

Effects of Writing About Rape: Evaluating Pennebaker's Paradigm With a Severe Trauma¹

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We examined the effect of disclosing to others an attempted or completed rape. Eighty-five undergraduate women who acknowledged attempted or completed rape wrote about their experience and read their narratives. In a 2 × 2 design, we examined the value of writing only factual information versus factual plus emotional information, and reading to oneself versus reading aloud to another woman. Before and 1-month after the task, symptoms of dysphoria, social anxiety, and post-traumatic stress disorder were assessed. Greater detail and a moderate level of personalization in the description of the trauma were associated with decreased symptoms of dysphoria and social anxiety. Neither the nature of the writing task nor the presence of another woman predicted degree of symptom reduction.

KEY WORDS: rape; sexual assault; disclosure; anxiety; depression.

In a series of intriguing studies, Pennebaker and his colleagues (see review by Esterling, L'Abate, Murray, & Pennebaker, 1999) investigated the relationship between disclosure to others of traumatic events and consequent physiological and psychological adjustment. The investigators found that participants who wrote about traumas evidenced more improvement in immunological functioning, more reductions in subjective distress, and fewer health center visits than participants who wrote about trivial events. Studies of the essay content revealed that

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participants who included both their feelings and the facts about the traumas had fewer health problems than those who included only the facts. A study of the setting in which the disclosure to others occurred revealed that participants expressed less emotion when disclosing aloud to another person than when alone.

Despite its important contributions, Pennebaker et al.'s findings are not consistently replicated by others (e.g., Sharsky, 1997). One limitation is the inclusion of diverse traumas (from childhood sexual abuse to breaking up with a romantic partner), many of which would not qualify as a *DSM-IV* posttraumatic stress disorder criterion A event (American Psychiatric Association, 1994). Second, although strong evidence exists that women disclose more than men (e.g., Dindia & Allen, 1992) and men may be more responsive to experimental disclosure tasks (Smyth, 1998), gender was often unbalanced across conditions. Third, none of these studies included standardized measures of psychopathology and some (e.g., comparison of interpersonal vs. solitary processing) included no postdisclosure assessment.

To extend this work and address its limitations, we utilized Pennebaker's procedure with a sample of exclusively female students who had experienced an event that would universally be considered traumatic, attempted or completed rape. We sought to evaluate whether disclosing a rape to others would result in a reduction of the symptoms of anxiety and mood disturbance so commonly experienced by survivors. We hypothesized that (1) undergraduate rape victims who disclosed both facts and feelings (i.e., cognitive plus affective processing) would evince greater improvement than those who only disclosed the facts (i.e., cognitive processing); (2) victims who discussed the rape in the presence of another person (i.e., interpersonal disclosure environment) would evince greater improvement than those who disclosed alone (i.e., solitary disclosure environment); and (3) degree of disclosure in the narratives would be associated with symptom reduction.

Method

Participants

Power analysis. No prior study had examined the interaction effect between disclosure environment (i.e., interpersonal vs. solitary) and type of processing (i.e., cognitive-affective vs. cognitive) on rape-related symptoms. Pennebaker, Hughes, and O'Heeron (1987) found that participants' emotional expression as they disclosed a trauma to others varied as a function of disclosure environment. Based on their effect size ($M \eta^2 = .2153$), alpha of .05, and power of .80, an n of 17 was needed for each cell ($N = 34$; Cohen, 1977). Pennebaker and Beall (1986) found significant differences in adjustment as a function of types of processing. Based on their effect size ($M \eta^2 = .1757$), alpha of .05, and level of .80, an n of 25 was needed for each cell ($N = 50$). Since the goal of this study was to detect a

Table 1. Demographic Variables for Participants in Initial Assessment and Experimental Task

	Initial assessment ^a (<i>n</i> = 586)		Experimental task ^b (<i>n</i> = 85)	
	<i>n</i>	Percent	<i>n</i>	Percent
Race				
Caucasian/White	450	76.8	68	80.0
African American/Black	44	7.5	6	7.1
Asian American/Asian	33	5.6	3	3.5
Latin American/Hispanic	34	5.8	6	7.1
Other (most biracial)	17	2.9	2	2.4
Unspecified	8	1.4	—	—
Year in school				
First-year	207	35.3	28	32.9
Sophomore	164	28.0	15	17.6
Junior	118	20.1	24	28.2
Senior	86	14.7	17	20.0
Unspecified	11	1.9	1	1.2

^aMean age: 19.96 ± 3.29.

^bMean age: 20.47 ± 3.95.

more complex interaction effect, the requisite *ns* were combined and a minimum sample of 84 was selected.

Sample. The initial assessment was completed by 586 undergraduate women attending a northeastern university. The 145 (24.7%) participants who endorsed having experienced attempted (*n* = 84; 14.3%) or completed (*n* = 61; 10.4%) rape were asked if they would participate in a study on memory of traumatic events. The 86 willing (59% of 145 eligible) participants were randomly assigned to experimental conditions within blocks by racial/ethnic category (European, African, Asian, and Latin American). The four conditions were (1) solitary disclosure with cognitive processing, (2) solitary disclosure with cognitive and affective processing, (3) interpersonal disclosure with cognitive processing, and (4) interpersonal disclosure with cognitive and affective processing. One participant did not complete the experimental task (*N* = 85). Demographic information is provided in Table 1. Seventy-seven participants (90.6%) completed the follow-up assessment 1 month after the experimental task.

Measures

We selected measures that have strong psychometric properties and have been used previously with undergraduate samples. The Sexual Experiences Survey (SES) is a self-report instrument designed to assess various degrees of sexual victimization in women (Koss & Gidycz, 1985). The Social Avoidance and Distress Scale (SADS) is a 28-item, true-false questionnaire developed by Watson and Friend (1969) to measure social-evaluative anxiety and avoidance. The Beck

Depression Inventory (BDI; Beck, Steer, & Garbin, 1988; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a self-report measure designed to assess attitudes and symptoms associated with depression. Jourard (1971) developed the Self-Disclosure Questionnaire (SDQ) to assess the general tendency to reveal information about oneself to one's social support system; we used a modified version with topics appropriate for college students (Kiyak, Kelley, & Blak, 1979). The Self-Concealment Scale (SCS; Larsen & Chastain, 1990) was developed to assess "... the predisposition to actively conceal from others personal information that one perceives as distressing or negative" (Larsen & Chastain, 1990, p. 440). The PTSD Symptom Scale: Self-Report version (PSS; Foa, Riggs, Dancu, & Rothbaum, 1993) assesses the severity of PTSD symptoms resulting from a specific trauma.

Procedure

Initial assessment. During a large-group questionnaire administration, participants completed the SDQ, BDI, SADS, SCS, and SES. The order of administration of measures was counterbalanced except for the SES, administered last to minimize reactivity to content.

Experimental task. First, participants completed the PSS. They were then given instructions regarding the writing task. Participants assigned to the cognitive processing cells (solitary disclosure with cognitive processing, interpersonal disclosure with cognitive processing) were instructed to write only about the facts associated with the rape. For CAP conditions, participants were told to "... write about as many facts as you can remember and your deepest thoughts and feelings about the experience." Participants then completed the writing task and, after a short break, read their essays either silently to themselves (solitary disclosure environment) or aloud to a confederate (interpersonal disclosure environment). We matched age and race of participants and confederates to maximize the perception of acceptance. Then, using Likert Scales ranging from 1 (*Not at all*) to 7 (*A great deal*), participants rated the extent to which they revealed the facts and emotions associated with the rape in the essay. Participants were then paid, given a referral list of organizations that specialize in rape, and reminded that they would be contacted to schedule the follow-up assessment.

Objective ratings of essays. Master's level psychologists blind to experimental condition rated the content of the narratives. Correlations between independent raters were .75 (intraclass correlation = .57) for "the extent to which facts were revealed" and .87 (intraclass correlation = .60) for "the extent to which emotions were revealed." A computer program developed by Pennebaker et al. (personal communication, 1995; 1988) calculated the total number of words, number of self-references (e.g., I, my), and number of negative and positive emotion words in each essay.

Follow-up assessment. One month after the disclosure task, participants completed the SDQ, BDI, SADS, PSS, and SCS. An additional follow-up questionnaire assessed attempts at disclosure to others and utilization of psychological services during the intervening month. Participants were then debriefed, paid, and given a second copy of the referral list.

Results

Experimental Condition and Attrition

To insure that no differences existed in symptom severity and tendency to disclose/conceal across conditions prior to the experiment, two multivariate analyses of variance (MANOVAs) were conducted with processing instructions (cognitive processing vs. cognitive and affective processing) and disclosure environment (interpersonal disclosure vs. solitary disclosure) as the independent variables and symptom measures (SADS, BDI, PSS) and disclosure measures (SDQ, SCS) as the dependent variables. There were no significant interaction or main effects. To insure that attrition rates did not differ across experimental conditions, Yates' Corrected Chi-square statistics were calculated between drop out rate and type of processing instructions and between drop out rate and disclosure environment. Neither analysis revealed significant differences in attrition.

Manipulation Check

A series of one-way ANOVAs was conducted with processing instructions as the independent variable and ratings of the magnitude of factual and emotional content (by participants, objective raters, computer program) as the dependent variables. According to participants and objective raters, the amount of factual information written by participants in each condition did not differ, whereas participants in the cognitive and affective processing condition revealed significantly more emotions than those in the cognitive processing condition (see Table 2). Participants in the cognitive and affective processing condition wrote more negative and positive emotion words than did those in the cognitive processing condition, with no differences between the conditions on the number of self-references. Participants appeared to follow instructions.

Symptom Reduction Across Conditions

To examine the relationship between symptom reduction and experimental condition, two repeated-measures MANOVAs were conducted with processing instructions and disclosure environment as the between-subjects factors and time as the within-subjects factor. In the first MANOVA, BDI, SADS, and PSS were

Table 2. Check for Success of the Experimental Manipulation

	<i>M (SD)</i>		<i>F</i>
	Cognitive only (<i>n</i> = 42)	Cognitive + affective (<i>n</i> = 43)	
Facts			
Subjective rating	5.76 (1.21)	5.47 (1.22)	1.27
Objective rating	4.08 (1.08)	4.00 (1.08)	0.25
Emotions			
Subjective rating	2.24 (1.27)	4.91 (1.52)	76.95**
Objective rating	1.55 (0.80)	3.28 (1.48)	44.59**
Specific word counts			
Total	402.67 (135.21)	500.70 (121.68)	12.36**
Negative emotions	1.45 (0.93)	2.26 (1.08)	13.57**
Positive emotions	1.44 (0.89)	1.96 (0.95)	6.58*
Self-references	12.44 (1.56)	12.79 (1.53)	1.09
Proportions per total number of words			
Negative emotions	0.0045 (.0047)	0.0048 (.0027)	0.13
Positive emotions	0.0041 (.0043)	0.0041 (.0025)	0.00
Self-references	0.0367 (.0198)	0.0277 (.0104)	6.86*

Note. *N* = 85. Subjective rating = rating by participant; objective rating = rating by objective rater. Using a Bonferroni correction, $p < .0125$ is significant.

* $p < .01$. ** $p < .001$.

the dependent variables. There were no significant within-subjects or between-subjects differences. In the second repeated-measures MANOVA, SCS and SDQ were the dependent variables. There were no significant within-subjects main effects or interactions. There was a significant between-subjects main effect of type of processing instructions, $F(2, 72) = 3.98$, $p < .05$, $R^2 = .32$. Univariate tests revealed that those in the cognitive and affective processing condition achieved higher scores on the SCS across time than those in the cognitive processing condition, $F(1, 75) = 4.22$, $p < .05$.

Because the lack of differences in improvement across processing conditions may have been a result of the tendency toward self-concealment for those in the CAP condition and because Pennebaker et al. (1988, 1990) hypothesized that self-concealment of personal, traumatic events would be associated with lower psychological adjustment, we examined the relation between decreased SCS scores and symptom reduction. Correlation coefficients were computed between changes in SCS score and changes in BDI, PSS, and SADS scores. Significant correlations were revealed between the SCS and BDI change scores, $r(77) = .39$, $p < .001$, and the SCS and SADS change scores, $r(77) = .47$, $p < .001$, but not the SCS and PSS change scores, $r(77) = .18$, *ns*.

We also hypothesized that degree of disclosure would also be associated with symptom reduction. We examined two indices of degree of disclosure: number of words (a measure of degree of detail), and number of self-references (a measure of the degree to which the description was personalized). A series of regression

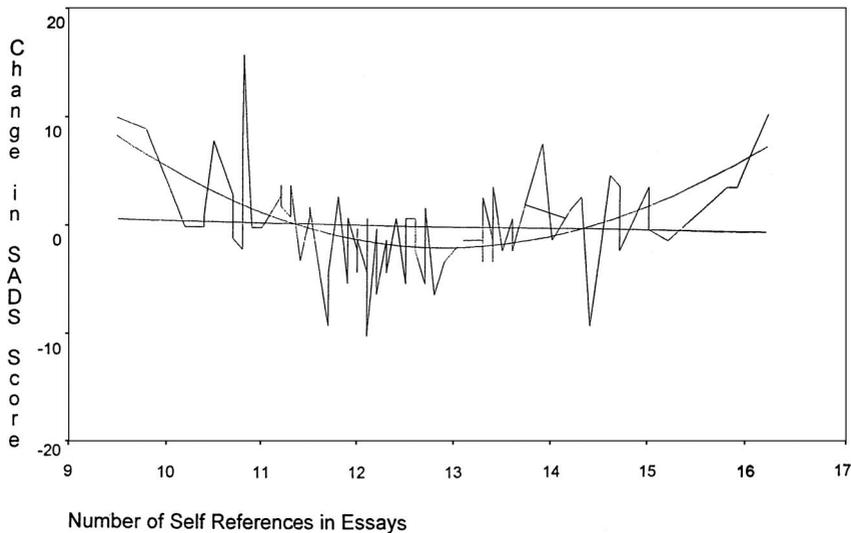


Fig. 1. Change in social anxiety as a function of the number of self-references. Social anxiety is presented on the y-axis and is measured by the Social Anxiety and Distress Scale (SADS). Number of self-references is presented on the x-axis and is measured by the number of times that rape survivors referred to themselves (using words like I, me, self) in their narrative essays of the rapes.

analyses was conducted with degree of disclosure (i.e., number of words, self-references) as the predictor variable and decrease in symptomatology (on the BDI, PSS, SADS) as the dependent variable. Because social anxiety has been associated with low disclosure to others (e.g., Meleshko & Alden, 1993) and depression has been associated with elevated disclosure to others (e.g., Gibbons, 1987), we hypothesized that the relationship between disclosure and improvement would be quadratic. The curvilinear regression analysis between number of self-references and change in SADS score was significant, $F(2, 74) = 15.85, p < .001, R^2 = .30$. As shown in Fig. 1, a moderate level of self-references was associated with a decrease in symptoms of social anxiety after the disclosure task, whereas participants with relatively higher or lower numbers of self-references evidenced increases in SADS scores.

Lastly, we examined the effect of the degree of disclosure during the experimental task on the degree of “real-life” disclosure during the 1-month follow-up period. Two ANOVAs were conducted with number of people told during follow-up (0, 1, 2 or more) as the independent variable and computer-calculated measures of degree of disclosure (number of words, self-references) during the experimental task as the dependent variables. The number of people told about the rape during the follow-up period was significantly related to the number of words written in the descriptions of the sexual assaults, $F(2, 74) = 4.39, p < .05$. Post hoc

Duncan's Multiple Range Tests revealed that rape victims who told someone about the rape during the follow-up period wrote significantly more words ($M = 480.19$, $SD = 113.12$, for those who told one person; $M = 510.94$, $SD = 149.37$, for those who told two or more people) than those who told no one ($M = 405.79$, $SD = 135.44$). The number of self-references in the essays was not significantly associated with the number of people told about the rape during the follow-up period, $F(2, 74) = 1.21$, *ns*.

Discussion

The first goal of this study was to evaluate Pennebaker's disclosure paradigm with rape victims. Rape victims who read their narratives in the presence of another person did not experience greater improvement after 1 month than those who read alone. This finding implies that there may be no difference in the efficacy of nondirective psychotherapy and bibliotherapy. Alternatively, having another person listen to a trauma narrative *without providing corrective feedback* (versus cognitive behavioral techniques like cognitive restructuring) may be inadequate for improvement in psychiatric functioning (Resick & Schnicke, 1992, 1993; Sharsky, 1997).

Rape victims who disclosed the facts and emotions associated with their rape did not evidence greater improvement than those who wrote only the facts. This may have been partially due to the higher tendency to conceal personal information among participants in the cognitive plus affective condition. Decreases in self-concealment were associated with decreases in both social anxiety and dysphoria. Thus, rape victims may have to be *willing* to share their stressful experiences to experience symptom reductions.

We then examined whether the degree of disclosure in the narratives would be associated with symptom reduction. Two indices of degree of disclosure, number of words (a measure of degree of detail) and number of self-references (a measure of the degree to which the description was personalized) predicted improvement. Number of words was associated with the likelihood of telling someone about the rape during the 1-month follow-up period. Perhaps taking the risk of writing (and facing) the details of the rape decreased the victims' fear of talking about it with persons in their social support systems. Number of self-references had a curvilinear relationship with symptom reduction. A moderate level of disclosure of personal information was associated with a decrease in symptoms of social anxiety. If the number of self-references included was *lower or higher*, social anxiety actually increased. Perhaps participants who disclosed little personalized content were unable to examine whether the assumed negative consequences of telling another person would occur (i.e., avoidance), resulting in the maintenance of symptoms. Participants who revealed a great deal of personalized content in the absence of feedback may have felt especially vulnerable and more likely to believe

that “everyone can tell” they were raped (a common misperception among trauma victims), resulting in a continued fear of being evaluated negatively by others.

These limited findings may be a function of the study methods. First, the present study did not include a true control condition (e.g., writing about a trivial event). Second, our participants did not write about the traumatic experience during four separate sittings; thus, participants may have experienced sensitization. However, in his review of controlled studies evaluating written disclosure, Smyth (1998) found that the number of writing sessions and length of sessions were unrelated to psychological adjustment. Third, in their interpersonal disclosure, Pennebaker and Beall (1986) placed the recipients behind a curtain, whereas our participants sat face-to-face. Lastly, with a trauma as severe and as likely to elicit negative reactions as rape, simply writing about it without corrective feedback may not be sufficient to induce significant improvement (Resick & Schnicke, 1992, 1993; Sharsky, 1997).

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