
BRIEF REPORT

THE EFFECTS OF JOURNALING FOR WOMEN WITH NEWLY DIAGNOSED BREAST CANCER

SUSAN SMITH^a, CAY ANDERSON-HANLEY^{a,*}, ADELA LANGROCK^b and BRUCE COMPAS^c

^a *Skidmore College, USA*

^b *Middlebury College, USA*

^c *Vanderbilt University, USA*

SUMMARY

Forty-three women newly diagnosed with breast cancer participated in this study, which examined the role of expressive journal writing characteristics on mood over the course of a 12-week support group. Writing was analyzed using the linguistic inquiry and word count program. Writing characteristics that were examined included: average word count, number of journal entries, positive and negative emotion words, the ratio of positive to negative words, and the use of cognitive mechanism words (i.e. insight and causal words). Regression analyses revealed that increased levels of anxiety and depression, post-intervention, were predicted by the prevalence of negative emotion in writing. Unique variance in mood (anxiety and depression) was accounted for by expression of negative emotion (7 and 6%, respectively). These relationships were significant ($p < 0.05$) and remained significant even after accounting for pre-intervention levels of distress, and for the quantity and frequency of writing. These findings suggest the need for additional research into the naturalistic application of journaling so that appropriate recommendations for writing (e.g. focus, timing, amount) can be offered to patients who might choose to utilize this approach for coping with the stresses of cancer diagnosis and treatment. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS: journaling; expressive writing; coping with cancer; breast cancer; alleviating anxiety and depression

INTRODUCTION

Research has demonstrated the beneficial effects of emotional expression of traumatic or burdensome experiences through writing (see Lepore and Smyth, 2002). Studies indicate that compliance with writing about a significant upsetting experience in one's life versus a superficial topic can result in benefits on both physical (Esterling *et al.*, 1994; Francis and Pennebaker, 1992; Pennebaker *et al.*, 1990; Pennebaker and Beall, 1986; Pennebaker *et al.*, 1997) and psychological (Krantz and Pennebaker, 1996; Pennebaker *et al.*, 1987) health measures across various populations.

While disclosure has been shown to have some benefits (see Pennebaker, 1997 for review), there are certain stressful events that are not readily discussed (Richards *et al.*, 2000; Cole *et al.*, 1996; Esterling *et al.*, 1994; Pennebaker *et al.*, 1987). Women with newly diagnosed breast cancer express many concerns about verbal disclosure, including a need to remain strong for their family and a fear of being misunderstood. In examining the inhibited emotional expression often reported in breast cancer patients, Servaes *et al.* (1999) found women with breast cancer as compared to healthy women, to be reserved and anxious, self-effacing, repressive of aggression and impulsiveness, and having conflicting feelings with regard to expressing emotions. Their research led them to conclude that the patients' inhibited behavior was a reaction to the disease, not a personality trait that predisposed the individuals to cancer.

*Correspondence to: Department of Psychology, Skidmore College, Saratoga Springs, NY 12866, USA.
E-mail: chanley@skidmore.edu

The implications of confidential written emotional disclosure for women with newly diagnosed breast cancer have only recently been investigated and results are mixed. Walker *et al.* (1999) randomly assigned 44 breast cancer patients to write about their cancer experience once, three times or not at all. No statistically significant differences were found among the groups with respect to positive affect, negative affect, intrusive thoughts, or avoidance behaviors. Stanton *et al.* (1999) randomly assigned 60 breast cancer patients to either write expressively about their breast cancer, to write only positive thoughts and feelings about their experience with breast cancer, or to write about the facts of their breast cancer experience. No group differences were found with respect to the psychological or quality-of-life outcomes. However, the patients who wrote expressively about their cancer or who wrote positive thoughts about their cancer reported fewer physical symptoms and had fewer medical appointments for cancer-related issues compared with patients who wrote only about the facts of their cancer. Zakowski *et al.* (2004) found that writing 20 min a day for 3 days was not uniformly helpful to cancer patients in the study; however, it was effective in reducing the distress of those patients who were experiencing high levels of social constraint. These and other findings (e.g. Helgeson *et al.*, 2000) suggest that interventions might best be tailored to meet individual cancer patients' needs.

Expressive writing, as an intervention, is sometimes incorporated as a component of support groups and therapy sessions (Soper and Von Bergen, 2001; Stone, 1998), but the implications of journaling as a supplement to counseling has not been extensively studied (Smyth and Catley, 2002). Klapow *et al.* (2001) reported some success in adapting the typical experimental writing protocol for use with primary care patients; however, such a structured application remains different from the unstructured journaling frequently utilized by individuals and support groups. Furthermore, journaling has not been investigated within a support group of women with newly diagnosed breast cancer.

While the effects of certain types of writing in controlled conditions have been clearly demonstrated, the underlying mechanism of effect is still under debate. To date, no single theory has adequately explained the efficacious nature of written emotional disclosure (Pennebaker, 2004).

Some research has demonstrated that positive adjustment following a trauma is facilitated by processing the traumatic event and surrounding emotions (Foa and Kozak, 1986; Tedeschi and Calhoun, 2003), more specifically, exploring the event and its impact on one's life, beliefs and behaviors and then integrating that information into pre-existing beliefs about the world and self. Many theorists hypothesize that written emotional disclosure may lead to this type of cognitive change in the way an individual views a trauma (Lepore, 1997; Lepore and Smyth, 2002). In addition, Stiles *et al.* (1999) outline the theoretical and experimental work that continues to explore the use of narratives in assimilating 'problematic experiences' (i.e. the schema, voices and cognitive science views on this process). It may be that as patients write, they are doing the important work of expressing their distress while also potentially formulating an understanding of it.

Pennebaker and Seagal (1999) have provided evidence that the beneficial effects of writing may be attributed to cognitively organizing the event by transferring thoughts and feelings surrounding the trauma into language (e.g. writing about it). Ullrich and Lutgendorf (2002) found that college students instructed not only to write about their emotions, but also their cognitive understanding of a stressor evidenced greater benefit than those writing about emotion alone. Further evidence from studies using a computerized language analysis program (Linguistic Inquiry and Word Count; LIWC; Pennebaker and Francis, 1996) has linked specific linguistic styles to improved mental and physical health (Pennebaker and Seagal, 1999; Pennebaker *et al.*, 1997; Pennebaker, 1997).

The benefits of writing seem to be most pronounced in writing that contains a reasonable amount of negative emotion words, a greater number of positive emotion words, and perhaps most important, an increase in cognitive mechanism words (Pennebaker and Seagal, 1999; Pennebaker *et al.*, 1997; Pennebaker, 1997). One of the key aspects of these findings is an increase in cognitive organization over time (Pennebaker and Seagal, 1999; Pennebaker *et al.*, 1997). People who demonstrated a benefit from writing started with poorly organized descriptions of their traumatic experience, and progressed to coherent stories by the final day of writing (Pennebaker, 1997).

Consistent with previous research, we predicted that the ratio of negative to positive words would be related to symptoms of depression and anxiety

after journaling opportunities accompanying a 12-week support group, when controlling for pre-group levels of depression and anxiety. Similarly, we predicted that the use of cognitive mechanism words would be significantly related to symptoms of depression and anxiety, while controlling for pre-group states. Due to the naturalistic use of journaling in this study (versus prior research which controlled frequency and amount of writing), we anticipated that there would be variability in the frequency and amount of writing. Thus, we planned to verify that these variables did not have an untoward effect on any results by statistically controlling for them in analyses.

METHODS

Participants

Participants included 43 women with newly diagnosed breast cancer who were also participating in a 12-week support group as part of a larger, randomized trial. Seventy-two women participated to some degree in journal writing as part of the larger trial, twenty-nine were excluded from this study due to insufficient data (fewer than three journal entries or missing questionnaire data). The average age of the participants was 53 years (S.D. = 10) and on average the participants had completed some education beyond high school (average = 15 years, S.D. = 2). The diagnostic status of the women in this study ranged from Stage 0 to 3 (19, 45, 33 and 4%, respectively), with 81% being diagnosed with some form of invasive carcinoma, while 19% carried a diagnosis of carcinoma *in situ*. Most of the women in the study had received a lumpectomy (74%), while the remaining had received a mastectomy (26%). As part of the larger study design women were randomly assigned to different 'timings' of their support group. That is, they were assigned to either an 'early' starting group (average 3 months post-diagnosis) or a 'delayed' starting group (average of 8 months post-diagnosis). No significant differences were found between these groups on the variables of interest herein and thus the groups were combined.

Procedure

Prior to the start of the 12-week support groups, participants completed measures of anxiety and

depression. These measures were completed again at the conclusion of the 12-week support group. Women were given a journal at the start of their respective support groups and were asked to record their thoughts and feelings related to their breast cancer and support group experiences three times a week. Journal entries were collected weekly with study identification numbers serving to protect confidentiality and anonymity. Cancer and group related material from each journal entry was typed into a computer text file and standard guidelines were followed in preparing and cleaning the data for analysis (Pennebaker *et al.*, 2001). To control for the variability in writing that may have resulted in part due to participants' deviation from writing instructions, material not related to cancer or the group in some way was excluded from analysis. We focused on the average use of emotion and cognitive mechanism words over the course of a woman's entries.

Text analysis

All journal entries were analyzed using the linguistic inquiry and word count (LIWC) computer program designed to facilitate the analysis of text with the key components analyzed being emotional content and cognitive processes (Pennebaker *et al.*, 2001). These and other LIWC categories are part of a comprehensive dictionary of more than 2200 words and words stems. Target words found in written text are matched to dictionary words and are counted. A percentage is then calculated for each LIWC category and subcategory to correct for differences in text length between participants (Pennebaker *et al.*, 2001).

The focus of this study was placed on three subcategories: positive emotion (e.g. happy, good), negative emotion (e.g. hate, worthless), and cognitive mechanism as measured by words indicating insight (e.g. 'think') and causation (e.g. 'because'). The following is an example of negative emotion: *My whole day was awful. There were problems administering chemo and afterwards my neighbor clearly avoided me when I pulled in the driveway. I feel like I have the plague...* The following is an example of cognitive mechanism: *I think I am starting to learn how to deal with other people about my cancer. My friend asked me how I was doing and I was able to tell her plainly. I think it is because I realize I need to value every day and not get caught up in hiding...*

RESULTS

To examine the relationship between mental health outcomes and writing characteristics, two parallel hierarchical multiple regression analyses were performed using SPSS (v. 11.0). Dependent variables included anxiety (BAI) and depression (BDI). Writing characteristics included: average number of words written in each entry ($M = 209.95$, $S.D. = 112.31$, range = 64–662), total number of entries ($M = 13.60$, $S.D. = 6.45$, range = 3–34), positive emotion words, negative emotion words, the ratio of positive to negative words, and cognitive mechanism (as measured by insight and causal words). At step 1 in each analysis, pre-existing level of anxiety or depression was entered. In step 2 in each analysis, the writing characteristics were entered as a block. Results are shown in Table 1.

Analyses revealed that writing about negative emotions explained 7% unique variance in post-intervention anxiety symptoms, over and above prior level of anxiety ($p = 0.02$). Similarly, writing about negative emotions explained 6% unique variance in post-intervention depression symptoms, over and above prior level of anxiety ($p = 0.02$).

As an additional check of these relationships, partial correlations were calculated for each of the outcome variables (anxiety and depression) and negative emotion, while controlling for pre-intervention levels, as well as average length and number of entries. The relationship between anxiety and negative emotion remained significant, even when controlling for pre-intervention levels of anxiety, and the average length and number of entries ($r = 0.37$, $p = 0.02$). Similarly, the relationship between depression and negative emotion remained significant, even when controlling for pre-intervention levels of depression, and the average length and number of entries ($r = 0.34$, $p = 0.03$).

In an effort to shed additional light on possible relationships between key variables and the linguistic dimensions, a table of correlations is provided (Table 2). Caution should be used in interpreting these relationships given the large number of statistical tests and the small sample size. However, these exploratory analyses may provide some hints about potentially important relationships between writing characteristics and amelioration of distress to guide future research.

Table 1. Beta weights and summary statistics for hierarchical multiple regression analyses predicting psychological adjustment

	Outcome variable	
	Anxiety (BAI)	Depression (BDI)
Step 1		
Pre-intervention anxiety/depression	0.71**	0.69**
ΔR^2	0.50	0.48
F change	40.82**	37.94**
Step 2		
Positive emotion	-0.06	-0.09
Negative emotion	0.28*	0.27*
Ratio positive/negative	-0.07	-0.10
Cognitive mechanism	0.05	-0.10
Average word count/entry	0.06	-0.02
Total number of entries	-0.08	0.01
ΔR^2	0.07	0.06
F change	6.33	5.50
Total model		
R^2	0.57	0.54
F	26.22	23.80

* $p < 0.05$, ** $p < 0.001$. Beta weights shown are for full, seven-variable model.

DISCUSSION

Women newly diagnosed with breast cancer and writing in a journal as part of a 12-week support group experienced differing levels of anxiety and depression, in part accounted for by the characteristics of their writing. In particular, symptoms of anxiety and depression after completion of a 12-week support group were significantly related to the amount of negative emotion expressed in written form (over and above pre-intervention levels of anxiety and depression). Thus, a greater focus in writing on negative emotions was related to higher levels of anxiety and depression. Overall quantity and frequency of writing were not significantly related to levels of anxiety or depression.

These findings are partially consistent with prior research, some of which has also reported poorer outcomes that were related to a focus on negative emotion (Ullrich and Lutgendorf, 2002). In contrast, Stanton *et al.* (2002b) found that women with breast cancer who were instructed to write about positive thoughts and feelings had mental and physical health benefits. Other research has

Table 2. Exploratory correlations between supplemental variables and adjusted depression and anxiety

	BDI (post-pre)		BAI (post-pre)		Age		Educ		Stage		Timing		Entries	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Age	0.10	0.53	-0.17	0.27										
Educ	0.26	0.09	0.09	0.57	-0.15	0.29								
Stage	-0.09	0.56	0.02	0.91	-0.17	0.25	-0.05	0.75						
Timing	-0.08	0.59	-0.01	0.96	-0.20	0.17	0.01	0.93	0.09	0.52				
Entries	0.35	0.02	0.05	0.75	0.28	0.05	0.08	0.56	0.01	0.92	-0.31	0.03		
% words > 6 letters	-0.02	0.90	-0.02	0.93	0.00	1.00	0.25	0.14	-0.17	0.34	-0.09	0.59	0.01	0.98
1st person singular	-0.01	0.97	0.20	0.27	-0.09	0.59	-0.17	0.32	0.29	0.08	0.15	0.37	-0.17	0.31
1st person plural	0.24	0.18	0.26	0.15	-0.29	0.09	0.12	0.49	-0.14	0.43	-0.03	0.88	-0.06	0.71
Total first person	0.02	0.93	0.22	0.22	-0.12	0.50	-0.16	0.36	0.28	0.10	0.15	0.38	-0.17	0.31
Total second person	0.11	0.56	0.24	0.19	-0.25	0.14	-0.07	0.67	0.27	0.11	-0.11	0.51	0.00	0.98
Total third person	0.07	0.70	0.23	0.20	-0.27	0.12	-0.04	0.81	0.26	0.13	-0.23	0.17	0.08	0.62
Articles	0.25	0.16	0.23	0.20	0.01	0.96	0.13	0.44	0.23	0.18	0.24	0.16	0.07	0.70
Prepositions	0.14	0.43	0.21	0.25	-0.15	0.38	0.10	0.55	0.16	0.36	0.02	0.89	0.10	0.58
Social processes	0.10	0.59	0.25	0.16	-0.32	0.06	0.06	0.74	0.21	0.22	-0.07	0.68	-0.07	0.70
Death and dying	0.18	0.32	0.35	0.05	-0.18	0.28	0.04	0.80	0.18	0.29	0.16	0.35	-0.25	0.15
Religion	0.24	0.18	0.12	0.53	0.11	0.52	-0.10	0.58	0.26	0.13	-0.32	0.06	0.24	0.17

Due to missing data the *n* for each correlation was variable with a minimum of 32 participants.

indicated that it is the ratio of positive to negative words that is significantly related to outcomes (Pennebaker *et al.*, 1997).

In contrast with expectations and prior research (Pennebaker *et al.*, 1997), the use of cognitive mechanism did not appear to influence levels of anxiety or depression. In an effort to clarify this finding, an anonymous reviewer suggested that we consider the possibility that participants might be evolving in their use of cognitive mechanism over time and, thus, taking the average use of cognitive mechanism words might obscure the expected relationships between these variables. The regression analyses were repeated using change in cognitive mechanism (first vs last entry) in place of the average over all writing entries, but again, no significant relationship was detected. One possibility is that cognitive processing may be occurring during the support group sessions such that the verbal forum becomes the main outlet for such processing rather than during a woman's journal writing (e.g. through the formulation of narratives by way of disclosures using speech rather than writing: Stiles, 1995).

These findings also need to be reconciled with recent research on the coping styles of breast cancer patients, which suggests that women who cope through expressing emotions or active acceptance have better outcomes (Stanton *et al.*, 2000; Stanton *et al.*, 2002a). It may be that one or

more variables, such as the type of expression (e.g. negative vs positive, written vs verbal) could impact the effect of the expression on outcomes. Furthermore, it is unclear whether the greater focus on negative emotion in writing is a cause of or symptom of increasing depression and anxiety, or perhaps both. Stiles *et al.* (1992) articulated a 'fever model' of disclosure, suggesting that increased distress can lead to increased disclosure, perhaps indicating both an underlying disturbance as well as efforts at a restorative process (analogous to the relationship between fever and the body's fight with infection). Thus, the function of the negative emotional expression seen in some patients herein is unclear; further research is needed to clarify the underlying phenomena.

One aspect of this study that can be viewed as both a strength and a limitation is the fact that the writing utilized in this study was obtained in a relatively naturalistic way. That is, there were not strict controls on the amount or content of a woman's writing. General guidelines were given and then women proceeded over the course of the twelve weeks to implement the journaling in individualized ways. Some wrote sporadically, while others wrote regularly and extensively. In this regard, the study has some strength in its generalizability since individuals will naturally differ in their inclination to write in a journal. However, this study is subject to a self-selection

bias, in that the only data that could be analyzed came from participants who made some effort to write in their journals. It is unclear what might be the outcome of writing for women who would not ordinarily choose to write in a journal. Additionally, future research should clarify if women with certain coping styles benefit more from certain writing characteristic (e.g. a moderating effect such as reported by Stanton *et al.*, 2002b). We believe that other, more time-limited and tightly controlled experimental studies are endeavoring to answer these questions, while this study sheds some light on what happens in a more naturalistic situation.

The findings of this research suggest that the specific writing approach used when journaling may influence mental health outcomes such as anxiety and depression. In particular, it appears that a heavy emphasis on experiences of negative emotion may result in increased levels of anxiety and depression. The amount and frequency of writing did not appear to alter the basic findings. Surprisingly, the relative balance of positive to negative emotion was not a key predictor, nor was the use of cognitive processing. Perhaps these components are less important in this type of journaling experience, which is accompanied by a support group intervention that provides direct opportunity for formulating narratives and causal explanations.

More research is needed to clarify the processes involved when using expressive writing in the context of broader interventions. This research suggests that naturalistically employed expressive writing is not necessarily universally helpful to mood states, but rather there may be specific characteristics of writing that are more useful in alleviating symptoms of distress (e.g. less rather than more focus on negative emotion). Further refinement of our understanding of the processes involved could assist in the appropriate individualized prescription of journaling for women with breast cancer (e.g. focus, timing, amount).

ACKNOWLEDGEMENTS

1. An earlier version of this manuscript was presented at the Annual Meeting of the Society of Behavioral Medicine, Washington, DC, April 2002.
2. This study was funded in part by a summer Research Experience for Undergraduate (REU)

grant from the National Science Foundation awarded to Susan Smith and conducted at Middlebury College.

3. This study was funded in part by a grant from the National Cancer Institute (CA RO1CA 67936) awarded to Bruce Compas, PhD for a study conducted at the University of Vermont.
4. This work could not have been completed without the collaboration of Hy Muss, MD and the staff at Fletcher Allen and the Vermont Cancer Care in Burlington, VT, and Robert Sponzo, MD and the staff of the Cancer Center at Glens Falls Hospital, NY.
5. Special thanks to the many women who contributed their time, effort and thoughts in the conduct of this research.

REFERENCES

- Cole SW, Kemeny ME, Taylor SE, Visscher BR. 1996. Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychol* **15**(4): 243–251.
- de Moor C, Sterner J, Hall M *et al.* 2002. A pilot study of the effects of expressive writing on psychological and behavioral adjustment in patients enrolled in a phase II trial of vaccine therapy for metastatic renal cell carcinoma. *Health Psychol* **21**(6): 615–619.
- Esterling BA, Antoni MH, Fletcher MA, Margulies S, Schneiderman N. 1994. Emotional disclosure through writing or speaking modulates latent Epstein–Barr virus antibody titers. *J Consult Clin Psychol* **62**(1): 130–140.
- Esterling BA, L'Abate L, Murray EJ, Pennebaker JW. 1999. Empirical foundations for writing in prevention and psychotherapy: Mental and physical health outcomes. *Clin Psychol Rev* **19**: 79–96.
- Foa EB, Kozak MJ. 1986. Emotional processing of fear: Exposure to corrective information. *Psych Bull* **99**(1): 20–35.
- Francis ME, Pennebaker JW. 1992. Putting stress into words: The impact of writing on physiological, absentee, and self-reported emotional well-being measures. *Am J Health Promot* **6**(4): 280–287.
- Greenberg MA, Stone AA. 1992. Emotional disclosure about traumas and its relation to health: Effects of previous disclosure and trauma severity. *J Pers Soc Psychol* **63**(1): 75–84.
- Helgeson VS, Cohen S, Schulz R, Yasko J. 2000. Group support interventions for women with breast cancer: Who benefits from what? *Health Psychol* **19**: 107–114.
- Klapow JC, Schmidt SM, Taylor LA *et al.* 2001. Symptoms management in older primary care

- patients: Feasibility of an experimental, written self-disclosure protocol. *Ann Intern Med* **134**: 905–911.
- Krantz A, Pennebaker JW. 1996. Bodily versus written expression of traumatic experience. Unpublished manuscript.
- Lepore SJ. 1997. Expressive writing moderates the relation between intrusive thoughts and depressive symptoms. *J Pers Soc Psychol* **73**(5): 1030–1037.
- Lepore SJ, Smyth JM. 2002. *The Writing Cure: How Expressive Writing Promotes Health and Emotional Well-being*. American Psychological Association: Washington, DC.
- Lumley MA, Provenzano KM. 2003. Stress management through written emotional disclosure improves academic performance among college students with physical symptoms. *J Educ Psychol* **95**(3): 641–649.
- Pennebaker JW. 1997. Writing about emotional experiences as a therapeutic process. *Psychol Sci* **8**(3): 162–166.
- Pennebaker JW. 2004. Theories, therapies and taxpayers: On the complexities of the expressive writing paradigm. *Clin Psychol: Sci Pract* **11**(2): 138–142.
- Pennebaker JW, Beall SK. 1986. Confronting a traumatic event: Toward an understanding of inhibition and disease. *J Abnorm Psychol* **95**(3): 274–281.
- Pennebaker JW, Colder M, Sharp IK. 1990. Accelerating the coping process. *J Pers Soc Psychol* **58**(3): 528–537.
- Pennebaker JW, Francis ME. 1996. Cognitive, emotional, and language processes in disclosure. *Cognition Emotion* **10**(6): 601–626.
- Pennebaker JW, Seagal JD. 1999. Forming a story: The health benefits of narrative. *J Clin Psychol* **55**(10): 1243–1254.
- Pennebaker JW, Hughes CF, O'Heeron RC. 1987. The psychophysiology of confession: Linking inhibitory and psychosomatic processes. *J Pers Soc Psychol* **52**(4): 781–793.
- Pennebaker JW, Mayne TJ, Francis ME. 1997. Linguistic predictors of adaptive bereavement. *J Pers Soc Psychol* **72**(4): 863–871.
- Pennebaker JW, Francis ME, Booth RJ. 2001. *Linguistic Inquiry and Word Count: Manual and Software*. Erlbaum Publishers: Mahwah, NJ.
- Petrie KJ, Booth RJ, Pennebaker JW. 1998. The immunological effects of thought suppression. *J Pers Soc Psychol* **75**(5): 1264–1272.
- Richards JM, Beal WE, Seagal JD, Pennebaker JW. 2000. Effects of disclosure of traumatic events on illness behavior among psychiatric prison inmates. *J Abnorm Psychol* **109**(1): 156–160.
- Servaes P, Vingerhoets AJJM, Vreugdenhil G. 1999. Inhibition of emotional expression in breast cancer patients. *Behav Med* **25**(1): 23–27.
- Smyth JM. 1998. Written emotional expression: Effect sizes, outcome types, and moderating variables. *J Consult Clin Psychol* **66**: 174–184.
- Smyth JM, Catley D. 2002. Translating research into practice: Potential of expressive writing in the field. In *The Writing Cure: How Expressive Writing Promotes Health and Emotional Well-being*, Lepore SJ, Smyth JM (eds). American Psychological Association: Washington, DC.
- Soper B, Von Bergen CW. 2001. Employment counseling and life stressors: Coping through expressive writing. *J Employment Couns* **38**(3): 150–160.
- Spera SP, Buhrfeind ED, Pennebaker JW. 1994. Expressive writing and coping with job loss. *Acad Manage J* **37**(3): 722–733.
- Stanton AL, Danoff-Burg S. 2002. Emotional expression, expressive writing, and cancer. In *The Writing Cure: How Expressive Writing Promotes Health and Emotional Well-being*, Lepore SJ, Smyth JM (eds). American Psychological Association: Washington, DC.
- Stanton AL, Danoff-Burg S, Cameron MA, Collins C, Sworowski L, Kirk S. 1999. A longitudinal study of emotional expression and adjustment to breast cancer. *Ann Behav Med* **21**: S007.
- Stanton AL, Danoff-Burg S, Cameron CL, Bishop M, Collins CA, Kirk SB, Sworowski LA, Twillman R. 2000. Emotionally expressive coping predicts psychological and physical adjustment to breast cancer. *J Consult Clin Psychol* **68**(5): 875–882.
- Stanton AL, Danoff-Burg S, Huggins ME. 2002a. The first year after breast cancer diagnosis: Hope and coping strategies as predictors of adjustment. *Psycho-Oncology* **11**(2): 93–102.
- Stanton AL, Danoff-Burg S, Sworowski LA, Collins CA, Branstetter AD, Rodriguez-Hanley A, Kirk SB, Austenfeld JL. 2002b. Randomized, controlled trial of written emotional expression and benefit finding in breast cancer patients. *J Clin Oncol* **20**(20): 4160–4168.
- Stiles WB. 1995. Disclosure as a speech act: Is it psychotherapeutic to disclose? In *Emotion, Disclosure, and Health*, Pennebaker JW (ed.). American Psychological Association: Washington, DC; 71–91.
- Stiles WB, Shuster PL, Harrigan JA. 1992. Disclosure and anxiety: A test of the fever model. *J Pers Soc Psychol* **63**(6): 980–988.
- Stiles WB, Honos-Webb L, Lani JA. 1999. Some functions of narrative in the assimilation of problematic experiences. *J Clin Psychol* **55**(10): 1213–1225.
- Stone M. 1998. Journaling with clients. *J Individual Psychol* **54**(4): 535–545.
- Tedeschi RG, Calhoun LG. 2003. Routes to posttraumatic growth through cognitive processing. In *Promoting Capabilities to Manage Posttraumatic Stress: Perspectives on Reliance*, Paton D, Violanti JM (eds). Charles C. Thomas Publisher: Springfield, IL; 12–26.
- Ullrich PM, Lutgendorf SK. 2002. Journaling about stressful events: Effects of cognitive processing

- and emotional expression. *Ann Behav Med* **24**(3): 244–250.
- Walker BL, Nail LM, Croyle RT. 1999. Does emotional expression make a difference in reactions to breast cancer? *Oncol Nurs Forum* **26**: 1025–1032.
- Zakowski SG, Ramati A, Morton C, Johnson P, Flanigan R. 2004. Written emotional disclosure buffers the effects of social constraints on distress among cancer patients. *Health Psychol* **23**(6): 555–563.