

Self-Mutilation and Coping Strategies in a College Sample

MARGARET S. ANDOVER, PhD, CAROLYN M. PEPPER, PhD, AND BRANDON E. GIBB, PhD

The goal of this study was to examine the use of specific coping strategies among self-mutilating college students. The self-mutilating group ($n = 44$) reported utilizing avoidance strategies more often than did a control group ($n = 44$) matched for general psychological distress but with no history of self-mutilation. In addition, female, but not male, self-mutilators endorsed using problem-solving and social support seeking strategies less often than nonmutilators. These findings suggest that coping strategies in general and avoidance-based strategies in particular may be important targets for the treatment of self-mutilative behaviors.

Self-mutilation is defined as deliberate harm to the body without suicidal intent. The behavior includes acts such as cutting, burning, scratching, and skin picking (Favazza, 1998; Walsh & Rosen, 1988). Although commonly reported in clinical samples (21 to 44%; Briere & Gil, 1998; Nijman et al., 1999; Zlotnick, Mattia, & Zimmerman, 1999), the behavior is most likely underreported in community samples (4% report a history of self-mutilation; Briere & Gil, 1998) because of the secretive nature of the behavior.

Although it has been suggested that individuals self-mutilate because they have no other means of coping (see Walsh & Rosen, 1988), research has shown that for at least

some individuals, self-mutilation is a maladaptive, but effective, coping strategy (Briere & Gil, 1998; Haines & Williams, 1997; Haines, Williams, Brain, & Wilson, 1995; Herpertz, 1995; Herpertz, Steinmeyer, Marx, Oidtmann, & Sass, 1995). For example, after the act, many self-mutilators report feelings of relief (Briere & Gil, 1998; Rosenthal, Rinzler, Wallsh, & Klausner, 1972; Suyemoto, 1998) and reductions in anger, fear, emptiness, sadness (Briere & Gil, 1998; Suyemoto, 1998), and tension (Haines et al., 1995; Suyemoto, 1998).

Although it is clear that self-mutilation is a maladaptive coping strategy, evidence is mixed as to whether self-mutilators also utilize other maladaptive ways of coping. For example, some evidence suggests that self-mutilators have difficulties utilizing future-oriented problem-solving skills in stressful situations (Herpertz, Sass, & Favazza, 1997). In addition, research with self-harming adolescents revealed that those with a history of deliberate self-harm (including suicide attempts) generated fewer alternative solutions to overdosing than non-harming controls (McLaughlin, Miller, & Warwick, 1996). Similarly, research with prisoners has demonstrated that self-harmers use fewer appropriate coping strategies than non-harmers,

MARGARET ANDOVER is with the Psychosocial Research Program, Butler Hospital and Brown Medical School; CAROLYN PEPPER is with the Department of Psychology, University of Wyoming; and BRANDON GIBB is with the Department of Psychology, Binghamton University.

Portions of this paper were presented at the 38th annual meeting of the Association for the Advancement of Behavior Therapy, 2004.

Address correspondence to Margaret S. Andover, PhD, Butler Hospital, Psychosocial Research Program, 345 Blackstone Blvd., Providence, RI 02906; E-mail: Margaret_Andover@brown.edu

and they are less likely to use problem-solving strategies in response to stressors (Dear, Slattery, & Hillan, 2001).

In contrast to these findings, however, Haines and Williams (1997) found few deficits in the coping and problem-solving strategies of self-mutilating prisoners when compared to nonmutilating prisoner and non-prisoner groups. Specifically, although the coping skills of self-mutilators were generally poorer than comparisons, relying more on problem-avoidance strategies, there were no statistically significant differences between groups. This difference in findings may have been due to the fact that other studies (i.e., Dear et al., 2001; McLaughlin et al., 1996) used samples of self-harming individuals, which may include individuals with a history of suicide attempts but not self-mutilation. Haines and Williams (1997) focused specifically on individuals with and without a history of self-mutilation. Haines and Williams' findings, therefore, suggest that self-mutilators may not be deficient in coping skills. Instead, they may utilize self-mutilation because they are unable to resist the impulse to mutilate long enough to attempt an alternate strategy (cf. Brain, Haines, & Williams, 1998).

The purpose of the present study was to further investigate the types of coping strategies used by individuals with a history of self-mutilation and to determine whether their coping strategies differ significantly from those of individuals without a history of self-mutilation. Differences found between self-mutilators and nonmutilators in previous studies may have been due to poorer psychological functioning in the self-mutilation group. To control for differences in coping strategies that may be related to current psychological functioning, participants in the study were matched for general psychological distress. We hypothesized that although differences may be small, self-mutilators would report using fewer adaptive coping strategies and more maladaptive coping strategies than nonmutilators. By focusing specifically on individuals with a history of self-mutilation, rather than a history of deliberate self-harm in general, this study adds to the limited body

of literature on the coping strategies of self-mutilating individuals.

METHODS

Participants

Participants in this study were drawn from a larger study of self-mutilation. Participants were selected using a two-phase screening process. In the first phase, 510 undergraduates completed a screening measure for self-mutilative behaviors (Frequency of Activities Scale; Andover & Pepper, 2002a) and a measure of general psychological distress (Symptom Checklist-90-Revised [SCL-90-R]; Derogatis, 1994). A Global Severity Index (GSI), the average symptom level across all dimensions of the SCL-90-R, was calculated for each participant and used to match the self-mutilating group with the control group. Individuals reporting a history of self-mutilative behaviors on the Frequency of Activities Scale were invited to participate in the second phase of the study. Individuals who reported no history of self-mutilation were also invited to participate in the second phase of the study. During this second phase, participants completed an interview assessing for a history of self-mutilative behaviors. Group status was assigned based on responses to this interview. The self-mutilation group ($n = 44$) consisted of individuals who reported that they had harmed themselves without intending to kill themselves at some point during their lives. The control group ($n = 44$) consisted of individuals with no history of self-mutilation or suicide attempts who were matched to the self-mutilation groups on the GSI of the SCL-90-R.

Measures

Symptom Checklist-90-Revised. The SCL-90-R is a 90-item self-report inventory of current psychological symptoms. Participants rate each item on a 5-point Likert-type scale, with higher scores indicating greater symptom severity. Items assess nine dimensions:

somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The SCL-90-R has demonstrated good internal consistency and retest reliability in both clinical and nonclinical samples (Derogatis, 1994; Derogatis, Rickels, & Rock, 1976; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). As mentioned above, the GSI, the average symptom level across all dimensions of the SCL-90-R, was used to match the two groups on overall distress.

Frequency of Activities Scale. The Frequency of Activities Scale is a 25-item screening measure for self-mutilative behaviors developed for use in this study. The participant is asked to indicate the frequency with which he or she has taken part in specific activities (on a 4-point Likert-type scale), if at all. Nine of the items assess suicidal and self-mutilative behaviors; these items are embedded within a series of more benign items. The methods of self-mutilation assessed by this measure were derived from Favazza (1998), and the measure was constructed by consensus among research team members. Participants were instructed as follows:

Please indicate if you do any of the following things. Please read each item carefully and circle the number that best applies to you. The possibilities are 0 = have never done this, 1 = have done this only once, 2 = have done this only a couple of times, and 3 = have frequently done this, as well as approximately how many months ago you last performed the action. There are no right or wrong answers.

Examples of self-mutilative items include "burn myself on purpose" and "carve designs, words, or symbols in my skin." Examples of benign items include "play sports" and "talk to myself when I'm alone." This measure was used to screen individuals for the presence of self-harm behaviors prior to inviting them to participate in the second phase of the study.

Self-Mutilative Behaviors Interview (SMBI; Andover & Pepper, 2002b). Because of a lack

of a standardized interview for self-mutilative behaviors, one was created. The interview assesses for histories of specific self-mutilative behaviors (cutting, carving, burning, scratching, interfering with wound healing, needle sticking, self-hitting, intentional bone breaking, and "other" method of mutilation). In the current study, the SMBI was used to determine group assignment.

Coping Strategy Indicator (CSI; Amirkhan, 1990). The CSI is a 33-item self-report inventory used to assess the degree to which respondents used three specific coping strategies during a recent stressful event. These coping strategies were derived through factor analysis and include problem-solving, seeking social support, and avoidance (Amirkhan, 1990). The CSI has demonstrated good retest reliability (Amirkhan, 1990), convergent and discriminant reliability (Amirkhan, 1990; Clark, Bormann, Cropanzano, & James, 1995), and criterion validity (Amirkhan, 1994) among nonclinical samples. Importantly, the act of self-mutilation was not included on any subscale of the CSI.

Procedure

All participants provided written informed consent to participate in this study and received course credit for their participation. Following completion of the screening instruments, participants meeting inclusion criteria were invited into the laboratory to complete questionnaire and interview assessments.

RESULTS

Preliminary analyses revealed that scores on the problem-solving and social support seeking subscales of the CSI exhibited significant skew. Therefore, square root transformations of the data were performed in order to satisfy assumptions of normality. Given that missing data were observed for each of the subscales, we examined whether the pattern of missing data justified the use of data imputation methods (cf. Shafer & Graham,

2002). Specifically, we conducted Little's missing completely at random (MCAR) test (Little & Rubin, 1987), which we found to be nonsignificant, $\chi^2(4) = 2.31, p = .68$. Therefore, maximum likelihood estimates of missing data were computed and used in all analyses (see Shafer & Graham, 2002).

Descriptive statistics for our sample, separated by group, are presented in Table 1. Overall, the sample was 56.0% female, 73.8% Caucasian, and had an average age of 18.48 years ($SD = 1.01$ years). The groups did not differ significantly from each other in terms of sex, age, or ethnicity. Analyses were then performed to examine the correlations between each of the subscales of the CSI. Consistent with Clark and colleagues (1995), we found the problem-solving and social support seeking subscales to be significantly correlated in the full sample, $r = .50, p < .01$. However, significant correlations were not found for the problem-solving and avoidance subscales, $r = .09, p = .36$, or the social support seeking and avoidance subscales, $r = .09, p = .36$.

Next, t tests were conducted on each of the three coping strategies identified by the CSI. There were no significant differences between the groups on problem-solving, $t(86) = -1.45, p = .15, r_{\text{effect size}} = .16$. However, self-mutilators reported seeking social support significantly less often, $t(86) = -1.96, p = .05, r_{\text{effect size}} = .21$, and using avoidance sig-

nificantly more frequently, $t(86) = -3.40, p < .001, r_{\text{effect size}} = .34$, than the control group.

Finally, analyses were conducted to determine whether gender moderated the effect between self-mutilation group and any of the CSI subscales. Significant gender \times self-mutilation group interactions were found for problem-solving, $F(1, 88) = 11.75, p < .001$, and social support seeking, $F(1, 88) = 6.57, p < .05$, but not for avoidance, $F(1, 88) = .60, p = .44$. Examining the form of the significant interactions, we found that among women, self-mutilators reported significantly less use of problem-solving, $t(49) = -3.86, p < .001, r_{\text{effect size}} = .48$, and less social support seeking, $t(49) = -3.36, p < .005, r_{\text{effect size}} = .43$, than did controls. In contrast, among men, self-mutilators did not differ significantly from controls in terms of problem-solving, $t(35) = 1.41, p = .17, r_{\text{effect size}} = .23$, or social support seeking, $t(35) = .60, p = .56, r_{\text{effect size}} = .10$.

DISCUSSION

The purpose of this study was to investigate differences in the utilization of three specific coping strategies among individuals with a history of self-mutilation versus those with no such history. All self-mutilators, regardless of gender, reported using avoidance coping strategies more often than did control participants. Supporting previous findings

TABLE 1
Descriptive Statistics for the Self-Mutilation and Control Groups

	Self-Mutilation (<i>n</i> = 44)	Control (<i>n</i> = 44)	<i>df</i>	χ^2/t
Sex (% women)	59.1	56.8	1	0.35
Ethnicity (% Caucasian)	69.0	74.4	1	0.30
Age (years)	18.52 (1.23)	18.41 (0.82)	86	0.51
CSI Problem-Solving	12.41 (5.09)	14.05 (4.79)	86	-1.45
CSI Seeking Social Support	13.80 (6.22)	15.71 (6.11)	86	-1.96*
CSI Avoidance	14.70 (4.39)	11.00 (4.08)	86	3.40***

Notes. Unless otherwise specified, values in cells represent means, and values in parentheses represent standard deviations for variables before transformation. CSI = Coping Strategy Indicator.

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

(Dear et al., 2001; Herpertz et al., 1997), we also found significant differences in the utilization of problem-solving strategies. However, this difference was limited to women in our sample. Specifically, we found that women with a history of self-mutilation reported significantly less use of problem-solving strategies than did women with no history of self-mutilation. The same pattern of findings also was observed for the use of social support. Specifically, women with a history of self-mutilation reported significantly less use of social support than did control women.

The present findings suggest that differences exist in the use of coping strategies between female self-mutilators and nonmutilators. In addition to group differences in use of social support and avoidance-based strategies, female self-mutilators reported using fewer problem-solving and social support strategies than female nonmutilators. This may be because, as suggested by Brain and colleagues (1998), the urge to mutilate is so strong that it prevents other known coping strategies from being attempted, or deficiencies in adaptive coping strategies may contribute to the development of self-mutilation as a coping strategy among some individuals. However, further research is necessary to determine why this finding exists for females but not for males.

The current study was strengthened by its investigation of three different styles of coping among both men and women. As such, we were able to observe one coping strategy (avoidance) common to both male and female self-mutilators, as well as two coping deficits (problem-solving and social support) unique to female self-mutilators. In addition, given that all participants were matched on levels of general distress, it appears that the obtained results were not due simply to differences in current psychological functioning across the different groups.

Despite the strengths of this study, there were limitations as well. First, we analyzed the presence versus absence of self-mutilation rather than the frequency of self-mutilative behaviors. Although this method is consistent with previous research (e.g.,

Dear et al., 2001; Haines & Williams, 1997), the self-mutilation group in the current study consisted of individuals who reported frequencies ranging from one time to over 5,000 times. Given this heterogeneity, it is possible that differences in coping strategies existed within the self-mutilation group itself. For example, as frequency increased, use of positive coping strategies, such as problem-solving and social support seeking, may have decreased. Future studies, therefore, should consider the frequency of self-mutilative behaviors when investigating coping strategies.

Second, the coping strategies assessed in this study were limited to problem-solving, social support seeking, and avoidance. Future studies should seek to expand the coping strategies assessed. In addition, the measure used to assess coping strategies in this study prompted respondents to think of a recent stressful situation. Variations in the type and severity of the stressful situation may account for some of the observed results. Future studies should also assess coping strategies used for situations of specific natures and severities, as well as more generally used coping strategies. A limitation of this and other studies has been the reliance on self-report assessments of coping strategies. Future studies should utilize observational methods of coping to reduce the likelihood of potential response and recall biases. Finally, the characteristics of the sample used (i.e., sample size, ethnicity, age, nonclinical status) may limit the generalizability of these findings. Future studies, therefore, should seek to replicate the current findings in more severely impaired samples (e.g., psychiatric inpatients).

Despite these limitations, this study provides important evidence for differences in use of coping strategies between self-mutilators and nonmutilators. Self-mutilators, especially females, use fewer adaptive coping strategies. Specifically, self-mutilating females reported using significantly fewer social support seeking and problem-solving strategies than nonmutilating females. In addition, self-mutilators in general used more avoidance-

based coping strategies than nonmutilators. The current findings may hold implications for the treatment of self-mutilation. Specifically, it may be beneficial for therapists to fo-

cus specifically on increasing the use of adaptive coping strategies, especially in women, and the reduction of avoidance-based coping strategies in self-mutilators in general.

REFERENCES

AMIRKHAN, J. H. (1990). A factor analytically derived measure of coping: The Coping Strategy Indictor. *Journal of Personality and Social Psychology, 59*, 1066-1074.

AMIRKHAN, J. H. (1994). Criterion validity of a coping measure. *Journal of Personality Assessment, 62*, 242-261.

ANDOVER, M. S., & PEPPER, C. M. (2002a). *Frequency of Activities Scale*. Unpublished measure, Binghamton University.

ANDOVER, M. S., & PEPPER, C. M. (2002b). *Self-Mutilative Behaviors Interview*. Unpublished measure, Binghamton University.

BRAIN, K. L., HAINES, J., & WILLIAMS, C. L. (1998). The psychophysiology of self-mutilation: Evidence of tension reduction. *Archives of Suicide Research, 4*, 227-242.

BRIERE, J., & GIL, E. (1998). Self-mutilation in clinical and general population samples: Prevalence, correlates, and functions. *American Journal of Orthopsychiatry, 68*, 609-620.

CLARK, K. K., BORMANN, C. A., CROPANZANO, R. S., & JAMES, K. (1995). Validation evidence for three coping measures. *Journal of Personality Assessment, 65*, 434-455.

DEAR, G. E., SLATTERY, J. L., & HILLAN, R. J. (2001). Evaluations of coping reported by prisoners who have self-harmed and those who have not. *Suicide and Life-Threatening Behavior, 31*, 442-450.

DEROGATIS, L. R. (1994). *SCL-90-R: Administration, Scoring, and Procedures Manual* (3rd ed.). Minneapolis, MN: National Computer Systems, Inc.

DEROGATIS, L. R., RICKELS, K., & ROCK, A. F. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *British Journal of Psychiatry, 128*, 280-289.

FAVAZZA, A. R. (1998). The coming of age of self-mutilation. *Journal of Nervous and Mental Disease, 186*, 259-268.

HAINES, J., & WILLIAMS, C. L. (1997). Coping and problem solving of self-mutilators. *Journal of Clinical Psychology, 53*, 177-186.

HAINES, J., WILLIAMS, C. L., BRAIN, K. L., & WILSON, G. V. (1995). The psychophysiology of self-mutilation. *Journal of Abnormal Psychology, 104*, 471-489.

HERPERTZ, S. (1995). Self-injurious behaviour. *Acta Psychiatrica Scandinavica, 91*, 57-68.

HERPERTZ, S., SASS, H., & FAVAZZA, A. (1997). Impulsivity in self-mutilative behavior: Psychometric and biological findings. *Journal of Psychiatric Research, 31*, 451-465.

HERPERTZ, S., STEINMEYER, S. M., MARX, D., OIDTMANN, A., & SASS, H. (1995). The significance of aggression and impulsivity for self-mutilative behavior. *Pharmacopsychiatry, 28*, 64-72.

HOROWITZ, L. M., ROSENBERG, S. E., BAER, B. A., UREÑO, G., & VILLASEÑOR, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology, 56*, 885-892.

LITTLE, R.J.A., & RUBIN, D. B. (1987). *Statistical analysis with missing data*. New York: Wiley.

MC LAUGHLIN, J., MILLER, P., & WARWICK, H. (1996). Deliberate self-harm in adolescents: Hopelessness, depression and problem solving. *Journal of Adolescence, 19*, 523-532.

NIJMAN, H.L.I., DAUTZENBERG, M., MERCKELBACH, H.L.G.J., JUNG, P., WESSEL, I., & À CAMPO, J. (1999). Self-mutilating behaviour of psychiatric inpatients. *European Psychiatry, 14*, 4-10.

ROSENTHAL, R. J., RINZLER, C., WALLSH, R., & KLAUSNER, E. (1972). Wrist-cutting syndrome: The meaning of a gesture. *American Journal of Psychiatry, 128*, 1363-1368.

SHAFER & GRAHAM (2002). Missing data: Our view of the state of art. *Psychological Methods, 7*, 147-177.

SUYEMOTO, K. L. (1998). The functions of self-mutilation. *Clinical Psychology Review, 18*, 531-554.

WALSH, B. W., & ROSEN, P. M. (1988). *Self-mutilation: Theory, research, and treatment*. New York: Guilford.

ZLOTNICK, C., MATTIA, J. I., & ZIMMERMAN, M. (1999). Clinical correlates of self-mutilation in a sample of general psychiatric patients. *Journal of Nervous and Mental Disease, 187*, 296-301.

Manuscript Received: September 11, 2005

Revision Accepted: November 1, 2006