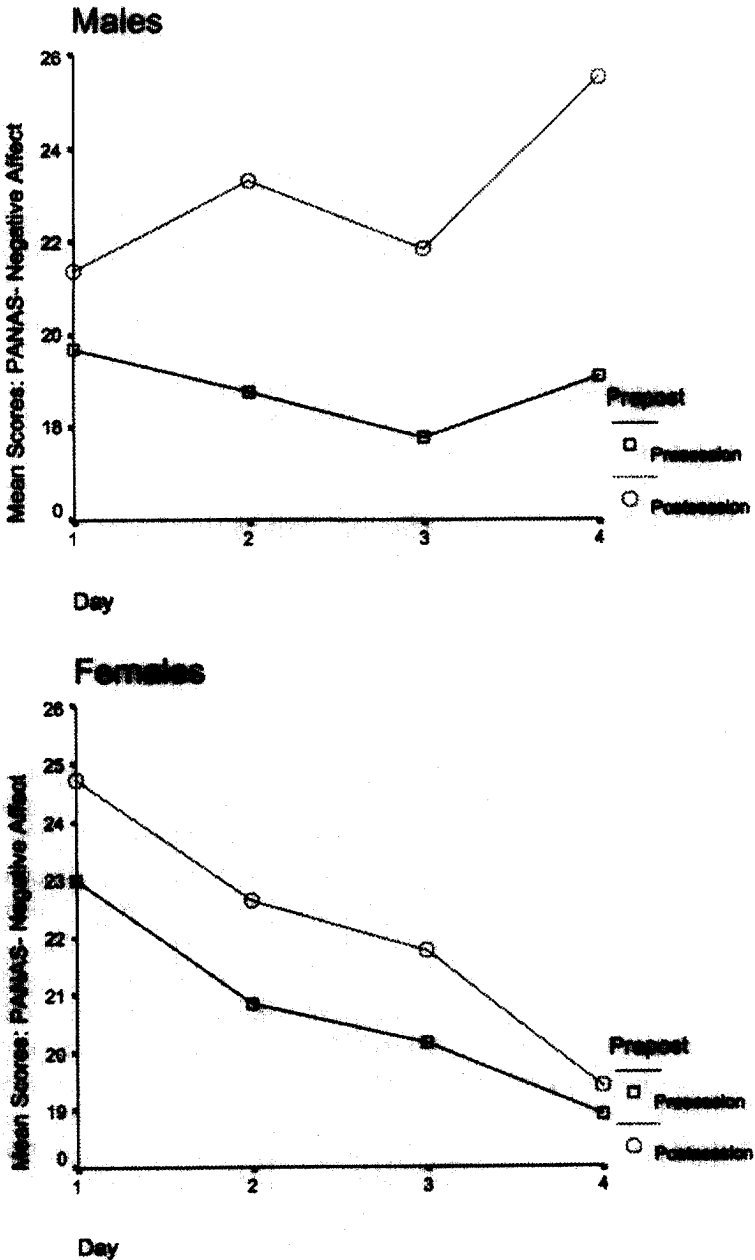


significance for the Gender  $\times$  Day  $\times$  Pre/Post interaction,  $F(3, 99) = 2.67$ ,  $p = .052$ , partial  $\eta^2 = .075$  (see Figure 2). The general pattern was a convergence between presession and postsession reports of negative mood for females over the four sessions, whereas there was a divergence among males, suggesting better emotional processing among females.

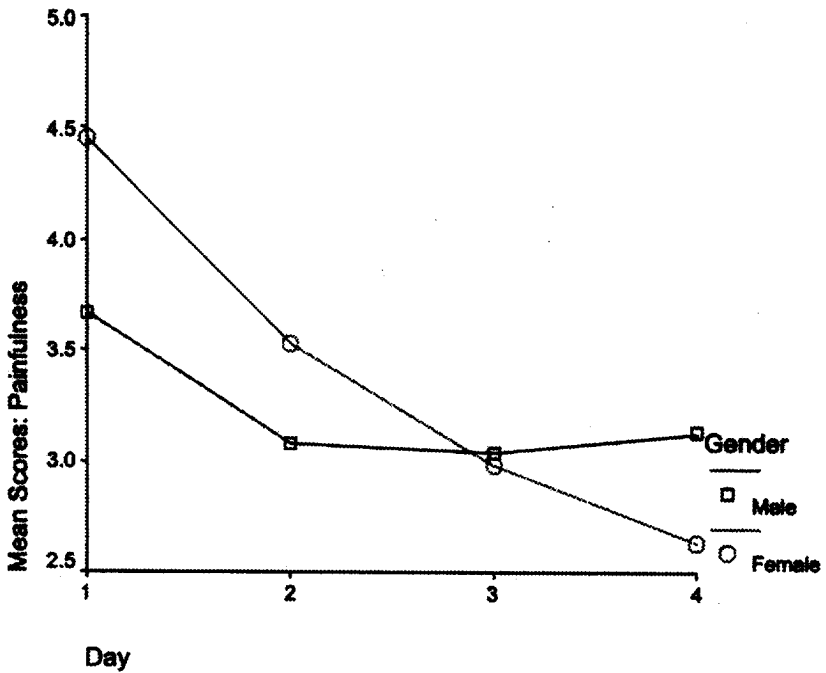
Follow-up comparisons of this three-way interaction were conducted. As can be seen in Figure 2, there were no significant changes in negative affect across days on presession or postsession scores among males. Also among males, negative affect presession scores were significantly lower than postsession scores at Day 2 ( $M = 18.8$ ,  $SE = 2.2$ ;  $M = 23.3$ ,  $SE = 2.6$ ), Day 3 ( $M = 17.8$ ,  $SE = 1.9$ ;  $M = 21.9$ ,  $SE = 2.6$ ), and Day 4 ( $M = 19.1$ ,  $SE = 1.9$ ;  $M = 25.5$ ,  $SE = 2.6$ ). Among females, there was a significant decrease in negative affect presession scores from Day 1 ( $M = 23.0$ ,  $SE = 1.8$ ) to Day 4 ( $M = 18.9$ ,  $SE = 1.5$ ). There was also a significant decrease in negative affect postsession scores from Day 1 ( $M = 24.7$ ,  $SE = 2.0$ ) to Day 3 ( $M = 21.8$ ,  $SE = 2.0$ ) and from Day 1 to Day 4 ( $M = 19.4$ ,  $SE = 2.0$ ). Among females, presession scores were not significantly different than postsession scores at any day. There were no significant differences between males and females on negative affect presession and postsession scores at any day.

### ***Painfulness Scale***

The main effect for gender was nonsignificant. The Gender  $\times$  Pre/Post, Day  $\times$  Pre/Post, and Gender  $\times$  Day  $\times$  Pre/Post interactions were also nonsignificant. However, the pre/post main effect was significant,  $F(1, 32) = 8.95$ ,  $p = .005$ , partial  $\eta^2 = .219$ . Similar to the PANAS negative affect results, painfulness increased from presession ( $M = 3.1$ ,  $SE = 0.3$ ) to postsession ( $M = 3.5$ ,  $SE = 0.3$ ). The main effect of day was also significant,  $F(2.55, 81.58) = 11.68$ ,  $p = .0005$ , partial  $\eta^2 = .267$ . The significant main effect of day must be viewed in light of a significant interaction between gender and day,  $F(2.55, 81.58) = 3.29$ ,  $p = .032$ , partial  $\eta^2 = .093$  (see Figure 3). Among males, there was no significant change in painfulness over the four sessions. Among females, there was a significant decrease in painfulness from Day 1 ( $M = 4.5$ ,  $SE = 0.4$ ) to Day 2 ( $M = 3.5$ ,  $SE = 0.4$ ), from Day 1 to Day 3 ( $M = 3.0$ ,  $SE = 0.4$ ), from Day 1 to Day 4 ( $M = 2.6$ ,  $SE = 0.4$ ), and from Day 2 to Day 4. Thus, the general pattern was that males reported moderate but consistent feelings of painfulness across the experimental sessions, whereas females initially reported higher levels of painfulness that steadily decreased across sessions to a low level at Session 4.



**FIGURE 2** Subjective negative mood over course of treatment: Mean PANAS negative affect scores, collapsed over pre- and postsession each day, over four sessions of treatment, for males and females separately.



**FIGURE 3** Subjective painfulness over course of treatment: Mean immediate self-report of painfulness for males and females, collapsed over pre- and postsession each day, over four sessions of treatment.

*Relationships Between Arousal of Negative Affect, Quality of Relationship, and Change in Negative Thoughts With Outcome*

To examine potentially different mechanisms of therapeutic change among males and females, change scores for each of the outcome measures were calculated by subtracting the pretest score from the score at the 1-month follow-up. A total negative affect score was created as a sum of all eight PANAS negative affect scores (pre and post for four disclosure sessions). Correlations were calculated between the outcome change scores and total negative affect scores to determine any significant relationships. A change score for the NTI was also calculated by subtracting the NTI pretest score from the 1-month follow-up score, and this was used to examine how changes in cognitions relate to outcome. Correlations between the quality of relationship score (subjective rating at pretest of the overall quality of the marital relationship,

**TABLE 1** Correlations and ( $p$  Values) of PANAS Summed Total Negative Affect, Overall Satisfaction With Relationship, and NTI Change Score with Outcome Measure Change Scores Between All Participants (T), Male Participants (M), and Female Participants (F)

[illegible]

TABLE 1 (Continued)

Brief Symptom Inventory	-.24	-.41	-.15	-.02	.26	-.15	.35*	.49	.30
Obsessive-Compulsive	(.17)	(.16)	(.51)	(.91)	(.39)	(.52)	(.04)	(.11)	(.17)
Brief Symptom Inventory	.07	-.22	.23	-.05	.53	-.22	.39*	.39	.39
Interpersonal Sensitivity	(.68)	(.48)	(.31)	(.76)	(.06)	(.34)	(.02)	(.21)	(.07)
Brief Symptom Inventory	.08	.06	.08	-.12	.20	-.20	.45*	.30	.48*
Depression	(.65)	(.84)	(.71)	(.50)	(.52)	(.39)	(.01)	(.34)	(.02)
Brief Symptom Inventory	-.15	-.11	-.23	-.03	.29	-.07	.00	-.17	.07
Anxiety	(.40)	(.71)	(.32)	(.85)	(.34)	(.75)	(.99)	(.60)	(.77)
Brief Symptom Inventory	-.11	-.10	-.14	-.30	.16	-.52*	-.15	-.02	-.27
Hostility	(.54)	(.75)	(.55)	(.08)	(.61)	(.01)	(.39)	(.95)	(.22)
Brief Symptom Inventory	.06	.26	-.01	-.11	.08	-.24	.18	-.46	.42
Phobic Anxiety	(.73)	(.39)	(.95)	(.53)	(.79)	(.28)	(.30)	(.14)	(.05)
Brief Symptom Inventory	-.11	-.17	-.01	-.22	-.03	-.29	.31	-.06	.43*
Paranoid Ideation	(.52)	(.57)	(.70)	(.21)	(.92)	(.20)	(.08)	(.86)	(.05)
Brief Symptom Inventory	-.19	-.51	-.02	-.14	.15	-.27	.47*	.14	.66*
Psychoticism	(.28)	(.08)	(.95)	(.43)	(.63)	(.23)	(.01)	(.68)	(.01)
Brief Symptom Inventory	-.15	-.26	-.11	-.23	.24	-.35	.38*	.18	.45*
Global Severity Index	(.41)	(.38)	(.64)	(.18)	(.43)	(.11)	(.03)	(.58)	(.04)

\* $p < .05$ .

higher scores denoting higher quality) and all outcome measure change scores were calculated as well (see Table 1 for full results).

As can be seen in Table 1, increases in summed negative affect were significantly associated with improvements (decreases over time) on the GDS, GHS, IES Intrusion, and IES Total for females and the total sample, but not for males. Summed negative affect was also significantly and moderately associated with improvements on IES Avoidance for females. For males, the correlations were mostly in a similar direction as for females, but they were typically smaller in magnitude. Thus, arousal of negative feelings was typically more strongly related to a therapeutic outcome for females.

Regarding perceived satisfaction with the marital relationship and outcome, results showed only two statistically significant associations: For males, increases in satisfaction with the relationship were strongly associated ( $r = .60$ ) with increases in negative thoughts from pretest to follow-up; for females, increases in satisfaction with the relationship were strongly associated ( $r = -.52$ ) with decreases in hostile feelings from pretest to follow-up. Despite limited statistical significance (due to low power from small sample sizes), though, perceived satisfaction with the relationship had a moderate effect on outcome, but more importantly the pattern was generally opposite for males and females. For males, higher marital satisfaction tended to be related to increased distress over time (positive correlations for 14 of 16 scales), whereas higher marital satisfaction tended to be related to decreased distress over time (negative correlations for all scales) for females.

Regarding the role of negative thinking, among the total sample, decreases in negative thinking were significantly and moderately associated with improvements on seven scales: GDS, GHS, BSI Obsessive-Compulsive, BSI Interpersonal Sensitivity, BSI Depression, BSI Psychoticism, and BSI Global Severity. Among females, decreases in negative thinking were significantly and moderately associated with improvements on two scales (BSI Depression and BSI Paranoid Ideation) and significantly and strongly associated with improvements on four scales (GDS, GHS, BSI Psychoticism, and BSI Global Severity). Among males, although no correlations reached statistical significance (due to limited power), decreases in negative thinking were moderately ( $r > .3$ ) associated with improvements on several scales (e.g., GHS, IES Avoidance, IES Total, BSI Obsessive-Compulsive, and BSI Interpersonal Sensitivity). Thus, the general pattern was for stronger relationships between reductions in negative thinking and decreases in distress among females relative to males.

## **Discussion**

The present extension of the Segal et al. (1999) study was intended to analyze the effects of verbal emotional expression on emotional processing among bereaved older adults, with an emphasis on examining differences in processes and outcomes between widowers and widows. The original study had found that a verbal expression intervention was beneficial in reducing a broad range of bereavement-related symptoms 1 month after the intervention, including reductions in hopelessness, intrusive thoughts, obsessive-compulsiveness, depression, and overall distress. The present study with several additional male participants confirms these findings, with the exception that the effect on hopelessness disappeared among the larger sample. In addition, the present study found that emotional expression reduced somatic symptoms and interpersonal sensitivity 1 month after the intervention. Overall, the results suggest that this emotional expression intervention was moderately effective in reducing some dimensions of distress and helping older adults process a traumatic loss. Our study also supports the notion in the literature (e.g., Stroebe, 1998) that it is difficult to recruit older males for bereavement-related studies. In the present study, we made a special effort to recruit bereaved males, and we still only mustered a relatively small sample size.

There was no evidence to support the hypothesis that widows would show greater improvements than widowers on outcome measures. In fact, one measure directly contradicted this hypothesis: Widows became slightly more anxious between posttreatment and follow-up, whereas widowers became slightly less anxious. However, the dominant pattern of substantial but equal improvement among both widowers and widows as a result of the expressive intervention is encouraging.

Regarding mood changes as a result of the intervention, there were some differences among males and females. In the original study (Segal et al., 1999), it was reported that negative affect and painfulness increased from presession to postsession but that combined negative affect and painfulness decreased across the four treatment sessions. The present study adds that there were considerable differences between widowers and widows in the progression of negative affect and painfulness across time. Most interesting, widowers remained stable at moderate levels of negative affect across treatment sessions, whereas widows steadily declined across sessions. Moreover, widowers showed stable levels of negative affect at the beginning of each session, but they showed increasing levels of negative affect following the expression ses-

sions. On the other hand, both pre-session and post-session negative affect among widows decreased steadily across sessions, with only a slight increase in negative affect from pre-session to post-session by Session 4. In other words, pre-session and post-session negative affect tended to diverge for widowers and converge for widows. This suggests that widowers became more uncomfortable (perhaps resulting from a gender-related distaste for expression in general) and widows became more comfortable with expression as time progressed. Regarding feelings of painfulness, widows and widowers experienced comparable increases in painfulness from pre-session to post-session. However, widowers experienced no changes in painfulness across sessions, whereas widows experienced steady reductions in painfulness, again suggesting a better response among females.

Regarding the arousal of negative affect and outcome, the pattern of correlations suggested that arousal of negative feelings was related to positive outcomes for widows, whereas arousal of negative feelings was related less strongly to outcomes for widowers. Most of the correlations among males and females were in the same direction, but they typically were stronger for females. A possible interpretation is that the expression of upsetting feelings is not as important for older bereaved males as it is for older bereaved females. Further, older males may be more uncomfortable expressing unpleasant emotions than females and, thus, benefited less from this particular component of the interventions. What may be similarly valuable to both genders is not so much expression of feelings, but rather the extensive "account making" about their loss and coherent storytelling that are an integral part of all emotional expression interventions (Segal & Murray, 2001). Indeed, Barnes, Harvey, Carlson, and Haig (1996) found that bereaved older adults were more likely to find meaning in the loss than bereaved younger adults. A similarity in process between males and females was that the intervention appeared to have no influence on positive affect for either group. This finding is similar to the original study (Segal et al., 1999) and suggests that this type of intervention is more successful at decreasing negative feelings than at increasing positive feelings about the death of one's spouse. One hypothesis is that positive affect and negative affect are largely unrelated constructs, and each dimension may require specific targeting by psychotherapeutic intervention efforts.

Important limitations of the study are the small sample size and the ethnic uniformity of the sample. Also, our effects only generalize to men who are (somewhat) willing to explore/express their bereavement through participation in a research study. Future studies are needed to examine possible gender



differences regarding expressive interventions for bereavement among younger persons who likely have different values and experiences regarding the expression of emotions than older persons.

It would seem that gender-related socialization and coping strategies might cause older widowers and widows to have different subjective experiences as they undergo expressive treatments. Consistent with previous research (Segal et al., 1999; Segal & Murray, 1994), mechanisms of change such as arousal of negative affect and decreases in negative thinking over time relate significantly to positive outcomes, especially for widows. That these relationships are typically not as strong for widowers highlights the fact that the mechanisms associated with the emotional processing of bereavement among men are less clearly understood. Nonetheless, males and females achieved similar therapeutic outcomes, but it was less certain what accounted for the changes among males. As it stands, it appears that widows and widowers could help themselves recover from their loss through self-guided expression. It is important to develop new and diverse therapies that ease the transition from grief to acceptance. Of the many interventions that can aid in bereavement recovery, emotional expression is well suited to help bereaved older adults. The technique is cost effective, private, and easy to administer or initiate. Hopefully, the present study will inspire future research into the expression of bereavement and the impact of gender on recovery among older persons.

## References

- Arbuckle, N. W., & de Vries, B. (1995). The long-term effects of later life spousal and parental bereavement on personal functioning. *Gerontologist, 35*, 637-647.
- Barnes, M. K., Harvey, J. H., Carlson, H., & Haig, J. (1996). The relativity of grief: Differential adaptation reactions of younger and older persons. *Journal of Personal and Interpersonal Loss, 1*, 375-392.
- Carverhill, P. A. (1997). Bereaved men: How therapists can help. *Psychotherapy in Private Practice, 16*(4), 1-15.
- 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.
- Fry, P. S. (1998). Spousal loss in later life: A 1-year follow-up of perceived changes in life meaning and psychosocial function following bereavement. *Journal of Personal and Interpersonal Loss, 3*, 369-391.

- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective distress. *Psychosomatic Medicine*, 41, 209-218.
- Lee, G. R., Willetts, M. C., & Seccombe, K. (1998). Widowhood and depression: Gender differences. *Research on Aging*, 20, 611-630.
- Moss, M. S., Moss, S. Z., & Hansson, R. O. (2001). Bereavement and old age. In M. S. Stroebe, R. O. Hansson, W. Stroebe, & H. Schut, (Eds.), *Handbook of bereavement research* (pp. 241-260). Washington, DC: American Psychological Association.
- 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., Kiecolt-Glaser, J., & Glaser, R. (1988). Disclosure of traumas and immune function: Health implications for psychotherapy. *Journal of Consulting and Clinical Psychology*, 56, 239-245.
- Rachman, S. (1980). Emotional processing. *Behavior Research and Therapy*, 18, 51-60.
- Schut, H. A. W., Stroebe, M. S., van den Bout, J., & de Keijser, J. (1997). Intervention for the bereaved: Gender differences in the efficacy of two counseling programmes. *British Journal of Clinical Psychology*, 36, 63-72.
- 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., Chatman, C., Bogaards, J. A., & Becker, L. A. (2001). One year follow-up of an emotional expression intervention for bereaved older adults. *Journal of Mental Health and Aging*, 7, 465-472.
- Segal, D. L., & Murray, E. J. (1994). Emotional processing in cognitive therapy and vocal expression of feeling. *Journal of Social and Clinical Psychology*, 13, 189-206.
- Segal, D. L., & Murray, E. J. (2001). Comparison of distance emotional expression with psychotherapy. In L. L'Abate (Ed.), *Distance writing and computer-assisted techniques in psychiatry and mental health* (pp. 61-75). Greenwich, CT: Ablex.
- Stroebe, M. S. (1998). New directions in bereavement research: Exploration of gender differences. *Palliative Medicine*, 12, 5-12.
- 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.

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