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SHORT REPORTS

Coping Strategies and Posttraumatic Stress Disorder in Female Victims of Sexual and Nonsexual Assault

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The coping behaviors and posttraumatic stress disorder (PTSD) symptoms of 215 female assault victims (103 rape victims and 112 nonsexual assault victims) were assessed within 2 weeks following the assault (Time 1), and 133 of them (62%) were followed up 3 months later (Time 2). Posttrauma symptom severity significantly decreased during the 3-month study period, but PTSD severity levels at Times 1 and 2 were highly correlated. Three coping scales were constructed on the basis of exploratory factor analyses: Mobilizing Support, Positive Distancing, and Wishful Thinking. Three months postassault, rape victims showed higher levels of wishful thinking and PTSD than nonsexual assault victims. Wishful thinking showed a positive association and positive distancing a negative association with PTSD severity, controlling for assault type, initial levels of PTSD severity, and other coping strategies. The clinical relevance of these findings is discussed.

Female victims of assault often show a characteristic profile of symptoms that includes fear and avoidance, reexperiencing of the trauma, and anxious arousal (Foa & Riggs, 1995). The distinctive psychological problems that often follow an assault can be conceptualized as posttraumatic stress disorder (PTSD; American Psychiatric Association, 1987). However, trauma researchers have recognized that these acute reactions are a normative response to an assault and that most individuals who suffer from trauma-related symptoms show a marked decrease in those symptoms without clinical intervention (Riggs, Rothbaum, & Foa, 1995; Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). Thus, acute PTSD reaction has been distinguished from chronic PTSD. The current study examines the relationships between coping strategies and PTSD severity to better understand why some individuals are successful in recovering from trauma-induced psychological disturbance, whereas others develop lasting problems.

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Coping theory holds that the psychological consequences of specific coping strategies depend on how well the strategies match with situational demands (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). For example, when stressors are seen as controllable, more approach versus avoidance coping is associated with higher levels of psychological adjustment (Valentiner, Holahan, & Moos, 1994). In addition, coping strategies appear to have greater importance in situations of high stress (Holahan & Moos, 1990). Thus, different types of stressors may require different types of strategies for successful resolution.

Coping strategies that emerge in studies of different populations appear to reflect characteristics of specific stressful situations (Taylor, 1990). Thus, identification of strategies specific to female assault victims may shed light on factors that facilitate or impede the normative recovery process following an assault. Although coping following combat trauma has been investigated (e.g., Solomon, Mikulincer, & Flum, 1988), the specific strategies used by female assault victims have not been adequately studied.

Coping strategies play a central role in current theories of stress resistance (Aldwin, 1994). For example, cognitive appraisals (Folkman et al., 1986), social resources (Holahan & Moos, 1990), and stable coping styles (Carver, Scheier, & Weintraub, 1989) are believed to operate through their influence on coping strategies, which in turn affect concurrent psychological adjustment (Folkman et al., 1986). Thus, psychological functioning is believed to be more closely related to concurrent coping strategies than to appraisal dimensions, social resources, and coping styles. Psychological recovery following an assault is

an example of successful coping. Although some assault victims naturally recover from the trauma of assault, there has been little study of the coping processes that assist or hinder recovery (cf. Cohen & Roth, 1987; Wirtz & Harrell, 1987). In the current study, we examined PTSD severity in female victims of assault 3 months after an assault. We hypothesized that the coping strategies used by assault victims are associated with PTSD symptom severity.

Method

Participants

Two hundred and fifteen female assault victims (103 sexual assault victims and 112 nonsexual assault victims) were recruited through advertisements, emergency room staff, or police officers. Participants were included in the study if (a) they were victims of sexual or nonsexual physical assault; (b) they had no history of organic mental disorder, schizophrenia, or paranoid disorder; (c) they were literate in English; (d) they were between the ages of 17 and 65; and (e) the crime was not committed by a family member or within an ongoing abusive relationship. The mean age of the sample was 30.4 years (SD = 9.59). Twenty-one percent of the sample had less than a high school education, 26% had a high school diploma, and 54% had at least a partial college education. Sixty-eight percent of the sample was African American, 29% was Caucasian, and 3% was of other ethnicity. Sixty-three percent of the sample reported a household income of $30,000 or less.

Procedure

Emergency room staff solicited participation from sexual assault victims, and victim assistance police officers solicited participation from nonsexual assault victims. Victims who agreed to participate were contacted by telephone to schedule an assessment appointment.

The first assessment (Time 1) was conducted within 2 weeks after the assault (M = 9.9 days, SD = 4.33 days). The second assessment (Time 2) was conducted 3 months later. Each assessment session lasted approximately 2½ hours and was conducted by a trained evaluator who had a degree in psychology. Participants were first interviewed and then completed self-report questionnaires. Each participant was reimbursed $35 for each assessment. One hundred thirty-three of the Time 1 participants (62%) completed the Time 2 assessment. Those who completed the Time 2 assessment reported significantly lower initial PTSD severity compared to the dropouts (M = 26.7 vs. M = 30.5, respectively), $t(209) = 2.62, p < .01$.

Measures

Post Traumatic Stress Disorder Symptom Scale (PSS). The PSS (Foa, Riggs, Dancu, & Rothbaum, 1993) is a standardized interview that includes 17 items corresponding to the symptoms of PTSD as described in the third edition (revised) of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-III-R*; American Psychiatric Association, 1987). The severity over the last 2 weeks of each symptom is rated by the interviewer on a 4-point scale ranging from 0 (*not at all*) to 3 (*very much*). The PSS provides a *PTSD diagnosis*, defined as a rating of 1 or greater on at least one reexperiencing, three avoidance, and two arousal symptoms. A past study of the PSS (Foa et al., 1993) demonstrates a good interrater reliability (κ = .91). The PSS diagnoses also show 94% agreement with the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, & Gibbon, 1987) 3 months following the assault (Foa et al., 1993). The PSS also provides a measure of *PTSD severity*, defined as the sum of the 17 severity ratings. The PSS rating scale showed a 1-month test–retest reliability of .80 (Foa et al., 1993).

Table 1
Coping Scale and Posttraumatic Symptom Severity Scores for the Two Groups of Assault Victims at Time 2

Variable	Sexual assault (n = 64)		Nonsexual assault (n = 65)			
	M	SD	M	SD	t	df
Mobilizing support	7.9	5.21	6.5	5.42	1.53	127
Positive distancing	9.8	5.94	8.5	6.08	1.31	127
Wishful thinking	14.1	9.67	8.3	6.60	4.01**	127
Posttrauma symptom severity	15.0	11.21	8.5	8.62	3.75**	131

** $p < .01$.

Abbreviated Version of the Ways of Coping Inventory (WoC-Abbr). The WoC-Abbr is a 44-item abbreviated version (Parkes, 1984) of the Ways of Coping Scale (Folkman & Lazarus, 1980). Participants were asked how frequently they used each coping behavior since the assault. Responses were measured using a 4-point response format, ranging from 0 (*Never*) to 3 (*Often*).

Results

Construction of Coping Scales

Exploratory factor analyses were conducted on the 44 coping items at Time 1 (first assessment). An inspection of the scree plot suggested three factors. Three principal components were extracted and rotated orthogonally (varimax; SPSS, 1988). Items that had a principal loading of .40 or greater on a factor were selected as indicators and were used to construct three scales: Mobilizing Support, Positive Distancing, and Wishful Thinking, with 6, 9, and 11 items, respectively. The item with the largest loading on the Mobilizing Support factor was: "Let your feelings out somehow"; on Positive Distancing: "Accepted the next best thing to what you wanted"; and on Wishful Thinking: "Wished that you could change the way you felt." Cronbach alphas for the three coping scales using the Time 2 data were .88, .82, and .90, respectively. The correlations between the Time 2 coping scales were .48 between Mobilizing Support and Positive Distancing, .48 between Mobilizing Support and Wishful Thinking, and .48 between Positive Distancing and Wishful Thinking.

Changes in PTSD Symptoms Over Time

Posttrauma symptom severity showed a significant decrease from Time 1 to Time 2 (Ms = 26.7 and 11.7, respectively), $t(128) = 16.93, p < .01$. There was a substantial decline in the percentage of assault victims meeting criteria for PTSD diagnosis, with 74% of the sample meeting criteria at Time 1 and 35% at Time 2.

Differences Between Sexual and Nonsexual Assault Victims

We used t tests for independent groups to examine differences between sexually assaulted and nonsexually assaulted victims' Time 2 coping strategies and PTSD severity. The results are presented in Table 1. Sexual assault victims showed higher levels of

Table 2
Results of a Hierarchical Multiple Regression Analysis, With Time 2 (T2) Posttrauma Symptom Severity as a Dependent Variable

Variable	Zero-order correlation	Change in R^2	Partial r final model
Step 1:		.11**	
Assault type	.33**		.12
Step 2:		.24**	
T1 symptom severity	.57**		.37**
Step 3		.15**	
T2 mobilizing support	.06		.01
T2 positive distancing	.24**		−.22*
T2 wishful thinking	.59**		.47**

Note. Change in R^2 represents the percentage of additional variance in T2 posttraumatic stress disorder severity accounted for by variables included on each step, beyond that accounted for by variables in the previous steps. Partial r in the final model represents the partial correlation of each variable in the complete model with all other variables partialled out.
* $p < .05$. ** $p < .01$.

Time 2 wishful thinking and PTSD severity compared to nonsexual assault victims. No group differences emerged on Time 2 Mobilizing Support or Positive Distancing.

Hierarchical Multiple Regression Analysis

A hierarchical multiple regression approach was used to examine the unique associations between the three Time 2 coping scales and posttrauma symptom severity. Time 2 PTSD severity was used as a dependent variable. In Step 1, assault type (0 = nonsexual, 1 = sexual) was entered into the model. In Step 2, PTSD severity at Time 1 was entered into the model. In Step 3, the three Time 2 coping scales were entered into the model. The results are presented in Table 2.

In Step 1 assault type added significantly to the model, accounting for 11% of the variance in Time 2 PTSD severity. In Step 2 Time 1 PTSD severity added significantly to the model, accounting for an additional 24% of the variance. In Step 3 the three Time 2 coping scales added significantly to the model, accounting for an additional 15% of the variance. The final model accounted for 50% of the variance of Time 2 PTSD severity. The partial correlations in the final model indicated that Time 1 PTSD severity and Time 2 wishful thinking were significantly related to higher levels, and Time 2 positive distancing was significantly related to lower levels of Time 2 PTSD severity. Assault type and Time 2 Mobilizing Support did not account for unique variance of Time 2 PTSD severity.

Discussion

The present sample of female assault victims showed a substantial decline in psychological disturbance during the 3 months following the assault. More than half of the victims who meet PTSD symptom criteria at Time 1 did not at Time 2. These results support the notion that PTSD symptomatology is a normative response to assault, especially sexual assault (Riggs et al., 1995; Rothbaum et al., 1992), and suggests that most victims recover to varying degrees within 3 months following the assault.

Despite the overall decrease in PTSD symptoms, more than one-third of the assault victims met criteria for a PTSD diagnosis at Time 2. This finding confirms previous research (Riggs et al., 1995; Rothbaum et al., 1992). A substantial portion of assault victims develop enduring problems unless an effective intervention is provided.

All three coping strategies that were identified in this study (i.e., mobilizing support, positive distancing, and wishful thinking) have been classified as emotion-focused strategies (e.g., Folkman et al., 1986). Although problem-focused coping behaviors were included in the item pool, no distinct problem-focused strategy emerged. Instead, the problem-focused items tended to load on all three emotion-focused factors, particularly Mobilizing Support.

The Mobilizing Support coping scale, which included items that tap attempts to engage the social support network and one problem-focused item, was not significantly associated with PTSD severity. Past research, however, found that women who have been sexually assaulted find social support to be helpful (Golding, Siegel, Sorenson, Burnam, & Stein, 1989) and that the availability of an empathic confidant soon after the assault was related to better functioning (Harvey, Orbuck, Chwalisz, & Garwood, 1991). Although there is previous evidence that specific social contexts may facilitate recovery from traumatic stress, the current findings suggest that promoting support-seeking behaviors in victims may not be sufficient.

The Positive Distancing coping scale included items of cognitive distancing, optimism, and acceptance. This scale showed an overall positive association with posttrauma symptom severity but a negative association when controlling for other variables in the model. This suppressor situation appeared to be due to an indirect positive association between positive distancing and posttrauma symptom severity, through wishful thinking, and a direct negative association. Thus, high scores on Positive Distancing may indicate adaptive coping behaviors, but these adaptive responses also co-occur with maladaptive ones such as wishful thinking. Future research should distinguish positive distancing's direct and indirect associations.

It is important to note that one positive distancing scale item (i.e., "refused to think too much about it.") may superficially resemble one item in the *DSM-III-R* (American Psychiatric Association, 1987) PTSD criteria for avoidance (i.e., "efforts to avoid thoughts and feelings associated with the trauma"). Given that this scale item loads on a factor that taps optimism and acceptance, it may reflect a refusal to dwell on negative thoughts rather than the negative avoidance included in the PTSD diagnostic criteria. The significant negative partial association between positive distancing and PTSD severity suggests that cognitive coping responses, such as keeping an optimistic outlook and seeking new meanings, may facilitate the natural recovery process.

The Wishful Thinking coping scale included items of self-blame and denial by fantasy. The strong positive link between wishful thinking and PTSD severity found in this study is consistent with the notion that dissociative responses impede emo-

tional processing during posttrauma recovery (Foa & Riggs, 1995). Taken as a whole, these findings suggest that emotion-focused strategies are involved in chronic PTSD maintenance. Thus, interventions could attempt to address self-blame and fantasy coping. In addition, future research on PTSD could distinguish among different types of emotion-focused coping strategies.

Whereas coping theory posits that coping behaviors affect mental health outcomes, distress often increases coping efforts. The analyses used here cannot determine the direction of causality between coping and adjustment. Controlling for assault type and earlier symptom severity, however, reduces the tenability of the idea that the association between coping and symptoms is due to a historical variable. Furthermore, the partial correlation analyses that examine the unique associations between each strategy and symptom severity control for the effects of initial PTSD severity. Although these results are consistent with the notion that coping strategies have psychological consequences, they are also consistent with the notion that psychological distress motivates coping behavior.

The role of demographic variables was not examined in this report. Age, socioeconomic level, and ethnicity may influence the recovery process. In light of coping theory's emphasis on contextual factors, features of the assault (Kilpatrick et al., 1989) and the quality of social resources are also promising areas for further research. In addition, our limited sample size did not allow for an adequate analysis of possible moderator effects of these contextual variables. Future research on the early course of PTSD could examine models that integrate personal, contextual, and coping variables.

The generalizability of the present results is naturally limited. Many assault victims do not seek assistance from police or counseling services, and not all victims who do seek services agree to participate in research. In our study, victims who dropped out apparently had more trauma-related symptoms initially. Furthermore, victims who were assaulted by family members or in the context of an ongoing relationship were not included in the study. Additional research on other types of assault and other traumas are needed before the generalizability of the current findings can be determined. With this caveat in mind, the current results suggest that coping through fantasy and self-blame impede recovery from traumatic assault, whereas cognitive distancing may facilitate recovery.

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