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ABSTRACT

Bulman and Wortman's (1977) study of severe accident victims showed that victims who blamed themselves as the cause of the accident were more likely to receive higher coping ratings from a nurse or social worker, while victims who blamed others for the accident or who saw the accident as avoidable were more likely to be rated as having coped poorly. The present study attempted to replicate this self-blame-coping relationship. Interviews were conducted with 31 spinal cord injured patients within 18 months of the injury. Nurses, occupational therapists, and physical therapists who worked with the patients completed questionnaires. Questionnaires included the Bulman and Wortman items, the Profile of Mood States, and the Causal Dimension Scale. Subjects reported a moderate amount of self-blame, and behavioral self-blame was most common. Alcohol use prior to the accident was the best predictor of self-blame. The results found no support for the functionality of self-blame for effective coping. Patients were judged to be coping effectively when they were happy, did not blame others, did not blame chance, were alone at the time of the accident, and attributed blame to circumstances for the accidental event. Blaming another was related to poorer coping. Alternative explanations that mood, control, and perceived avoidability mediate the relationship between self-blaming attributions and coping were not supported. (NB)

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Is Self-blame really functional for
the Spinal Cord Injured?

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For the last two decades social psychologists have sought to better understand the ways in which individuals cope with negative life events. Among the empirical work generated by this area of inquiry, Bulman and Wortman's (1977) study of severe accident victims has achieved singular recognition. In that investigation, 29 individuals paralyzed as a result of chance accidents were interviewed to assess the relationship between their "attributions of causality for their accidents and their ability to cope with (their) severe misfortune" (Bulman and Wortman, 1977, pg. 351). The findings showed an unexpected relationship between victims' tendency toward self-blame and others' evaluations of them as "coping well." That is, despite the fact that most of these accidents seemed to have occurred by chance, victims who blamed themselves as the cause of the accident were the ones most likely to receive higher (e.g. "better") coping ratings from a nurse and a social worker. Victims who blamed "others" for the accident and who saw the accident as avoidable were more likely to be rated as having

coped "poorly."

Today, there is a lively debate over the adaptiveness of self-blaming attributions. One side of the debate suggests that to maintain that self-blame is adaptive is counterintuitive and inconsistent with clinical observation (Abrams and Finesinger, 1953). Clinical theory (Beck, 1967) as well as the burgeoning learned helplessness literature (Abramson, Seligman and Teasdale, 1978) view self-blame as dysfunctional and often related to depression.

The other side of the debate suggests that self-blame is adaptive because of the sense of predictability or control that it affords.

Janoff-Bulman (1979) sought to reconcile the debate by differentiating self-blame into two types: characterological and behavioral. According to this perspective, behavioral self-blame is control-related because it involves attributions to a modifiable source (one's behavior): for example, the patient who states, "If I had stopped smoking, I would not have developed lung cancer". Behavioral self-blame is functional, then, because it is associated with a belief in the future avoidability of negative outcomes. Characterological self-blame is esteem related: for example, "I had a heart attack because I am a nervous person". It is viewed as dysfunctional because it

involves attributions to a relatively non-modifiable source (one's character) and is associated with a belief in personal deservingness for past negative outcomes.

Slide 1

The inability of several recent attempts to replicate the Bulman and Wortman findings (Major, Mueller & Hildebrandt, 1985; Nielson, MacDonald & Cameron, 1984; Schulz & Decker, 1985; Silver, 1982) has been ascribed to differences in the type of event studied, in the nature of the sample, in the amount of time elapsed since the event, and in the instruments and outcome measures. In addition, the definition of coping and measures of coping used in these studies differed widely. However, a review of twenty studies, all conducted subsequent to the Bulman and Wortman (1977) study and all assessing the relationship between self-blame and coping, revealed that twelve offer no support whatever for the functionality of self-blame. Five provide direct support and only one, an analogue study, shows unequivocal support.

Bulman and Wortman (1977) asserted that self-blame is functional. Yet, their study is open to criticism on several grounds and the findings therefore open to a number of alternative explanations. First, the concepts of responsibility and blame for the accidental event were not differentiated from

each other or from attributions of responsibility for the rehabilitation, the context in which coping was measured. Second, the sole measure of coping was a single-item rating with "coped very poorly" and "coped very well" as end points. No definition of coping was systematically provided to the raters. However, according Bulman and Wortman, informal questioning showed that the raters agreed that individuals were coping well if they

Slide 2

1. had accepted the reality of their injury;
2. were attempting to deal positively with the paralysis.
3. had a positive attitude toward physical therapy.
4. were motivated to work toward improvement of their physical abilities
5. reflected a desire to be as physically independent as possible. . .(p. 355)."

This definition clearly leaves open the possibility that the staff ratings of coping well may have reflected the extent to which the individual assumed the role of a "good patient," (e.g., cooperative, uncomplaining and compliant with staff values and direction). It is possible that self-blamers may have been less angry and more depressed than non self-blamers. This could have affected the staff ratings as well.

It seems important, then, to attempt a replication of the self-blame-coping relationship on a comparable sample using both the original instruments as well as ones which can address the alternative explanations for these findings.

Method

Thirty-one spinal cord injured patients were interviewed within eighteen months of the injury. Questionnaires were given to treatment staff consisting of Nurses, Occupational and Physical therapists. A questionnaire assessing attributions for the accident, rehabilitation, coping and mood was used. This included the Bulman and Wortman (1977) items, the Profile of Mood States (McNair, Lorr & Droppleman, 1971) and the Causal Dimension Scale, (Russell, 1982).

The demographic characteristics of this sample were representative of the population of spinal cord injuries in general and comparable to the Bulman and Wortman sample (cf. Young, Burns, Bowen, & McCutchen, 1982, for epidemiological data). Slide 3 presents a comparison of the descriptive characteristics of this study's sample with the Bulman and Wortman 1977 sample. They were quadriplegic, male and white.

In this sample, as in the Bulman and Wortman 1977 sample, automobile and motorcycle accidents were the most frequent type of accident (61%) leading to the injury ($n = 19$). In these

accidents, 12 of the patients were the drivers of the vehicle and seven of the patients were passengers. Diving accidents were the next most frequent events at 16% ($n = 5$), while falling accidents at home (13%, $n = 4$) gunshot wounds or other injuries (7%, $n = 2$) and accidents at work (3.2%, $n = 1$) were the least frequent. Seven individuals were alone when the accident occurred and 24 were not.

Use of Drugs and Alcohol

No one participating in the study reported being injured as the result of a suicide attempt or drug-related injury, although I suspect because of the illegal nature of drugs that drug-related accidents were under reported. Twelve (39%) individuals reported no use of alcohol prior to the accidental event. Alcohol was associated with the activity prior to the accident for 19 (61%) individuals. Of these 19, seven individuals' alcohol use was both self-reported and confirmed with a blood alcohol level recorded at the time of hospitalization for the injury.

Reasons or Causes of the accident

Patients' causal attributions were assessed in several ways and the Bulman and Wortman (1977) measures were included for replication. Slide 4 presents a comparison of Bulman and Wortman's 1977 finding and this study's findings of the

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percentage of blame patients assigned to the six attributional categories. Note that in this study, two attributional categories were added, those of circumstances and luck. Both samples report similar amounts of self-blame, while this study's sample assigned a higher percentage of blame to other people.

Slide 5

If, however, a patient assigned blame to another person, he or she was less likely to say he or she was responsible, to blame or at fault for the accident.

It was expected that patients would employ the concepts of the assignment of responsibility, fault and blame for the accident so that these attributions would differentiate. That is, to say one is responsible is not always synonymous with saying one is at fault or to blame. However, patients attributions of responsibility, fault or blame were highly correlated and at least statistically not discrete.

Behavioral or Characterological Self-blame?

Slide 6

There were no characterological self-blammers in this sample. The most frequent responses were attributions of cause directed to another person. That is, the other person was perceived to be the causal agent in the accidental event as in the example, "The lady driving up to the red light didn't slow

down." The next most frequent attribution was that of behavioral self-blame; that is, the person believed himself or herself to be the causal agent in the accidental event and believed that his or her behavior was controllable and modifiable. For example, one person stated

I was racing on a road you shouldn't race on. I temporarily lost respect for the machine for a few minutes. I didn't think it was fast enough to hurt me. I thought I could handle it and the road condition. I should have known better.

Best Predictors of Self-blame

Bulman and Wortman (1977) found that if the accident was perceived as avoidable, and the victim was alone at the time of the accident and was religious, the victim was likely to be self-blaming. A step-wise multiple regression analysis was performed in the current study and the data failed to support the findings. (Slide 7 with findings.) A second step-wise multiple regression analysis was performed to determine the best predictors of self-blame for this sample. The best predictor of who would be self-blamers was alcohol use prior to the accident $\text{Beta} = -.625$, $t = -.4.31$, $p < .001$. Although perceived avoidability was highly correlated with self-blame $r = .44$, $p < .01$, it did not predict self-blame. In contrast, avoidability

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also was found later not to be correlated with coping.

The absence of alcohol use prior to the accident was associated with less self-blaming while alcohol use prior to the accident, confirmed by a blood test, made it most likely that this patient would blame himself or herself for the accident ($F(2,28) = 18.34, p < .001$).

Alternative explanation --- Mood

It was hypothesized that the locus of control of these self-blaming attributions as well as mood would be related to patients' coping and this in turn would affect staff ratings of patient coping. High self-blamers compared to low self-blamers were classified by the CDS scale as making attributions to an internal locus of causality, $r = .51, p < .01$; a variable locus of stability, $r = -.47, p < .01$; and were not different on the locus of controllability, $r = -.01, p = n.s.$ The group as a whole believed that they had a moderate amount of control.

Slide 8

In terms of mood, the self-blamers reported more anger-hostility $t(27) = -1.87, p = .05$ (one-tailed) and more depression $t(28) = -1.67, p < .05$ compared to the non-self-blamers. There was no relationship between CDS factors, mood and coping.

The primary outcome variable was staff assessment of patient

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coping and rehabilitation and was measured in several ways.

Slide 9

The Bulman and Wortman (1977) single item measure was used: In your opinion how well has the patient coped with his/her disability? rating from 1 = has coped extremely poorly to 15 = has coped extremely well. In addition, the components of the Bulman and Wortman informal definition for coping was operationalized by five questions anchored on a scale from 1 = not at all to 4 = a great deal). For example, staff were asked "To what extent is the patient aware of the limitations of his/her condition?"; "To what extent do you feel the patient has accepted the limitations of his/her condition?"

Further, the four dimensions of coping described by Lipowski (1970) (emotional, attitudinal, behavioral, physical) were assessed by five questions which read "Compared to other patients with similar disabilities, how would you rate this patient's progress: Emotionally (mood), Attitudinally (attitude towards disability), Behaviorally (ward behavior), Physically (physical condition), Overall-- 1 = much worse to 4 = much better?" Staff satisfaction with the patient's rehabilitation was assessed by asking "How satisfied are you with this patient's: effort in therapy, general attitude and overall progress 1 = very dissatisfied to 4 = very satisfied?"

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Coping

This study made explicit the implicit criteria of judgments of coping offered in the Bulman and Wortman 1977 study and expanded their definition further. Pearson correlations revealed that, for the most part, the explicit items defining coping provided validating information in support of the concept measured by the single item scale (Slide 10). Satisfaction with patient effort, attitude, and overall progress in rehabilitation also correlated $r = .68$, $p < .001$ with the Bulman and Wortman scale.

As the fourteen coping questions were so highly correlated with the Bulman and Wortman scale, we decided to use the Bulman and Wortman measure as the primary outcome variable in the multivariate analyses.

Staff rated patients as coping moderately well, $M = 10.19$, $SD = 2.15$.

Replication Analysis for Coping and the Functionality of Self-blame

Bulman and Wortman (1977) found their patients were judged to be coping well when they blamed themselves for the accident, believed that they could not have avoided the accident and did not blame others.

Slide 11

The present study found no support for the functionality of self-blame for effective coping. Rather, this study found the patient was judged to be coping effectively when he or she was happy, did not blame others, did not blame chance, was alone at the time of the accident and attributed blame to circumstances for the accidental event. Both studies found that blaming another was related to poorer coping.

The Janoff-Bulman and Wortman coping scale thus replicates and when operationalized seems to robustly measure coping when defined within the context of rehabilitation. Coping as defined here embodies the role of the patient in the rehabilitation setting, which is to expend effort, work hard, cooperate with treatment, and accept the limitations of what he or she can or cannot do. It is possible that patients who blame another for the event are judged by the treatment staff as poorer copers because blaming another interferes with assuming responsibility for getting well and impedes the tasks of rehabilitation. This study's and Bulman and Wortman's conceptualization of coping, while compatible with the rehabilitation setting, may not generalize to other settings.

In summary, the spinal cord injured report a moderate amount of self-blame, and behavioral self-blame is most common. Alcohol use prior to the accident was the best predictor of self-blame.

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With respect to coping, the Bulman and Wortman coping scale seems to robustly measure coping when defined within the context of rehabilitation. The relationship between blaming another for the event and poor coping was supported, but the relationship between self-blaming attributions and effective coping was not supported. Alternative explanations that mood, control and perceived avoidability mediate the relationship between self-blaming attributions and coping were not supported. This study, along with the twelve of the twenty other investigations conducted since 1977, found no support for the functionality of self-blame for coping.

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Twenty Investigations Assessing the Relationship
Between Attributions of Self-blame and Coping

Investigations	Results Support the Functionality of Self-blame for Coping
1. Affleck, Allen, McGrade & McQueeney (1982)	+
2. Affleck, Tennen & Gershman (1985)	-
3. Baum, Flemming & Singer (1983)	+
4. Bulman & Wortman (1977)	+
5. Dollinger (1986)	-
6. DuCette & Keane (1984)	indirect
7. Gotay (1985)	-
8. Janoff-Bulman (1979)	-
9. Major, Mueller & Hildebrandt (1985)	-
10. Meyer & Taylor (1986)	-
11. Nielson, MacDonald & Cameron (1984)	-
12. Peterson, Schwartz & Seligman (1981)	+(analogue)
13. Schulz & Decker (1985)	+
14. Silver (1982)	-
15. Silver, Boon & Stones (1983)	-
16. Taylor, Lichtman & Wood (1984)	-
17. Tennen, Affleck, Allen, McGrade & Ratzan (1984)	-
18. Tennen, Affleck, Gershman (1986)	indirect
19. Timko & Janoff-Bulman (1985)	indirect
20. Witenberg, Blanchard, Sals & Tennen (1983)	-

Bulman & Wortman's Informal Definition of Coping

1. had accepted the reality of their injury;
2. were attempting to deal positively with the paralysis.
3. had a positive attitude toward physical therapy.
4. were motivated to work toward improvement of their physical abilities
5. reflected a desire to be as physically independent as possible. . .(p. 355)."

Descriptive Characteristics of the 1987 Spinal Cord Injured Sample
with the 1977 Sample

		Bulman & Wortman 1977 N = 29		Sholomskoe & Stell 1987 N = 31	
		n	percent	n	percent
Diagnoses					
Quadriplegic	18	62	Quadriplegic	22	71
			Complete = 6		
			Incomplete = 16		
Paraplegic	11	38	Paraplegic	9	29
			Complete = 1		
			Incomplete = 8		
Highest Incidence Age					
	Ages 16-20		Ages 16-30		
Sex					
Males	23	79	Males	26	84
Females	6	21	Females	5	16
Race					
White	21	72	White	26	84
Black	7	24	Black	4	13
Latin	1	3	Other	1	3
Education					
Partial High School	8	28	Partial H.S.	6	19
H.S. Grad	13	45	H.S. Grad	15	48
Partial College	4	14	Partial College	8	26
College Grad	4	14	College Grad	2	6
Graduate Training	2	7	Graduate Training	-	-
Marital Status					
			Single	17	55
Not reported			Married	11	36
			Divorced	3	10
Socioeconomic Status					
			Skilled workers or clerical		
Not reported					
Type of Accidents					
Auto driver	11	38	Auto/Motorcycle driver	19	61
	3	10	passenger	7	23
Diving	6	21	Diving	6	16
Gun shot	4	14	Gun shot/Other	2	7
Plane, Motorcycles, Hang-gliding			Fell at home	4	13
Fell, Construction etc.	8	28	Construction	1	3
Others Involved with Accident					
Alone	15	52	Alone	7	23
Adversarial			Adversarial		
other	14	48	other	13	42
			Benign other	11	35

Comparison of the Percentage of Blame Attributed
to Six Categories in the 1977 and 1987 Study

	Bulman & Wortman (1977) (<u>N</u> = 29)		Sholomskas & Steil (1987) (<u>N</u> = 31)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Self	29.655	35.555	29.355	37.220
Other People	19.310	30.317	31.065	40.892
Environ- ment	17.414	28.959	7.419	12.873
Chance	33.621	35.755	9.613	15.281
Circum- stance	-	-	9.613	15.021
Luck	-	-	6.000	11.180

Pearson Correlations of Patient Percentage of Blame Assigned
to the Six Attributional Items Contributing to the Accident
with Attributions of Responsibility, Fault and Blame

Percent Blame to			
Six Items	Responsibility	Fault	Blame
Blame self	.66 ***	.69 ***	.57 ***
Blame other	-.59 ***	-.54 ***	-.43 **
Blame environment	.12	-.00	.05
Blame circumstances	.04	.19	-.09
Blame chance	.02	.22	.13
Blame luck	.19	.09	.03

** $p < .05$. *** $p < .001$.

Example of Other-blame

"The lady driving up to the red light didn't slow down."

Example of Behavioral Self-blame

"I was racing on a road you shouldn't race on. I temporarily lost respect for the machine for a few minutes. I didn't think it was fast enough to hurt me. I thought I could handle it and the road condition. I should have known better."

Best Predictors of Self-blame

Bulman & Wortman 1977

Sholomskas & Steil 1987

Perceived avoidability

Alcohol

$\underline{r} = .167$, Beta = .168,

Beta = $-.625$, $\underline{t} = -4.31$,

\underline{p} ns

$\underline{p} < .001$.

Being alone or with
an adversarial other
at the time of the
accident

$\underline{r} = -.044$, Beta = $-.000$

\underline{p} ns

Religiosity

$\underline{r} = -.006$, Beta = .015.

\underline{p} ns

Differences in Mood of Self-Blamers and Non Self-Blamers

Mood	Mean	<u>SD</u>	<u>t</u>	df	One-Tailed
Factors	<u>p value</u>				
POMS					
TENSION-ANXIETY					
No SB(<u>n</u> =11)	7.36	4.8	-1.48	25	.08+
SB(<u>n</u> =20)	10.35	6.2			
DEPRESSION-DEJECTION					
No SB	7.55	7.2	-1.67	28	.05*
SB	14.05	14.4			
ANGER-HOSTILITY					
No SB	5.00	7.6	-1.87	27	.04*
SB	11.20	10.8			
VIGOR					
No SB	17.7	6.8	-.38	18	.36
SB	18.7	6.0			
FATIGUE					
No SB	8.27	5.7	-.42	21	.34
SB	9.20	6.1			
CONFUSION-					
BEWILDERMENT					
No SB	4.27	2.9	-1.39	26	.09+
SB	6.11	3.2			

Note. Separate variance estimate used in calculating t-test

+ p < .10. * p < .05. ** p < .01. ***p < .001.

The Bulman and Wortman (1977) single item measure

In your opinion how well has the patient coped with his/her disability? 1 = has coped extremely poorly, 15 = has coped extremely well.

Examples of this study's coping questions measured on a four point scale -- 1 = not at all, 4 = a great deal:

Limitation:

To what extent is the patient aware of the limitations of his/her condition?

To what extent do you feel the patient has accepted the limitations of his/her condition?

Progress:

Compared to other patients with similar disabilities, how would you rate this patient's progress? :

Emotionally (mood), Attitudinally (attitude towards disability), Behaviorally (ward behavior), Physically (physical condition), Overall?

Satisfaction:

How satisfied are you with this patient's: Effort in therapy, General attitude and Overall progress ?

Pearson Correlations of Coping Sum Scores with the Bulman and Wortman
Question

Bulman &
 Wortman coping Progress Limitation Satisfaction
 by staff group Sum Sum Sum

Nurse	<u>r</u>	.723 ***	.709 ***	.680 ***
	<u>n</u>	(23)	(24)	(27)
OT		.659 ***	.732 ***	.712 ***
		(21)	(22)	(25)
PT		.873 ***	.796 ***	.852 ***
		(24)	(24)	(27)

*** $p < .001$

Stepwise Regression Summary Table of the Best Predictors of Coping

Variables in the Equation						
Step	Variable Entered	R	df	F ^a	Beta	t
1	Happy/Sad	.515	1,29	10.46***	-.515	-3.23**
2	Blame-Other	.619	2,28	8.71***		
	Happy/Sad		1,28		-.458	3.04**
	Blame-Other		1,28		-.349	2.32*
3	Blame-Chance	.692	3,27	8.26***		
	Happy/Sad		1,27		-.504	-3.54***
	Blame-Other		1,27		-.475	-3.13**
	Blame-Chance		1,27		-.339	-2.22*
4	Other-Alone	.750	4,26	8.38***		
	Happy/Sad		1,26		-.489	-3.76***
	Blame-Other		1,26		-.412	-2.85**
	Blame-Chance		1,26		-.389	-2.69**
	Other-Alone		1,26		.306	2.24*
5	Blame-Circumstance	.804	5,25	9.11***		
	Happy/Sad		1,25		-.512	-4.19***
	Blame-Other		1,25		-.388	-2.92**
	Blame-Chance		1,25		-.605	-3.78***
	Other-Alone		1,25		.324	2.58**
	Blame-Circumstance		1,25		.363	2.47*

Note. 1 = Happy, 4 = Sad; 1 = Yes with other, 2 = Alone;

Blame-other/chance/circumstance = 0 - 100%

Beta = Standardized partial regression coefficient for predictor variable.

t = Tests the significance of adding the variable to the equation.

^aThe F-ratio for overall R at each step.

* = p < .05; ** = p < .01; *** = p < .001.