# Coping and Problem Solving of Self-Mutilators

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People who self-mutilate have been hypothesized to have deficient skills in coping and problem-solving that leave them vulnerable to the adoption of self-mutilation as a coping strategy. This hypothesis was tested using male incarcerated self-mutilators with comparisons being made with non-mutilating, prisoner, and non-prisoner control groups. Examination of the inherent resources which enable an individual to effectively cope with stress demonstrated a depressed score for self-mutilators on the scale measuring self-worth and optimism about life. Assessment of the strategies used to cope with real problems demonstrated that self-mutilators engage in more problem avoidance behaviors. Self-mutilators also recorded less perceived control over problem-solving options. The results are discussed in terms of the effectiveness of self-mutilation as a coping strategy and the need to adopt a multidimensional approach to the investigation of coping. 

One problem that largely has been ignored when discussing the conceptualization of coping is the potential overlap between coping strategies and psychological symptoms (Dohrenwend, Dohrenwend, Dobson, & Shrout, 1984). It has been argued that it is necessary to conceptually separate the strategies adopted to cope with a problem situation and the influence these strategies have on psychological adjustment (Horowitz, 1979). However, it is often the case that no clear distinction can be made between the method chosen to cope with a problem and the psychological symptomatology (Kessler, Price, & Wortman, 1985).

Such is the case with self-mutilative behavior, low-lethality self-injurious behavior such as wrist-cutting and skin burning (Walsh & Rosen, 1988). It has been suggested that individuals who self-mutilate adopt the behavior because they have no other means of coping with problem situations (see Ross & McKay, 1979; Walsh & Rosen, 1988). In this sense, self-mutilation can best be described as a coping strategy. Alternatively, self-mutilation has been described as a symptom of a psychological disorder that has its genesis in deficient coping skills (Fruensgaard & Flindt Hansen, 1988; Lion & Conn, 1982; Schaffer, Carroll, & Abramowitz, 1982; van Moffaert, 1990).

The literature to date has indicated that self-mutilative behavior fits with either option. However, there seems to be more support for the description of the behavior as a maladaptive

JOURNAL OF CLINICAL PSYCHOLOGY, Vol. 53(2), 177–186 (1997)
 CCC 0021-9762/97/

coping strategy. For example, there are many reports in the literature describing self-mutilative behavior as a means of ending or alleviating stress and distress experienced by those who engage in self-mutilation (e.g., Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; van Moffaert, 1990). In this way, it is not difficult to conceptualize self-mutilative behavior as a coping strategy. Self-mutilative behavior also has been reported to occur as a consequence of specific stressors such as sexual abuse (Carroll, Schaffer, Spensley, & Abramowitz, 1980; Favazza & Conterio, 1989; Herzberg, 1977; Schwartz, Cohen, Hoffman, & Meeks, 1989; Summit, 1983). Self-mutilative behavior is used to alleviate emotional distress in an effort to enhance psychological adjustment. The fact that non-mutilators find it difficult to appreciate the behavior as a coping strategy is irrelevant.

It is apparent in the literature that no single coping strategy is effective in all situations (see Kessler et al. [1985] for review). However, if self-mutilative behavior is accepted as a coping strategy, it is likely that individuals who self-mutilate apply this coping strategy in many problem situations. This would indicate that they have few effective and adaptive coping strategies in their coping repertoire.

So, self-mutilative behavior can be described as a general failure of coping or as a maladaptive coping strategy in its own right (see Walsh & Rosen, 1988). Indeed, it would be expected that individuals who self-mutilate would evidence reduced coping ability in comparison with other groups. However, the exact nature of the coping deficits has not been identified. It has been suggested that a reliance on emotion-focused coping to the exclusion of problem-focused coping is associated with greater psychological maladjustment (Folkman & Lazarus, 1980; Mitchell, Cronkite, & Moos, 1983; Moos & Billings, 1982; Pearlin & Schooler, 1978). It is possible that individuals who self-mutilate rely too heavily on emotion-focused coping.

Research also has determined that coping resources can buffer against the negative effects of life stress (Anson, Carmel, Levenson, Bonneh, & Maoz, 1983; Lin & Ensel, 1989). Both personal and external resources can provide this buffering effect and research results have been inconsistent in terms of the relative importance of either type of resource (Anson et al. 1993; Cummins, 1988; Israel, House, Schurman, Heaney & Mero, 1989; Lefcourt, Martin & Saleh, 1984; Lin & Ensel, 1989; Sandler & Lakey, 1982). If self-mutilative behavior is adopted as a coping strategy, it is likely that these individuals would have deficient coping resources.

There is a paucity of research directly addressing a relationship between problem-solving deficits and self-mutilative behavior. A number of factors suggest that an investigation of this relationship is warranted. At the most elementary level, individuals who self-mutilate have been demonstrated to display high levels of psychiatric symptomatology (Haines, Williams & Brain, 1996) and to engage in substantially more self-destructive or suicidal behavior than comparison groups (Bongar, Peterson, Golann, & Hardiman, 1990; Fruensgaard & Flindt Hansen, 1988). Psychiatric symptomatology and in particular self-destructive behavior have been demonstrated to be associated with deficits in problem-solving ability (Levenson & Neuringer, 1971; Orbach, Bar–Joseph & Dror, 1990; Platt, Spivack, Altman & Altman, 1974; Platt & Spivack, 1972; Salkovskis, Atha & Storer, 1990; Schotte & Clum, 1982, 1987). There is no reason to suppose that individuals who self-mutilate would differ, in terms of the relationship between problem solving and symptomatology, from individuals with similar psychological profiles but who do not self-mutilate.

There is some indication in the literature that failure at problem solving may reflect transitory or state phenomenon (Schotte, Cools, & Payvar, 1990). It is possible that individuals who self-mutilate have a threshold for stress, past which they cannot successfully activate the problem solving process. It is worthy of note that between self-mutilative episodes and the experience of stress associated with them, most individuals who self-mutilate have been reported to function quite adequately (Graff & Mallin, 1967; Walsh & Rosen, 1988). It is possible that the effectiveness of their problem solving ability fluctuates as a function of their stress level. If this

is the case, assessment of skills simply in terms of means-ends problem-solving would be unlikely to evidence deficits if assessed at a time when the individual was functioning well. It may be more appropriate to measure the subjects' perceptions of their general problem solving ability. It would be expected that individuals who experienced substantial difficulties with problem solving would rate their general performance as lower than individuals who experienced no such difficulties. Therefore, it would be expected that individuals who self-mutilate would score lower on a measure of perceived problem solving ability.

In summary, it would be expected that individuals who self-mutilate would report fewer coping resources than comparison groups and would adopt more maladaptive coping strategies to deal with specific stressors. Finally, individuals who self-mutilate would report poorer perceived problem solving skills than comparison groups.

## METHOD

### *Subjects*

Fifty subjects were employed in this study. Three groups were compared. The first group (self-mutilation group) comprised 19 male prisoners with a history of self-mutilation. The second group (prisoner controls) was made up of 13 male prisoners with no history of self-mutilation. The final group (nonprisoner controls) included 18 male undergraduate university students with no history of self-mutilation or criminal incarceration. All groups were matched for age. The prisoner groups were matched for duration of present prison sentence as psychiatric symptomatology has been demonstrated to alter as a function of sentence length (Coid, 1984).

### *Materials*

The Coping Resources Inventory (CRI; Hammer, 1988) was employed to measure the inherent and external resources participants have available to cope with life stress. The scale provides a total coping resource score and subscale scores on five dimensions. The Cognitive subscale measures what could best be described as a positive set, that is, positive feelings towards oneself and others and a general optimistic attitude. The Social subscale assesses the degree to which the individual has access to a social network that can provide support when needed. The Emotional subscale measures the individual's acceptance and expression of affect and is based on the understanding that the ability to express emotions reduces the long-term effects of stress. The Spiritual/Philosophical subscale assesses the extent to which an individual's thoughts and actions are influenced by a solid value base which enables them to cope with adversity. It does not focus exclusively on traditional religious affiliation, but investigates familial, cultural, and personal philosophies. Finally, the Physical subscale measures the extent to which the individual engages in health-promoting behaviors. This subscale is based on the assumption that health-promoting behaviors reduce negative responses to stress and promote recovery.

The Coping Strategies Inventory (CSI; Tobin, Holroyd & Reynolds, 1984) is a 72-item self-report scale used to assess coping cognitions and behaviors associated with a specific stressor. The format for the inventory was adapted from the Ways of Coping Questionnaire (Folkman & Lazarus, 1980). The respondent initially is requested to describe a stressful event, either one which is chosen by the subject or one chosen by the subject within certain limitations. These limitations are imposed by the experimenter and may include, for example, limitations of time or type of situation. The 72 items relate to various coping strategies that may be used to deal with a stressful situation. The respondent is requested to indicate the extent to which each coping strategy was used in coping with the selected stressor. Responses are recorded on a five point Likert scale.

Eight primary subscales are provided along with the option for four secondary subscales and two tertiary subscales. The primary subscales are as follows: Problem-Solving, Cognitive-Restructuring, Social-Support, Express-Emotions, Problem-Avoidance, Wishful-Thinking, Social-Withdrawal, and Self-Criticism. Problem-Solving, Cognitive-Restructuring, Problem-Avoidance and Wishful-Thinking are problem-focused coping strategies with the first two representing problem engagement and the latter two representing problem disengagement. Social-Support, Express-Emotions, Self-Criticism and Social-Withdrawal are emotion-focused coping strategies, again with the first two representing problem engagement and the latter two problem disengagement.

The Personal problem-Solving Inventory (Heppner & Petersen, 1982) provides a measure of the problem solving process. It assesses how individuals generally deal with problem situations. This 35 item scale has a 6 point Likert response format. Three subscales can be derived from subjects' responses: problem solving confidence, approach–avoidance problem solving style and personal control in problem-solving situations. A higher score reflects poorer perceived problem solving ability.

### *Procedure*

The self-mutilators were known to the forensic staff at the Special Institution Hospital at H.M. Prison Risdon because of their self-mutilative behavior. The hospital provides medical and psychiatric services to the prison population as well as providing care for a number of individuals who were deemed to be not guilty of the crimes for which they were charged by reason of insanity but who were considered to be too dangerous to reside in other psychiatric facilities. The self-mutilation subjects were matched to appropriate prisoner control subjects who were approached by the forensic staff to participate in the study. Prisoner participants were interviewed in the hospital and the nonprisoner controls were interviewed at the university. Tests were verbally administered to all subjects because of potential problems with literacy in the prison sample. Participation was voluntary and written informed consent was obtained after the nature of the study was explained.

## RESULTS

The mean age of the self-mutilation group was 21.9 years ($SD = 4.88$), the prisoner controls 22.8 years ($SD = 5.47$) and the nonprisoner controls 22.3 years ($SD = 4.66$). There were no significant differences between the groups ($F(2,45 = .12$, $p > .05$). All members of the self-mutilation group had engaged in moderately severe skin-cutting of the forearm or upper arm.

Table 1 presents the mean standard scores and standard deviations for the three groups on the CRI. A significant result was obtained on the Cognitive subscale ($F(2,46) = 7.03$, $p < .003$) with scores distinguishing the self-mutilation group from both the control groups. Self-mutilators scored significantly lower than the prisoner controls (Fisher LSD = 8.11) and the nonprisoner control group (Fisher LSD = 7.43) reflecting fewer cognitive coping resources. No difference was evident between the two control groups. A significant difference was evident for the Social subscale ($F(2,46 = 5.49$, $p < .009$). The self-mutilation reported less availability of social support than the nonprisoner control group (Fisher LSD = 5.69) as did the prisoner controls (Fisher LSD = 6.22). The scores of the two prisoner groups did not significantly differ. There also was a difference for the Spiritual/Philosophical subscale ($F(2,46) = 3.95$, $p < .04$) with the self-mutilation group reporting fewer spiritual/philosophical resources than the nonprisoner control group (Fisher LSD = 6.07). No other differences were evident.

Table 2 presents the mean scores and standard deviations of the three groups on the subscales of the CSI. A significant result was obtained on the Social Withdrawal subscale

**Table 1.** *The Mean Standard Scores and Standard Deviations on the Scales of the Coping Resources Inventory for the Three Groups*

| Subscale | Self-Mutilators | Prisoner Controls | Normal Controls |
|---|---|---|---|
| Cognitive | 37.11 | 45.69 | 50.83* |
| | (11.88) | (9.29) | (11.38) |
| Social | 35.89 | 36.92 | 44.61** |
| | (8.86) | (7.97) | (8.45) |
| Emotional | 51.28 | 57.46 | 56.94 |
| | (11.08) | (9.21) | (9.61) |
| Spiritual/Philosophical | 36.22 | 39.23 | 44.61** |
| | (8.70) | (8.53) | (9.71) |
| Physical | 45.94 | 49.61 | 44.06 |
| | (10.74) | (13.65) | (9.76) |
| Total Scale | 38.28 | 43.46 | 46.83 |
| | (11.12) | (10.11) | (9.71) |

*Note.*—*$p < .01$; **$p < .05$.

($F(2,45) = 9.17$, $p < .001$). Both the self-mutilation group (Fisher LSD = .56) and the prisoner controls (Fisher LSD = .60) reported more use of social withdrawal as a coping strategy than the nonprisoner control group. No difference was apparent between the two prisoner groups. A difference was evident for the Social Support subscale ($F(2,45) = 4.73$, $p < .02$). Again, both the self-mutilation group (Fisher LSD = .68) and the prisoner controls (Fisher LSD = .73) reported less use of social support as a coping strategy than the nonprisoner controls. No difference between the two prisoner groups was obtained. A trend also was evident for the Problem Avoidance subscale ($F(2,45) = 5.27$, $p < .009$). In this case, the self-mutilation group

**Table 2.** *The Mean Scores and Standard Deviations on the Subscales of the Coping Strategies Inventory for the Three Groups*

| Scale | Self-Mutilators | Prisoner Controls | Normal Controls |
|---|---|---|---|
| Problem Solving | 2.93 | 3.03 | 3.25 |
| | (1.02) | (.55) | (1.04) |
| Cognitive Restructuring | 2.80 | 2.90 | 2.97 |
| | (.91) | (.82) | (.94) |
| Express Emotions | 3.18 | 2.43 | 2.44 |
| | (1.39) | (.85) | (.89) |
| Social Support | 2.36 | 2.09 | 3.14* |
| | (1.09) | (.77) | (1.06) |
| Problem Avoidance | 2.41 | 1.80 | 1.91** |
| | (.61) | (.53) | (.55) |
| Wishful Thinking | 3.59 | 2.79 | 2.96 |
| | (.74) | (1.33) | (1.03) |
| Self Criticism | 3.02 | 2.61 | 2.34 |
| | (1.07) | (1.45) | (1.18) |
| Social Withdrawal | 3.23 | 2.82 | 2.06*** |
| | (1.01) | (.77) | (.64) |

*Note.*—*$p < .05$; **$p < .01$; ***$p < .001$.

**Table 3**. *The Mean Scores and Standard Deviations on the Scales of the Personal Problem Solving Inventory for the Three Groups*

| Scales | Self-Mutilators | Prisoner Controls | Normal Controls |
|---|---|---|---|
| Problem Solving Confidence | 32.38 | 27.64 | 25.89 |
| | (12.09) | (10.58) | (4.63) |
| Approach/Avoidance | 56.81 | 51.18 | 44.17 |
| | (16.31) | (20.37) | (12.53) |
| Personal Control | 22.87 | 17.82 | 16.00* |
| | (6.16) | (6.61) | (3.54) |
| Total | 112.06 | 96.64 | 86.06** |
| | (28.37) | (33.20) | (14.89) |

*Note.*—*$p < .01$; **$p < .05$.

reported more problem avoidance than the prisoner controls (Fisher LSD = .42) and the nonprisoner controls (Fisher LSD = .39). The scores of the two control groups did not differ.

Table 3 displays the mean scores and standard deviations for the three groups on the PPSI. Trends were evident for one subscale score and the total problem solving score. Substantial differences between groups were obtained for the Personal Control subscale ($F(2,42) = 6.45$, $p < .004$). The self-mutilation group reported less personal control in problem solving than both the prisoner controls (Fisher LSD = 4.49) and the nonprisoner controls (Fisher LSD = 3.94). No difference was evident between the two control groups. In terms of the total scale score ($F(2,42) = 4.50$, $p < .02$), the self-mutilation group obtained scores indicative of poorer problem solving when compared with the nonprisoner controls (Fisher LSD = 17.54). No other comparisons were noteworthy.

## DISCUSSION

This was an investigative study of the factors that may influence the occurrence of self-mutilative behavior. It was hypothesized that poor coping resources and strategies and deficits in problem-solving ability would be related to the occurrence of self-mutilative behavior.

Three elements distinguished prisoner subjects from nonprisoner controls in terms of coping. Both prisoner groups had fewer social resources, less often used social support (an emotion-focused engagement strategy) and more often used social withdrawal (an emotion-focused engagement strategy) as coping strategies than did the nonprisoner controls. These results are hardly surprising given the fact that incarceration itself and the prison environment have been demonstrated to disrupt normal social networks and support systems (James & Johnson, 1983; Johnson, 1978) although the use of effective coping strategies by prisoners, even those with high levels of depressive symptomatology, has been reported (Cooper & Livingston, 1991).

However, the self-mutilation group also demonstrated reduced cognitive resources, the extent to which the individual can maintain a feeling of positive self-worth, and engaged in more problem-avoidance coping strategies (problem-focused disengagement strategies). In both cases, these results differentiated the self-mutilation group from both control groups.

When examining the results, the self-mutilation group generally were poorer copers than other groups. They obtained the scores most indicative of inadequate coping resources (cognitive, social, spiritual/philosophical) and coping strategies (social support, problem avoidance, social withdrawal). However, there is not a clear cut difference in the coping skills of the groups. In addition, there is no clear evidence that the self-mutilation rely on emotion-focused

coping to the exclusion of problem-focused coping. Indeed, the results do not support the proposition that individuals who self-mutilate adopt self-mutilative behavior as a coping strategy because of substantial deficits in coping abilities or limited coping alternatives.

Nor do the results support the proposition that individuals who self-mutilate have poor problem solving skills. The only variable that distinguished the self-mutilation group from the control groups related to the Personal Control subscale. The self-mutilation group perceived themselves to have less control over interpersonal problem solving situations than did the prisoner controls and the nonprisoner control participants.

When the evidence is taken as a whole, there is little to suggest that individuals who self-mutilate display massive deficits in coping and problem solving. The implication of these results is that self-mutilative behavior is not adopted as a means of dealing with distress because individuals who self-mutilate have no other means of coping or because they are unable to adequately solve their problems. There must be some other factor that recommends the use of self-mutilative behavior as a means of dealing with emotional distress. It would be necessary to examine the phenomenology of an act of self-mutilation. It is likely that there is some element of the act of self-mutilation and its consequences that can explain why self-mutilators adopt the behavior at times of stress.

There is an almost stereotyped pattern that occurs with low lethality self-mutilative behavior (Simpson, 1976). Briefly, and in general, the individual who self-mutilates experiences increasing psychological distress that is coupled with increased psychophysiological arousal (Darche, 1990; Feldman, 1988; Gardner & Gardner, 1975; Graff & Mallin, 1967). As the negative affect and tension escalates, the individual usually, but not necessarily, reports depersonalization (Rosenthal et al., 1972; Simpson, 1976; Winchel & Stanley, 1991). The individual then engages in painless cutting (Grunebaum & Klerman, 1967; Ross & McKay, 1979; Simpson, 1976; Walsh & Rosen, 1988) and, on the sight of blood, tension is reduced and repersonalization occurs (Feldman, 1988; Lion & Conn, 1982; van Moffaert, 1990). Until recently, this description largely was based on clinical reports.

An investigation of the psychophysiology of an act of self-mutilation using guided imagery (Haines, Williams, Brain, & Wilson, 1995) has demonstrated an immediate and significant reduction in psychophysiological arousal with the act of self-mutilation that precedes emotional quiescence. That is, there is a physical relaxation response evident even though individuals who self-mutilate report reduced but residual psychological distress. As a coping strategy, self-mutilative behavior is an efficient means of reducing tension. The strength of the relaxation response is sufficient to reinforce the behavior and increase the likelihood of its recurrence when a similar emotional state is experienced.

An examination of multimodal determinants of human behavior has been recommended. It has been established that it is no longer sufficient to limit the understanding of human actions to single influences (Calhoun & Resick, 1993). Indeed, there has been some discussion of the link between psychological coping and psychophysiological responses (e.g., Dolan, Sherwood, & Light, 1992; Folkman, Lazarus, Dunkel–Schetter, DeLongis, & Gruen, 1986; Houtman & Bakker, 1991; Ostell, 1991). It is possible that inconsistencies in the coping and problem-solving literature, at least partially, may be explained by the level of psychophysiological arousal that is related to the processes of coping and problem solving. Models incorporating this aspect should be rigorously tested. Certainly, the area warrants further investigation.

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