

## Self-Blame, Compliance, and Distress Among Burn Patients

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This study addressed self-blame and adaptation by using data collected from 49 patients hospitalized for the treatment of acute burn wounds. Nurses and physical therapists rated patients' compliance with the therapeutic activities essential for proper healing, and they rated pain behavior. After controlling for burn severity and time since admission, regression analyses showed that behavioral self-blame for the burn accident was a significant predictor of poorer compliance with nurses, more pain behavior, and greater depression. People with a prior psychiatric history were also more depressed and more likely to blame themselves for the accident. These data are contrasted with research on the adaptive features of self-blame.

Considerable evidence links stressful events with adverse psychological and physiological changes (Kiecolt-Glaser et al., 1987; Sarason, Sarason, Potter, & Antoni, 1985). In recent years, researchers have focused on factors that may influence the relation between stressful events and illness, including such dimensions as supportive interpersonal relationships (Antonucci & Jackson, *in press*; Suls, 1982), self-disclosure (Pennebaker & O'Heeron, 1984), coping style (Pearlin & Schooler, 1978), and personality variables (Kiecolt-Glaser et al., 1984; Scheier & Carver, 1985). In addition, a number of researchers have examined behavioral and affective correlates of attributional judgments following negative life events (Shaver & Drown, 1986).

Bulman and Wortman's (1977) influential article addressing the relation between self-blame and coping in spinal-cord-injured patients fueled interest in the adaptive consequences of self-blame for severe accident victims. In that study, they found that paraplegics and quadriplegics who blamed themselves for the accident coped better during hospitalization, as judged by social workers and nurses. The feeling that the accident could have been avoided was associated with poorer coping. They speculated that these data were more consistent with the need for an orderly and meaningful world than for a controllable one.

In contrast, Shaver and Drown (1986) suggested that the affective connotations carried by self-blame judgments may lead to depression. Brickman et al. (1982) argued that victims of undesirable events will adapt best if they do not blame themselves for the occurrence of the victimizing event but do see themselves as responsible for solving the problems that result.

Parallel evidence from attributional research on achievement motivation suggests that failure ascribed to internal causes adversely affects self-esteem or self-worth, whereas external attributions for positive or negative outcomes do not have a similar impact (Weiner, 1985).

Janoff-Bulman (1979) suggested that the type of self-blame adopted by a person has consequences for adaptation. Behavioral self-blame involves the attribution of undesirable events to one's behavior and allows a person to perceive the occurrence of similar future events as more controllable. In contrast, attributions to stable aspects of the self are the dominant force in characterological self-blame; negative events are seen as the result of personal inadequacies or failings. Characterological attributions may result in subsequent motivational deficits and greater distress.

Consistent with these attributional speculations on the potential affective consequences of self-blame, several clinically oriented researchers have alluded to an association between guilt over the occurrence of an accident and greater depression and anxiety in hospitalized burn victims (Hamberg, Artz, Reiss, Amspacher, & Chambers, 1953; Hamberg, Hamberg, & deGoza, 1953; West & Shuck, 1978). Depression also appears to be reliably associated with poorer adaptation in these and other studies of newly burned patients (Andreasen, Noyes, & Hartford, 1972; Artz, Moncrief, & Pruitt, 1979).

This study assesses the relations among self-blame and various forms of adaptation (e.g., compliance, pain behavior, and distress during hospitalization after an acute burn injury). Use of newly burned patients has several advantages for examining the relation between self-blame and adaptation. Burn injuries occur rapidly and unpredictably, and as discussed earlier, depression and guilt over the occurrence of the accident have been associated with poorer adaptation during hospitalization. Burn injuries cover a range of severity, thus allowing an assessment of the relation between accident severity and self-blame. Compliance behavior has important implications for burn patients' health because failure to comply can lead to more severe complications, a more protracted recovery period, or even death.

In addition, the standard medical treatment for acute burn wounds is quite painful, and burn patients' compliance behavior is influenced by the amount of suffering. Some investigators

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have demonstrated that suffering is distinct from pain intensity; for example, the intensity may be low, but the psychological effect of any discomfort may be great. In fact, there is very good evidence that more distressed or anxious people have a lower tolerance for acute pain, regardless of the actual noxious stimulus (e.g., Fordyce & Steger, 1979; Keefe, Wilkins, Cook, Crisson, & Mulbaier, 1986). Similarly, pain behavior is distinct from organic tissue damage. Pain behavior, manifested in verbal complaints and nonverbal behavior, communicates to others and to the patients themselves how badly they feel. Pain behaviors frequently elicit attention from others, thus reinforcing and maintaining their occurrence. High levels of pain behaviors may impede the medical staff's treatment of acute burn wounds.

We predicted that self-blame would have important consequences for adaptation in this population, both directly and indirectly. Self-blame was expected to engender or foster distress, consistent with Shaver and Drown (1986). Self-blame was also expected to be associated with motivational deficits, reflected in poorer compliance and more pain behavior (Brickman et al., 1982; Weiner, 1985). Greater distress was expected to contribute to poorer compliance through heightened perceptions of pain and more pain behavior. Thus, we predicted that self-blame would be significantly associated with poorer compliance, greater anxiety and depression, more pain behavior, and greater self-rated pain. Consistent with Janoff-Bulman (1979), characterological attributions were expected to result in greater distress and more profound motivational deficits than behavioral self-blame.

Consistent with the aforementioned pain literature, we expected that pain intensity and pain behavior would be essentially unrelated to burn severity among patients with burns severe enough to warrant hospitalization. In contrast, we predicted that pain intensity and pain behavior would be reliably related to depression and anxiety (Keefe et al., 1986).

## Method

All adults in the central Ohio area who experience major burn injuries are routinely brought to the University Hospital Burn Intensive Care Unit. We approached all consecutive admissions to the unit over a 2-year period, once the nursing staff deemed them capable of participation. Patients were interviewed 1 to 30 days after admission, with an average time between admission and interview of 14.40 days ( $SD = 19.07$ ).

Interviews with patients lasted 1 to 2 hr and included collection of sociodemographic information, several open-ended questions about the burn accident and the patient's reactions to it (taken from Bulman & Wortman, 1977), and the questionnaires that will be described shortly. Hospital charts provided data on burn severity and length of hospitalization. Nurses and physical therapists provided ratings of both compliance and pain behavior.

### Assessment of Burn Severity

The severity of a burn injury was determined by the amount of burned skin. Computed by the attending physician using a standard formula (Artz et al., 1979), the percentage body surface area (BSA) was expressed as a percentage of total body surface that had second-degree burns or worse (e.g., a 50% burn means that half of the body surface is burned). The BSA has important prognostic implications (Artz et al.,

1979). The BSA data were taken from the physician's note in the patient's hospital chart.

### Medical Treatment and Sequelae of Burn Wounds

The care of burn wounds is critical because infections can be life threatening. Burn wounds are covered with dressings until they heal to decrease the risk of infection. Burn dressings are changed twice a day. To help the skin heal as soon as possible, all dead and injured skin must be removed to prevent infections. Debridement, the removal of loose, dead tissue, is done by nursing staff each time dressings are changed. It is a very painful procedure.

Tight skin and stiff joints can result from burn scars or contractures. All injured parts of the body must be exercised as much as possible to prevent joint stiffness. Failure to exercise enough can lead to need for additional surgery to restore the full range of motion. For this reason, burn patients are encouraged to be as active as possible by performing all their activities of daily living with minimal assistance (feeding themselves, brushing their teeth, etc.). In addition, a physical therapist assists patients with structured exercises.

Dressing changes and exercise are quite painful. Although burn patients regularly receive pain medication, especially before the dressing changes, it is not possible to eliminate pain. Thus patients' compliance with dressing changes and exercises necessitates experiencing considerable pain in the process.

Burn patients face further adjustments once the acute burn injury has healed and they are discharged from the hospital. Despite continuing medical advances in the treatment of burns, some burn victims will have permanent, visible scars. Burned skin remains quite delicate for up to 6 months, and during this period burn patients cannot engage in activities that might damage sensitive skin. Some patients cannot return to work in their previous occupation if temperature extremes are involved. Out of the hospital, burn victims must continue to do range-of-motion exercises for burned areas and use the special utensils and clothing designed for them. For some burn patients, there are longer term psychological consequences as well; an undetermined number eventually show some or all of the diagnostic features of posttraumatic stress disorder (Artz et al., 1979).

### Staff Ratings of Patient Behaviors

Because compliance with medical procedures is critical for recovery, we were interested in compliance ratings from staff members as an important index of adaptation. As already mentioned, nurses and physical therapists work intensively with each patient. Each patient is assigned a primary nurse who has the major responsibility for his or her care during the hospital stay. The primary nurse is normally responsible for only one patient at a time and devotes 6 to 8 hr a day to the patient's care. The physical therapist is assigned to the unit on a semipermanent basis and has two 20-min sessions with all patients on the unit each day.

For this study, the patient's primary nurse and physical therapist rated the behavior of the target patient during the past week, including the period when the interview and questionnaires had been administered. They were asked to "rate the extent to which this patient actively participates in your therapeutic activities" using a scale that ranged from 1 (*refuses to comply with even routine requests*) to 7 (*complete compliance with all requests*).

The staff were also asked to indicate "How frequently does this patient mention his/her pain and/or discomfort" by using a scale that ranged from 1 (*never mentions pain or discomfort*) to 7 (*talks of nothing but pain or discomfort*). These data provided a measure of pain behavior. As discussed earlier, high levels of pain behavior are maladaptive because they can impede medical treatment; pain behavior may also elicit attention that maintains and reinforces its occurrence (Fordyce & Steger, 1979).

### Self-Report Data

Subjects were asked if they were associated or affiliated with any religion and whether they considered themselves active in their religion. They rated the importance of religion for themselves on a scale ranging from 1 (*not at all important*) to 10 (*very important*). Religiosity was of interest because of Bulman and Wortman's (1977) finding that the most popular response to "Why me?" was an explanation that in one form or another involved God's will.

Subjects were also asked if they had ever been under the care of a mental health professional. A prior psychiatric history has been associated with poorer outcomes in other burn research (Andreasen et al., 1972; Vanderplate, 1984).

*Self-blame questions.* We used the interview items described by Bulman and Wortman (1977) to assess self-blame and perceived avoidability of the accident (see Table 1 for the specific questions and responses). The first of the two self-blame items was a Likert scale rating that subjects completed in response to a question about the extent of self-blame. The second asked subjects to assign a percentage of blame to themselves, others, the environment, and chance. In addition, we asked subjects who had assigned any percentage of self-blame to complete an additional rating scale. This 10-point scale, which was anchored at 1 (*I am the type of person who has had things happen to them*) and 10 (*I chose the wrong thing to do in this particular situation*), was used to operationalize characterological versus behavioral self-blame (Janoff-Bulman, 1979). We also asked all patients whether they had ever asked themselves the question "Why me?" and, if so, what the answer had been.

*Brief Symptom Inventory (BSI).* The BSI (Derogatis & Spencer, 1982) provided information on two distress-related dimensions. We used the data from the Anxiety subscale because of the link between the intensity of acute pain and anxiety (Fordyce & Steger, 1979). Depression subscale data were of interest because of possible ties among depression, compliance, and self-blame. Subjects rated the amount of distress associated with each of the 53 items on a scale ranging from 0 (*not at all*) to 4 (*extremely*). Conversion of subjects' scores using the nonpsychiatric *t*-score norms provided information on the relative level of distress in these acutely burned patients in comparison with a normal population.

*Multidimensional Health Locus of Control (MHLC).* The MHLC assesses feelings of control over health (Wallston, Wallston, & DeVellis, 1978). Used extensively in health-related research, the MHLC has three scales: Internality, Chance, and Powerful Others. We included this measure to assess the possibility that compliance behaviors might be a function of more enduring expectancies about control (or the lack thereof) over health.

*Just World Scale.* The Just World Scale consists of 19 statements and 2 filler items on which subjects rate their agreement or disagreement on 6-point scales (Rubin & Peplau, 1975). Higher scores indicate agreement with the idea that the world is just. Following Bulman and Wortman (1977), we included this scale to provide information on the correspondence between assignment of blame for the accident and beliefs that people get what they deserve.

## Results

### Sample Characteristics

The 49 acutely burned patients (40 men and 9 women) had an average age of 35.87 years ( $SD = 13.44$ ); they ranged in age from 18 to 67. Whites constituted the majority of the sample ( $n = 45$ ); Blacks ( $n = 4$ ) made up the rest. Twenty subjects had a high school education, 11 subjects had spent some years in college, and 5 had graduated from college. Thirteen subjects had not completed high school. Most of the subjects were married ( $n = 27$ ), 12 were single, and 10 were separated, divorced,

or widowed. Using Hollingshead occupational scaling, we determined that 4 subjects were minor professionals or small business owners, 5 were clerks or technicians, 11 were skilled manual employees, 10 were semiskilled employees or machine operators, 5 were unskilled workers, 3 were housewives, 1 was a student, 7 were unemployed, 2 were retired, and 2 were previously disabled.

Between 10% and 20% of the admissions to the Burn Unit were too severely injured to be interviewed. Several subjects were not approached for participation because they were under 18. Six subjects refused to participate, with several saying they did not wish to talk about the burn accident because it was too upsetting.

### Burn Accidents

The burned area ranged from 3% to 50% of the body surface. Burns to the hands and face, though covering relatively little total surface area, are considered major burns because of the possible longer term consequences (e.g., loss of flexibility in hands, damage to eyes, or facial disfigurement). Admission to the Burn Unit is limited to major burns.

Not surprisingly, longer hospital stays were correlated with more extensive burns ( $r = .41, p < .01$ ); all correlations reported are one-tailed. Age was not significantly related to length of stay ( $r = .19$ ), nor was it significantly related to amount of burn injury ( $r = -.18$ ). This differs from other research that has shown that burn injuries pose a greater risk for older adults (Artz et al., 1979), in part because immune system function declines with age (Kiecolt-Glaser et al., 1985); however, our sample only had 4 subjects over 60 years old.

The type of accident was variable. Utility fires were the leading cause of burn injuries, with 10 subjects reporting burns related to the use of space heaters, lanterns, and a propane torch. Electrical fires were the source of 8 subjects' injuries, problems with inflammable liquids such as gasoline or paint thinner resulted in burns for 8 subjects, and 4 subjects were burned in industrial accidents with chemicals or tar. The subjects who were injured at home reported that their injuries occurred during kitchen accidents ( $n = 4$ ), as a result of problems in burning trash or similar materials ( $n = 6$ ), during car repairs as a result of problems with antifreeze or steam ( $n = 3$ ), or after falling asleep with a cigarette ( $n = 2$ ). Three subjects were burned by another person who set them on fire, and 1 subject set himself on fire.

In 11 cases (22%) the accident included an *adversary other*, a second person whose behavior was the cause of accident. The term is used whether or not the person seemed to wish to cause injury (Bulman & Wortman, 1977).

The subject was the only burn victim in 25 cases. In 23 cases another person was also burned. Data on others' injuries were missing in one case.

### Relations Among Compliance, Pain and Pain Behavior, and Distress

The correlation between the compliance ratings of the nurses and the physical therapist was .65 ( $p < .001$ ). The nurses' ratings of pain behavior correlated at .36 ( $p < .05$ ) with those of the physical therapist. The more extensive therapeutic activities

of the nursing staff produce much more intense and sustained pain than those of the physical therapist, and nurses spend considerably more time with the patients than the physical therapist does. Thus, the nurses' behavioral ratings are likely to be the more reliable of the two professions because nurses' ratings are based on a much more extensive behavioral sample.

Poorer compliance with nursing staff was associated with greater depression ( $r = -.34, p < .05$ ) and anxiety ( $r = -.36, p < .05$ ). The physical therapist's ratings, although in the same direction, were not significant for depression ( $r = -.29$ ) or for anxiety ( $r = -.23$ ).

There was some evidence that patients who were more distressed also showed more pain behavior. Nurses' ratings of pain behavior correlated at .31 ( $p < .05$ ) with anxiety and at .26 with depression. The physical therapist's ratings of pain behavior were significantly correlated with both anxiety ( $r = .35, p < .05$ ) and depression ( $r = .36, p < .05$ ). Similarly, patients' self-rated pain was significantly related to BSI anxiety scores ( $r = .35, p < .05$ ), but not to BSI depression scores ( $r = .21$ ).

The staff ratings of pain behaviors were not strongly related to patients' self-ratings of pain severity. Patients' pain ratings correlated at  $-.02$  with nurses' pain ratings and at  $.24$  with the physical therapist's pain ratings.

#### Attributions of Blame

Table 1 shows the responses to questions about self-blame, assignment of blame, and beliefs about avoidance of the accident. Questionnaire data are also shown in Table 1.

For Table 2 and for subsequent analyses, we combined the two self-blame measures, following the procedure used by Bulman and Wortman (1977). The 1 to 7 blame scale was converted to percentages (1 = 0% blame, 2 = 14.23%, etc.) and the percentage of blame assigned to self was then averaged with the percentage from the blame assigned to self from the question that asked for assignment of 100% of blame. The self-blame rating and the percentage of blame assigned to self correlated at  $.80$  ( $p < .0001$ ). As can be seen in those data, 13 subjects (27%) assigned 50% or more of the blame to themselves. Of the 23 subjects who made self-blame attributions, the majority ( $n = 14$ ) placed themselves at the extreme behavioral end of the 10-point behavioral-characterological scale. Only 2 subjects rated themselves on the characterological side of the scale; of these latter 2, only 1 had blamed himself 50% or more. Thus, self-blame in this sample was essentially behavioral in nature.

Hierarchical regression equations were used to predict compliance, pain ratings, pain behaviors, and distress. In each case, BSA was entered on the first step, number of days since admission was entered next, and self-blame was entered last. This format provided information on the relation of self-blame to the variables of interest after controlling for burn severity and stage of healing. As shown in Table 3, there was no evidence that compliance ratings, self-rated pain, pain behaviors, or distress were reliably related to burn severity or stage of healing. In contrast, greater self-blame was associated with poorer compliance with nurses, more pain behavior as rated by both nurses and the physical therapist, and higher BSI depression scores. Self-blame was not reliably related to the physical therapist's compliance ratings, BSI anxiety scores, or self-rated pain.

Table 1  
Means and Standard Deviations for Interview  
Items and Questionnaires

Item	M	SD
How much do you blame yourself for what happened? (1 = not at all, 7 = completely)	3.10	2.56
How much do you blame each of the following factors for the incident that brought about your burn injury? Please assign a percentage of blame to each factor, so the overall assignment of blame totals 100%.		
Self	37.65	44.27
Other people	29.31	42.13
Environment	16.36	28.21
Chance	60.68	41.40
If you assigned blame to yourself, how much would be due to the type of person you are, and how much to choosing the wrong thing in the situation? (1 = I am the type of person who has bad things happen to me, 10 = I chose the wrong thing to do in this particular situation)	8.29*	2.66
To what extent do you believe you could have avoided what happened? (1 = not at all, 7 = completely)	3.80	2.67
Considering the best and worst things that could happen to you in your lifetime, where does your present injury fit into the scale? (1 = worst that could happen, 7 = best that could happen)	2.45	1.51
Health Locus of Control scores		
Internal	26.78	4.72
Chance	20.93	6.32
Powerful others	18.78	11.29
Just World Scale score	76.67	11.29
BSI Anxiety <i>t</i> score	64.35	11.99
BSI Depression <i>t</i> score	57.38	11.75

Note. BSI = Brief Symptom Inventory.

\*  $n = 23$ .

#### Correlates of Self-Blame

Ratings of the importance of religion for subjects was marginally related to self-blame ( $r = .29, p < .06$ ). Of the 49 subjects, 19 described themselves as actively involved in their religion, and these subjects did not differ from the rest of the sample in self-blame,  $t(46) = 1.08$ .

The extent to which the subjects felt the accident might have been avoided was significantly correlated with self-blame ( $r = .54, p < .0001$ ); similarly, the presence of an adversary other was related to blame. The 11 subjects whose accident was the result of another's actions (intended or not) were significantly less likely to blame themselves,  $t(42.5) = 2.67, p < .01$  (the reduced degrees of freedom are based on the more conservative figure used in analyses in which the variances are not equal). Those with an adversary other had a self-blame mean of 11.59 ( $SD = 16.59$ ), compared with 34.59 ( $SD = 42.70$ ) for those without an adversary other. The differences in blame attributed to others followed the pattern for self-blame,  $t(46) = 2.49, p < .05$ , with a mean of 40.00 ( $SD = 45.44$ ) for the subjects with an adversary other, compared with 11.08 ( $SD = 29.72$ ) for those without. There were no significant differences for either environment or chance blame.

As in other studies, the amount of self-blame sometimes seemed unrelated to observers' judgments of blameworthiness.

Table 2  
Percentage and Number of Subjects Attributing Blame to Self, Others, Environment, and Chance

Blame assigned to self	Self	Others	Environment	Chance
None				
%	52	73	84	39
<i>n</i>	25	36	41	19
1-49%				
%	21	8	8	8
<i>n</i>	10	4	4	4
50% to 99%				
%	8	6	6	20
<i>n</i>	4	3	3	10
100%				
%	19	12	2	33
<i>n</i>	9	6	1	16

The most graphic example of disparity in our sample occurred in a case in which a young man bought gasoline from a service station owned by his father-in-law. He used the gasoline to set himself on fire at the service station. He attributed all blame for the incident to his father-in-law, saying he acted as he did because his father-in-law had said disparaging things about him.

#### Prior Adjustment and Adaptation to Burn Injuries

The 8 subjects in our sample who reported a prior psychiatric history were significantly more likely to blame themselves for the accident than were subjects without a similar history,  $t(46) = 2.34, p < .05$  (two-tailed probability), without even marginal differences in other attributions of blame. The mean percentage of self-blame for those with a prior psychiatric history was 57.71 ( $SD = 46.61$ ), in contrast to 35.78 ( $SD = 5.66$ ) in the remaining subjects. Subjects with a prior psychiatric history reported more depressive affect,  $t(46) = 2.19, p < .05$ , with a *t*-score mean in the prior history group of 65.38 ( $SD = 9.65$ ), compared with 55.78 ( $SD = 11.57$ ) in those without a prior history. The two groups did not differ reliably on anxiety, compliance, or self-reported pain.

To evaluate the possibility that the relations among self-blame, distress, and the behavioral ratings were skewed by the greater self-blame and depression among the subjects with prior psychiatric treatment, correlations were calculated without the 8 psychiatric patients. The resulting correlations were of the same magnitude or greater when these subjects were excluded.

#### Just World Scale and MHLC Relations

Patients who believed more strongly in a just world were marginally more likely to blame themselves for the accident ( $r = .27, p < .06$ ). Similarly, those with stronger just world beliefs were less likely to attribute the accident to chance ( $r = -.59, p < .001$ ).

Those subjects with stronger beliefs in a just world were marginally more likely to rate the accident as a more positive event on the the best-worst thing that could have happened to them measure ( $r = .28, p < .06$ ). However, belief in a just world was

not reliably associated with measures of affect, compliance, pain behaviors, or self-rated pain.

Compliance was not reliably associated with any of the three MHLC scales. Ratings of pain behavior were significantly related to control beliefs in only one case. Those who had higher beliefs in chance had more pain behavior on the basis of the nurses' ratings ( $r = -.39, p < .05$ ). None of the three MHLC scales was significantly related to either of the distress measures or to self-rated pain.

#### Answers to "Why Me?"

More than half of our subjects ( $n = 26$ ) said they had never asked themselves the question "Why me?" An additional 13 subjects had asked the question but found no answer. Of the remainder, 3 felt God had a reason for it, 3 felt they were simply victims of chance, 1 felt that it was a high-probability event in his line of work, 1 said it provided a chance for a reevaluation of his life, and 1 attributed it to another's hatred (he had been set on fire by his ex-girlfriend).

Subjects were divided into three groups: those that had never asked themselves "Why me?", those that had asked the question

Table 3  
Hierarchical Multiple Regression Equations Using Burn Severity, Days Since Admission, and Self-Blame as Predictors of Compliance, Pain and Pain Behavior, and Distress

Variable	Simple <i>r</i>	Cumulative <i>r</i> <sup>2</sup>	$\beta$
Nurses' compliance ratings			
BSA	-.11	.01	-.16
Days since admission	.06	.03	.09
Self-blame*	-.43	.27	-.50
Nurses' pain behavior ratings			
BSA	-.01	.00	.03
Days since admission	-.11	.01	-.08
Self-blame*	.43	.19	.42
Physical therapists' compliance ratings			
BSA	-.02	.00	-.03
Days since admission	.06	.00	.04
Self-blame	-.10	.02	-.15
Physical therapists' pain behavior ratings			
BSA	-.13	.02	-.07
Days since admission	-.09	.02	-.01
Self-blame*	.35	.17	.39
Self-rated pain intensity			
BSA	-.01	.01	-.14
Days since admission	.18	.06	.23
Self-blame	.04	.07	.11
BSI Depression scores			
BSA	.13	.03	.45
Days since admission	.26	.08	.28
Self-blame*	.15	.18	.32
BSI Anxiety scores			
BSA	-.07	.01	-.12
Days since admission	.11	.03	.18
Self-blame	.17	.07	.18

Note. BSA = body surface area. BSI = Brief Symptom Inventory.  
\*  $p < .05$ .

but found no answer, and those who had found an answer. There were no reliable differences among these three groups in the severity of the burn injury,  $F(2, 45) = 1.25$ , or in compliance or depression ( $F_s < 1$ ). Although 47% of our patients were burned in accidents in which another person was also burned and thus might be less likely to consider themselves or the circumstances particularly unique, we found no relation between the presence or absence of another burn victim and whether the patients had asked themselves "Why me?":  $\chi^2(1, N = 46) = 1.92$ .

### Discussion

We found that greater self-blame for the burn injury was associated with poorer compliance with nursing activities, more pain behavior, and greater depression, after controlling for burn severity and time since admission. Poorer compliance with nursing staff was reliably associated with both greater depression and anxiety, which is consistent with prior burn research (Andreasen et al., 1972; Artz et al., 1979). Those patients who saw the accident as more avoidable were more likely to blame themselves and were also less compliant with nurses.

Virtually all subjects who blamed themselves for the accident endorsed behavioral, rather than characterological, explanations. It has been suggested that characterological attributions result in subsequent motivational deficits and greater distress, whereas behavioral self-blame promotes more adaptive behavior (Janoff-Bulman, 1979). Although we do not know if characterological self-blame would have had even more maladaptive consequences, behavioral self-blame does not appear to have positive affective or behavioral correlates in this population.

Burn patients with a prior psychiatric history were more likely to blame themselves for the accident and were more depressed than patients without a similar history. Although our data are consistent with Shaver and Drown's suggestion that self-blame judgments may lead to depression, preexisting depression or dysphoria may also enhance the possibility of assigning self-blame. Excessive self-reproach and inappropriate guilt are clinical symptoms used to make psychiatric diagnoses for some depressive disorders (Gregory & Smeltzer, 1983), and some kinds of self-blame are theoretically viewed as precursors or vulnerability factors for depression (Peterson & Seligman, 1983).

A number of studies published in recent years have examined attributions of causality, responsibility, and self-blame in a variety of populations, with inconsistent results (e.g., Affleck, Allen, Tennen, McGrade, & Ratzan, 1985; Schulz & Decker, 1985; Taylor, Lichtman, & Wood, 1984; Tennen, Affleck, Allen, McGrade, & Ratzan, 1984; Tennen, Affleck, & Gershman, 1986; Timko & Janoff-Bulman, 1985; Witenberg et al., 1983). Shaver and Drown (1986) have recently argued that the apparent inconsistencies among self-blame studies may be the result of insufficient attention to construct validity in the measurement of causality, responsibility, and blameworthiness. They suggest that studies that do not use the same attributional measures are not comparable.

Within the self-blame literature, this study is most similar to Bulman and Wortman's (1977) work with spinal cord injuries. As noted earlier, the measures used in this study were taken from their work, with a few minor modifications. In addition, both of these studies used hospitalized patients who had experi-

enced a sudden and traumatic injury. Both studies used ratings by hospital staff members to provide a behavioral measure of adaptation, in contrast to the distress ratings used as the primary measure of adaptation in most other victimization studies. All of Bulman and Wortman's 29 subjects reported having asked themselves the question "Why me?" and all but 1 patient had a hypothesis as an answer. In contrast, only a minority of our patients reported having asked themselves the question, and few had any answer. The fact that we found significant differences in the opposite direction could be a function of several factors. The cause of the injuries was different, and most burn injuries do not have as pervasive an effect on life style as do spinal cord injuries. Bulman and Wortman's subjects were interviewed either 1 to 4 months or 8 to 12 months after the accident, whereas ours were all interviewed within the first month. Therefore, their subjects had more time in which to think about the accident and the possible impact on their lives. In addition, our subjects were older, and most were injured during routine activities at work or home. Thus, the subject samples differ in the type of injury, the timing of the interview, the circumstances under which the injury occurred, and certain sociodemographic characteristics of the samples.

The differences in the utility of self-blame in the two studies may also reflect important personality differences in the type of population studied. Bulman and Wortman (1977) limited their sample to individuals between 18 and 35 years, and the average age of the spinal-cord-injury victims in their study was 22.7. Also, three quarters of their sample was male. Psychological research with spinal-cord-injury victims suggests that one prominent subgroup includes younger, impulse-dominated men who tend to have been injured in imprudent or higher risk activities, such as driving while intoxicated, riding motorcycles, hang gliding, or sky diving (Fordyce, 1964). Histories of risk-taking behavior and attribution of blame away from the self for the consequent difficulties are very common among the young men who share these characteristics (Shapiro, 1965).

Earlier we described a subject who, angered by his father-in-law, set himself on fire and attributed all blame for the accident to his father-in-law. This 20-year-old man was a terror on the unit. He frequently yelled at the staff and threw things at them, providing an extreme example of noncompliance. His inability to assign any blame to himself, either for his accident or for his disruptive behavior in the hospital, was consistent with his long personal history of impulsive behavior and his regular disavowal of responsibility for any unfortunate consequences. Although he provides an extreme example, it is clear that self-blame, if fostered, might have had more adaptive behavioral consequences in this case. If the Bulman and Wortman (1977) sample had included a high proportion of more impulsive younger men, as described in other spinal-cord-injury samples (Fordyce, 1964), self-blame might well have been associated with more adaptive behavior for such individuals.

The absence of a reliable relation between either compliance or pain behavior and the MHLIC data may be related to the acute nature of the injury. Beliefs about control over one's health may be difficult to translate into behavior during the very painful treatment regimen required for acute burn injuries, especially in view of the fact that patients are offered little or no choice about the procedures.

In this study, we found that greater behavioral self-blame was

a significant predictor of poorer compliance with nurses, more pain behavior, and greater depression. The tendency to assign self-blame was related in part to prior life difficulties, as evidenced by the greater self-blame found among burn patients with prior psychiatric contacts. The data suggest that self-blame is not adaptive in acutely burned adults, consistent with research from other burn patient samples (Hamberg, Artz, Reiss, Amspacher, & Chambers, 1953; Hamberg, Hamberg, & deGoza, 1953; West & Shuck, 1978). Future research on victimization might profitably address the extent to which prior personality characteristics and life strains are associated with both attributions and subsequent adjustment.

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