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ABSTRACT

Women exhibit a wide range of responses to a sexual assault. This study focused on two factors that may either hinder or facilitate postrape recovery and which are potentially modifiable: (1) causal attributions; and (2) coping strategies. Rape survivors (n=105) seen at a sexual assault resource service in Minneapolis, Minnesota, completed measures of attributions, coping strategies, and recovery at seven time points. Attributions were measured by the Rape Attribution Questionnaire (RAQ), which was developed for this research and which contains three seven-item scales assessing behavioral, characterological, and external (society and rapist) attributions about the cause of the rape. Coping strategies were assessed by four subscales taken from the Coping Strategies Inventory (CSI) while four different questionnaires gauged recovery. Results showed high distress levels among survivors which remained fairly stable over time. It appears that both blaming one's self and blaming external forces accompanies more distress while a sense of future control and the belief that future assaults can be avoided were associated with recovery. Coping data suggest that the use of cognitive restructuring is associated with less concurrent distress, whereas expressing emotions is connected with higher distress levels. Data summaries appear in four tables. (RJM)

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## Predictors of Postrape Trauma

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Sexual violence against women is a major social problem in the U. S., with one in five women being raped in their lifetime (Koss, 1993). Studies of the effects of rape illustrate the toll such assaults can take, with victims experiencing heightened fear, anxiety, and depression for several months, and sometimes years, following an assault (Resick, 1993). Nonetheless, there also is tremendous variability in the extent to which women are affected by a sexual assault, with some women experiencing more severe and prolonged trauma than others.

The purpose of this research is to identify factors that may either hinder or facilitate the postrape recovery process. We have focused on identifying factors associated with recovery that potentially are modifiable and that could inform treatment programs for rape survivors. Specifically, we have focused on the role of both causal attributions and coping strategies in the postrape recovery process. Following a brief summary of the research on attributions and coping, I will describe the results of a longitudinal study in which we have assessed victim attributions, coping strategies, and recovery from 1 week to 1 year postassault. I will present both the concurrent and across-time relations among these variables, which present rather different pictures. I will conclude with a brief summary of our main findings along with our plans for future research.

### Attributions and Recovery

To date, approximately five studies have examined the relations between attributions and postrape recovery (Frazier, 1990; Frazier & Schauben, in press; Hill & Zautra, 1989; Katz & Burt, 1987; Meyer & Taylor, 1986). These studies have tended to focus on the relations between self-blame and recovery, and have consistently found that both behavioral and characterological self-blame are associated with a wide range of postrape adjustment problems (Frazier, 1990; Frazier & Schauben, in press; Hill & Zautra, 1989; Meyer & Taylor, 1986). The studies that have examined external blame have been less consistent, with one study finding societal blame to be unrelated to recovery (Meyer & Taylor, 1986) and one study finding societal blame to be associated with more depression (Frazier, 1990). In the latter study, all types of attributions were associated with more depression and more often thinking about why the assault occurred was itself associated with higher depression scores (see also Frazier & Schauben, in press).

In sum, research to date consistently has shown that self-blame is associated with poorer recovery, although the relations between external blame and recovery are less clear-cut. In addition, focusing on "why" may itself be associated with poorer adjustment (see Downey, Silver, & Wortman, 1990). However, one limitation of these studies is that they are all cross-sectional. As a result, we have no information on the direction of the relations among attributions and recovery; that is, whether attributions are a predictor or symptom of recovery.

## Coping and Recovery

The relations between coping strategies and recovery also have received relatively little attention (see Burgess & Holmstrom, 1979; Burt & Katz, 1987; Cohen & Roth, 1987; Frazier & Burnett, in press; Meyer & Taylor, 1986). The research on coping is more difficult to summarize because coping strategies have been operationalized quite differently across studies. Nonetheless, avoidant strategies such as staying home and withdrawing have been associated with poorer adjustment across studies (Burt & Katz, 1987; Frazier & Burnett, in press; Meyer & Taylor, 1986). Strategies associated with lower symptom levels include using stress reduction techniques, taking precautions, keeping busy, and thinking positively (Frazier & Burnett, in press; Meyer & Taylor, 1986). Thus, it appears that approach-oriented strategies may be more adaptive than avoidant strategies, although one study (Cohen & Roth, 1987) found that both approach and avoidant strategies were associated with higher symptom levels several years posttrauma.

As was the case with research on attributions, these studies all are limited by their cross-sectional nature. In addition, only one study (Cohen & Roth, 1987) has conceptualized the strategies used by survivors in terms of more general theoretical models of the coping process (avoidance).

In an effort to extend previous research, we gathered data longitudinally, from one week to 1 year postassault. Longitudinal research is important for testing the assumption that attributions and coping strategies are causally related to recovery. In regard to attributions, we assessed both self-blame and external attributions, predicting that both types of attributions would be associated with poorer recovery. We also used a standardized measure of coping behaviors, rather than a rape-specific measure, so that we could more easily integrate our results with studies of coping with other traumatic life events. Specifically, we predicted that approach-oriented strategies, such as cognitive restructuring and expressing emotions, would be associated with better recovery, and that avoidant strategies would be associated with poorer recovery. Finally, we assessed recovery fairly broadly, including depression, anxiety, hostility, and PTSD, as well as disruptions in schemas about self, others, and the world, which have been discussed but not actually assessed in prior research.

## Method

### Participants

Data were collected from 105 rape survivors seen at the Sexual Assault Resource Service (SARS) in Minneapolis, Minnesota. This program is staffed by specially-trained rape crisis nurses who are contacted whenever a rape survivor reports to the emergency room (ER). The nurses meet with the survivors at the ER and for up to one year postassault. Survivors completed measures of attributions, coping strategies, and recovery at 7 time points and were paid \$10 for each completed questionnaire packet. Due to missing data, the 7 time periods were combined into early (3 to 10 days), middle (1 to 3 months) and late (6 to 12 months) time periods.

### Measures

**Attributions.** The Rape Attribution Questionnaire (RAQ), which was developed for this research, contains 3 7-item scales assessing behavioral, characterological, and external (society and rapist) attributions about the cause of the rape. Sample items include: I made a bad decision (behavioral), I am just the victim type (characterological), The rapist was sick (external, rapist), and Society encourages violence against women (external, society).

Coping strategies. Four subscales from the Coping Strategies Inventory (CSI; Tobin et al., 1984) were used to assess the coping strategies used by survivors following the assault: Cognitive Restructuring, Expressing Emotions, Problem Avoidance, and Social Withdrawal. Sample items include: "I tried to get a new angle on the situation (CR), "I let out my feelings to reduce the stress" (EE), "I tried to forget the whole thing" (PA), and "I avoided being with people" (SW).

Recovery. The recovery measures included the Beck Depression Inventory (BDI; Beck, Ward, Mendolsohn, Mock, & Erbaugh, 1961), the anxiety and hostility subscales of the Brief Symptom Inventory (BSI; Derogatis, 1977), and a 17-item PTSD Checklist developed for use in this study. We also included the McPearl Belief Scale (MBS; McCann & Pearlman, 1990) which is an 80-item self-report measure that assesses disruptions in basic beliefs about self and others as a result of victimization, such as disruptions in beliefs about the safety of the world or the trustworthiness of other people.

## Results

### Postrape Recovery

Before discussing the relations between the attribution and coping measures and recovery, I'd first like to present some descriptive information on distress levels among our sample of rape survivors (see Table 1). Specifically, mean scores on the recovery measures at the three combined time periods indicated that the rape survivors in this sample were very distressed. For example, mean depression scores were in the moderately depressed range at all three time periods. Means on the anxiety and hostility scales also were significantly higher than norm group means at all three periods. In addition, survivors endorsed approximately 60% (11 out of 17) of the PTSD symptoms on the checklist. Seventy to 75% met the criteria for a diagnosis of PTSD up until the 1 year period; at 1 year, 50% met the criteria. Finally, although mean scores on the MBS are somewhat harder to interpret because there is less normative information for that measure, the means suggest significant disruptions in beliefs as well. For example, means at both the middle and late time periods were significantly higher than means from a female college student sample. These data also suggest that there was little change from the early to late time periods in levels of depression, hostility, PTSD symptoms, or disrupted beliefs, although anxiety did decrease over time. In sum, the rape survivors in this sample are reporting significant levels of distress that do not appear to be abating significantly over time, which is in contrast to previous longitudinal studies that have found significant differences between victim and control groups at 3 to 4 months postassault (see e.g., Calhoun, Atkeson, & Resick, 1982).

### Attributions and Recovery

Table 2 presents the concurrent correlations between the attribution and recovery measures. We used correlations rather than multiple regression analyses because behavioral and characterological self-blame were highly correlated at both the middle ( $r = .64$ ) and late ( $r = .80$ ) time periods. To simplify the presentation, I will only present data from the middle and late time periods.

As in previous studies, both behavioral and characterological self-blame were associated with poorer recovery, including more depression, anxiety, hostility, PTSD symptoms, and disrupted beliefs. External blame - which includes both blaming society and blaming the rapist - also was associated with poorer recovery across all the various measures. Collapsing across time periods and measures, the strength of the relations between attributions and recovery were about the same for the three types of attributions (behavioral mean  $r = .34$ , characterological mean  $r = .39$ , and external blame mean  $r = .38$ ). In other words, survivors who assigned more blame for the assault both to

themselves and to external factors also reported more emotional distress and disruptions in their beliefs about the safety of the world and their trust in others.

To assess whether attributions at one point in time actually predicted recovery at a later point in time, four multiple regression analyses were performed in which recovery measures at the later time period were regressed on the same recovery measure at the middle time period along with the attribution measures at the middle time period. The recovery measures used were the BDI, the 2 BSI subscales, and the PTSD checklist. These regression were not performed with the McPearl Belief Scale because the sample size for that particular measure was too small. To control for multicollinearity problems in the regression equations, a composite self-blame scale used.

These analyses suggested that, although the concurrent relations between attributions and recovery were almost all significant, attributions did not add to the prediction of any of the dependent measures once prior levels of symptomatology had been controlled. Thus, there was no evidence that attributions predicted recovery. This is not a unique result, as other studies also have shown that attributions may be a symptom, rather than a cause, of emotional distress (see e.g., Cochran & Hammen, 1985; Downey et al., 1990).

### Coping and Recovery

To assess the concurrent relations between the coping and recovery measures, we regressed each of the recovery measures on the four coping measures at both the middle and late assessment periods (see Table 3). The most consistent finding was that cognitive restructuring was significantly associated with better recovery in all 10 equations. In other words, cognitive restructuring (which involved thinking about the assault differently and in a more positive light) was associated with less depression, anxiety, and hostility; fewer PTSD symptoms; and less disrupted beliefs at both the middle and late assessment periods. The importance of cognitive restructuring is consistent with the notion that recovery involves making sense of the event and rebuilding shattered assumptions. In addition, cognitive restructuring was the only strategy associated with better recovery. For example, both expressing emotions (which involved getting feelings out) and problem avoidance (which involved not thinking about the assault) were associated with poorer recovery at both the middle and late time periods. Social withdrawal was not significant in any of these equations. It also is important to note that coping strategies were able to account for up to 42% of the variance in the recovery measures.

Regression analyses were again performed to assess whether the coping strategies used at the middle time period (1 to 3 months) predicted recovery at the later time period (6 to 12 months). The recovery measures used were the same as in the previous regression analyses (i.e., depression, anxiety, hostility, and PTSD) (see Table 4).

For each of the dependent variables, the only coping strategy that predicted recovery at the later time period was social withdrawal. Interestingly, the sign of the beta weight in each case was negative, suggesting that withdrawing from others and not talking about the assault at the middle time period was associated with less depression, anxiety, and hostility, and fewer PTSD symptoms at the later time period.

In sum, the coping data did not suggest a neat distinction between approach and avoidant strategies, such that approach-oriented strategies were more adaptive than avoidant strategies. The concurrent associations between coping and recovery suggested that cognitive restructuring - that is, thinking about the assault differently - was associated with less distress. Interestingly, talking about



the assault and getting one's feelings out were associated with more symptoms. Of course, it may be that individuals who are more depressed or anxious feel more of a need to get their emotions out, so that expressing emotions is a consequence, rather than a cause, of higher distress levels. Nonetheless, this pattern is consistent with treatment outcome studies which find that cognitive-behavioral approaches are more effective than supportive therapies (see Foa et al., 1991).

The finding that social withdrawal at 1 to 3 months was associated with better recovery at 6 to 12 months posttrauma is a little more difficult to interpret. However, if a survivor is withdrawing from unhealthy and unsupportive relationships to sort her life out on her own, it makes sense that withdrawal could be adaptive, particularly since internal cognitive restructuring seems to be more helpful than expressing feelings. This interpretation is consistent with the finding that social withdrawal appears to operate differently depending on one's level of depression. That is, survivors who were depressed at the middle time period and withdrew were less depressed at the later time period than survivors who were depressed at the middle period and sought out support. This may be because their support network rejected them, causing them even more distress, consistent with interpersonal theories of depression (Coyne, 1976). To test this explanation, we currently are assessing the quality of the survivors' support networks.

### Conclusions and Future Directions

I'd like to end now with a brief summary of the main points of our study as well as directions for future research. First, in regard to recovery, it is important to note that distress levels seem to be quite high and to remain fairly stable over time. This is in contrast to previous longitudinal research that has shown significant decreases by 3 to 4 months postassault. In addition, we have noticed that, while two-thirds of our sample seems to be recovering, about one-third is getting more distressed over time. In the future, we plan to explore different patterns of recovery, both in terms of symptom levels and types of symptoms. In our current assessment protocol, we also have shifted from an exclusive focus on the negative effects of sexual assault to looking at both positive and negative life changes. In an earlier study (Frazier & Burnett, in press), I found that 60% of the survivors in my sample reported positive changes in their life as a result of the assault. Although an assault clearly is not a positive event, this, as well as other traumas, can have positive as well as negative effects in survivors' lives.

Second, in regard to attributions, it appears that both blaming one's self and blaming external forces are associated with more distress. In addition, more often thinking about why the assault occurred is associated with more distress in this and other studies (Frazier, 1990; Frazier & Schauben, in press). The one thing that seems to be associated with better recovery is a sense of future control and the belief that future assaults can be avoided. Currently, we are assessing future control more fully, including control over future assaults and over the recovery process. Nonetheless, it is important to keep in mind that the relations between attributions and recovery may not be causal; rather, focusing on the past and why the assault occurred may be symptoms of poorer recovery.

Finally, our coping data suggest that the use of cognitive restructuring is associated with less concurrent distress, whereas expressing emotions is associated with higher distress levels. In addition, social withdrawal at 1 to 3 months appears to predict better recovery at 6 to 12 months and we are currently pursuing various explanations of that finding by, for example, assessing the survivors' social support network. Finally, we have included more open-ended assessments of attributions, coping, and recovery, to give survivors a chance to tell us in their own words what is important to them.

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Table 1

Means on Recovery Measures Across Time

	Early (n = 60)	Middle (n = 70)	Late (n = 46)	Norms
BDI <sup>a</sup>	21.87	21.11	21.09	
ANX <sup>b</sup>	2.24	1.92	1.68	.37
HOST <sup>b</sup>	1.74	1.68	1.73	.33
PTSD <sup>c</sup>	.62	.60	.59	
MBS <sup>d</sup>		3.52	3.43	2.70

<sup>a</sup> 0-9 = nondepressed; 10-15 = mild; 16-25 = moderate; 26-63 = severe depression

<sup>b</sup> Range = 0 to 4. <sup>c</sup> Range = 0 to 1.00; figure represents percentage of 17 symptoms endorsed.

<sup>d</sup> Range = 1 to 6.



Table 2

Concurrent Correlations between Attribution and Recovery Measures


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Recovery	Attribution		
	Behavioral	Characterological	External
BDI MID <sup>a</sup>	.43***	.48***	.29*
LATE <sup>b</sup>	.24	.39**	.28
ANX MID	.28*	.19	.40***
LATE	.33*	.36*	.29*
HOST MID	.32**	.29*	.45***
LATE	.27	.42**	.43**
PTSD MID	.26*	.34*	.36**
LATE	.22	.34*	.34*
MBS MID	.45***	.46***	.44***
LATE	.58**	.58**	.52*
Mean $\bar{r}$ 's	.34	.39	.38

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Note. <sup>a</sup> 1 to 3 months postassault;  $n = 70$ . <sup>b</sup> 6 to 12 months postassault;  $n = 46$ .

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 3

Concurrent Relations between Coping and Recovery Measures Using Simultaneous Multiple Regression

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	Middle Time Period ( $n = 70$ )				
	BDI	ANX	HOST	PTSD	MBS
CR <sup>a</sup>	-.50***	-.28*	-.34*	-.41**	-.31*
EE <sup>b</sup>	.12	.35**	.15	.16	-.05
PA <sup>c</sup>	.31*	.18	.19	.12	.36*
SW <sup>d</sup>	.13	.11	.27	.03	.24
Adj. R <sup>2</sup>	.24***	.10*	.16**	.08	.26**

	Late Time Period ( $n = 46$ )				
	BDI	ANX	HOST	PTSD	MBS
CR	-.76****	-.61***	-.67***	-.67***	-.81***
EE	.34*	.30	.36*	.20	.35
PA	.51***	.48**	.51**	.37*	.36
SW	.11	.08	-.12	.12	.09
Adj. R <sup>2</sup>	.42****	.27**	.32**	.30**	.40**

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Note. Figures represent beta weights.

<sup>a</sup> CR = Cognitive Restructuring <sup>b</sup> EE = Expressing Emotions <sup>c</sup> PA = Problem Avoidance

<sup>d</sup> SW = Social Withdrawal.

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  \*\*\*\*  $p < .0001$

Table 4

Regression Analyses Assessing Longitudinal Relations between Coping and Recovery

Criterion	Predictors	Betas	Adj. R <sup>2</sup>
BDI Late	BDI Mid	.73****	.26**
	SW Mid	-.50**	.46****
ANX Late	ANX Mid	.62***	.24**
	SW Mid	-.38*	.36**
HOST Late	HOST Mid	.60**	.06
	SW Mid	-.66***	.40***
PTSD Late	PTSD Mid	.68****	.44****
	SW Mid	-.35**	.55****

Note. n = 30. Figures represent beta weights in final equations. SW = Social Withdrawal

\* p < .05 \*\* p < .01 \*\*\* p < .001 \*\*\*\* p < .0001