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The Early Maladaptive Schemas of Self-Mutilators: Implications for Therapy

Katie Castille, PsyD
Maurice Prout, PhD
Geoffrey Marczyk, JD, PhD
Maximillian Shmidheiser, MA, BCIA
Stephanie Yoder, PsyD
Beth Howlett, PhD
Widener University, Chester, PA

The present study explored the Early Maladaptive Schemas (EMS) of individuals who engage in self-mutilation. One hundred five participants (34 males and 71 females) from a community site and from two clinical sites participated in the study. Four EMS differentiated self-mutilators from nonmutilators: Mistrust/Abuse, Emotional Deprivation, Social Isolation/Alienation, and Insufficient Self-Control/Self-Discipline. The following schemas were also found to differentiate repetitive self-mutilators from nonmutilators and from self-mutilators who had engaged in only one episode of self-mutilation: Emotional Deprivation, Social Isolation/Alienation, Defectiveness/Shame, and Insufficient Self-Control/Self-Discipline. Finally, the Social Isolation/Alienation schema was found to be endorsed more strongly as the number of self-mutilative episodes increased. The results are largely in accord with the theoretical suppositions of schema theory. The clinical implications of these findings are discussed in the context of schema therapy.

Keywords: self-mutilation; schemas; self-harm; therapy; treatment

Self-mutilation is a behavior that has received increasing attention from both clinicians and researchers. The definitions of self-mutilation and the terminology used in the literature vary a great deal. The term self-mutilation is often used interchangeably with deliberate self-harm, self-injurious behaviors, or parasuicide. The definitions of self-mutilation also vary and are often categorized into different types. For the purpose of this study, self-mutilation will be defined as "the deliberate, direct destruction or alteration of body tissue without conscious suicidal intent" (Favazza, 1998).

As a result of the inconsistencies in the literature in terms of the definitions and vocabulary used to discuss self-mutilation, it is difficult to determine the prevalence of self-mutilation. Studies conducted assessing the prevalence rates of self-mutilation in the general population have found that approximately 4% of individuals have self-mutilated at some point (Briere & Gill, 1998). Focusing specifically on adolescents and young adults it has been found that approximately 14% of high school students reported engaging in self-mutilation at least once

(Ross & Heath, 2002), while 35% of undergraduate students report a history of self-mutilation (Gratz, 2001). Research examining clinical populations in both outpatient and inpatient settings have found that approximately 21% of these individuals had self-mutilated during the past six months (Briere & Gill, 1998).

Self-mutilation has been associated with many different factors. Self-mutilators describe childhoods characterized by abuse, abandonment, separation, and loss (Bennum & Phil, 1983; Favazza & Conterio, 1989; Gratz, Conrad, & Roemer, 2002; Nijman et al., 1999; Pattison & Kahan, 1983; Warm, Murray, & Fox, 2003). Social isolation and family disruption were present in almost half of the self-mutilators studied in a meta-analysis of self-mutilators (Pattison & Kahan, 1983). Between 62% and 69% of the individuals endorsed a history of childhood abuse, with between 36% and 50% of the subjects reporting sexual abuse (Favazza & Conterio, 1989; Warm et al., 2003).

Particular emotional states have also been associated with self-mutilating behavior. Feelings of dysphoria have been found to be associated with self-mutilation among adolescents. Self-mutilators report significantly higher levels of depression, loneliness, anxiety, hostility, somatic complaints, and anger, and greater difficulties with body comfort and confidence than nonmutilators (Darche, 1990; Guertin, Lloyd-Richardson, Spirito, Donaldson, & Boergers, 2001). Feelings of loneliness are an especially strong predictor of self-mutilation, increasing the odds for self-mutilation more than five-fold. A negative self-image and difficulties with interpersonal relationships are also common (Graff & Mallin, 1967). Feelings of inadequacy and low self-esteem are reported frequently. Individuals tended to view themselves as outsiders, strangers, and lone wolves, who "got along better with animals than people."

Self-mutilation is also correlated with suicidal ideation and attempts (Dulit, Fyer, Leon, Brodsky, & Frances, 1994; Pattison & Kahan, 1983; Simpson & Porter, 1981; Warm et al., 2003). Self-mutilators are more likely to experience chronic suicidal ideation "often or always" than are nonmutilators. Further, self-mutilators are more likely to have attempted suicide than nonmutilators (Dulit et al., 1994). Approximately 55% of self-mutilators in the community reported a prior suicide attempt (Warm et al., 2003), while 60% of adolescents in an inpatient setting reported a prior suicide attempt (Simpson & Porter, 1981). Thus, suicide attempts and self-mutilation are often strongly correlated. However, it is important to note that while there is a strong correlation between these two behaviors, almost all of the self-mutilators studied reported that they were not attempting to kill themselves *during* their mutilative activity (Gardner & Gardner, 1975; Simpson & Porter, 1981).

Impulsivity and aggression have also been found to be higher among self-mutilators than nonmutilators in multiple studies (Favazza & Conterio, 1989; Herpertz, Sass, & Favazza, 1997; Herpertz, Steinmeyer, Marx, Oidtmann, & Sab, 1995; Klonsky, Oltmanns, & Turkheimer, 2003; Warm, Murray, & Fox, 2002; Warm et al., 2003), with one exception (Nijman et al., 1999) in which no differences were found. Favazza and Conterio (1989) and Warm et al. (2002, 2003) reported that 78% of their sample described the act of self-mutilation as performed on the "spur of the moment," with an additional 15% reporting that they had made the decision to self-mutilate within an hour before carrying out the act. Eighty-one percent of the sample reported that once the decision was made to self-mutilate, they always or almost always followed through with the act. Some studies have found that approximately 70% to 71% of self-mutilators describe their self-mutilative behavior as an addiction and feel that they have no control over the act (Bennum & Phil, 1983; Favazza & Conterio, 1989). Higher levels of aggression, disinhibition, and impulsivity have been found among a community sample of self-mutilators compared to nonmutilators (Klonsky et al., 2003), and adolescent self-mutilators have been found to exhibit higher levels of disinhibition and impulsivity, engaging in a greater number of risk-taking and reckless behaviors than nonmutilators (Guertin at al., 2001).

There are several diagnoses that are often comorbid with self-mutilation. Borderline personality disorder is the one that is most typically thought of to be related to self-mutilation. Approximately 80% of individuals diagnosed with borderline personality disorder engage in self-mutilation (Shearer, Peter, Quaytman, & Wadman, 1988). There are, however, many more diagnoses that are often seen concurrently with self-mutilation, including eating disorders, mood disorders, dissociative disorders, disruptive behavior disorders, anxiety disorders, substance abuse disorders, obsessive-compulsive disorder, and other personality disorders (Coons & Milstein, 1990; Farber, 1997; Favazza, DeRosear, & Conterio, 1989; Guertin et al., 2001; Yaryura-Tobias, Neziroglu, & Kaplan, 1995).

Despite the plethora of literature that addresses the characteristics and diagnoses associated with self-mutilation, no research to date has attempted to examine the assumptions and beliefs that may underlie self-mutilation. Cognitive theorists propose that one's beliefs and assumptions can greatly influence one's perceptions, interpretations, emotions, and behaviors (Beck, Emery, & Greenberg, 1985). Jeffrey Young (1994) adds that these beliefs and rules come from even deeper underlying schemas. Young (1999, p. 9) uses the term Early Maladaptive Schemas (EMS) to refer to "broad, pervasive themes regarding oneself and one's relationship with others, developed during childhood and elaborated throughout one's lifetime, and dysfunctional to a significant degree."

Young, Klosko, and Weishaar (2003) propose the existence of 18 schemas that are grouped into five broad categories of unmet emotional needs called Schema Domains. The first domain, Disconnection and Rejection, relates to unmet needs for secure, satisfying relationships with others. The schemas within this domain include Abandonment/Instability (the perceived instability or unreliability of those available for support and connection), Mistrust/Abuse (the expectation that others will hurt, humiliate, cheat, lie, manipulate, or take advantage), Emotional Deprivation (the expectation that one's desire for a normal degree of emotional support will not be adequately met by others), Defectiveness/Shame (the feeling that one is defective, bad, unwanted, inferior, or invalid in important respects or that one would be unlovable to significant others if exposed), and Social Isolation/Alienation (the feeling that one is isolated from the rest of the world, different from other people, and/or not part of any group or community).

The second domain, Impaired Autonomy and Performance, relates to expectations about oneself and the environment that interfere with one's perceived ability to separate, survive, function independently, or perform successfully. The schemas that comprise this domain include Dependence/Incompetence (the belief that one is unable to handle one's everyday responsibilities in a competent manner, without considerable help from others), Vulnerability to Harm or Illness (an exaggerated fear that imminent catastrophe will strike at any time and that one will be unable to prevent it), Enmeshment/Undeveloped Self (excessive emotional involvement with and closeness to one or more significant others at the expense of full individuation or normal social development), and Failure (the belief that one has failed, will inevitably fail, or is fundamentally inadequate relative to one's peers in areas of achievement).

The third domain, Impaired Limits, refers to a deficiency in internal limits, responsibility to others, or long-term goal orientation. The schemas that comprise this domain include Entitlement/Grandiosity (the belief that one is superior to other people, entitled to special rights and privileges, or not bound by the rules of reciprocity that guide normal social interaction) and Insufficient Self-Control/Self-Discipline (pervasive difficulty or refusal to exercise sufficient self-control and frustration tolerance to achieve one's personal goals or to restrain the excessive expression of one's emotions and impulses).

The fourth domain, Other-Directedness, relates to an excessive focus on the desires, feelings, and responses of others at the expense of one's own needs, in order to gain love and approval, maintain one's sense of connection, or avoid retaliation. The schemas within this domain include Subjugation (excessive surrendering of control to others because one feels coerced, in order to avoid anger, retaliation, or abandonment), Self-Sacrifice (excessive focus on voluntarily meeting

the needs of others in daily situations at the expense of one's own gratification), and Approval-Seeking/Recognition-Seeking (excessive emphasis on gaining approval, recognition, or attention from other people or on fitting in at the expense of developing a secure and true sense of self).

The final domain, Overvigilance and Inhibition, involves an excessive emphasis on suppressing one's spontaneous feelings, impulses, and choices or on meeting rigid, internalized rules and expectations about performance and ethical behavior, often at the expense of happiness, self-expression, relaxation, close relationships, or health. The schemas that comprise this domain include Negativity/Pessimism (a pervasive, lifelong focus on the negative aspects of life while minimizing or neglecting the positive or optimistic aspects), Emotional Inhibition (the excessive inhibition of spontaneous action, feeling, or communication, usually to avoid disapproval by others, feelings of shame, or loss of control of one's impulses), Unrelenting Standards/Hypercriticalness (the underlying belief that one must strive to meet very high internalized standards of behavior and performance, usually to avoid criticism), and Punitiveness (the belief that people should be harshly punished for making mistakes).

The present study examined the EMS of individuals who self-mutilate, in order to determine whether there are particular schemas that may be underlying the self-mutilative behavior. As no other research to date has examined the EMS of individuals who self-mutilate, the present study is exploratory in nature. Discovering whether particular schemas are related to self-mutilation will help to provide a better understanding of self-mutilating behavior and will have implications for treatment of individuals who self-mutilate. If certain schemas appear to be particularly salient for individuals who self-mutilate, treatment can be tailored to focus on healing these maladaptive schemas that underlie the self-mutilating behavior.

Methods

Participants

There were 105 participants, 34 male and 71 female. The participants ranged in age from 15 to 35 years ($SD = 3.29$), with an average age of 19. They were recruited from multiple sites, including two clinical sites and a nonclinical site, from a sample of undergraduate students in introductory psychology courses at a college near Philadelphia, Pennsylvania. Participants in the clinical population who were at least 13 years old were obtained from an outpatient college counseling center, which serves undergraduate and graduate students as well as individuals from the community; and from a residential treatment facility for children under the age of 18 located near Philadelphia. There were 19 participants from the college counseling center, 5 males and 14 females, and there were 4 participants from the residential treatment facility, 2 males and 2 females. Thus, the total number of participants in the clinical population was 23: 7 males and 16 females. The average age was 23 years, with ages ranging from 15 to 35. The primary Axis I diagnoses reported were major depressive disorder (30.4%), bipolar disorder (13%), depressive disorder, not otherwise specific (NOS) (13%), social phobia (8.7%), anxiety disorder, NOS (8.7%), generalized anxiety disorder (8.7%), adjustment disorder (8.7%), panic disorder without agoraphobia (4.3%), and posttraumatic stress disorder (PTSD) (4.3%). The following secondary Axis I diagnoses were also reported: attention deficit hyperactivity disorder (ADHD) (13%), generalized anxiety disorder (8.7%), social phobia (8.7%), eating disorder, NOS (4.3%), major depressive disorder (4.3%), oppositional defiant disorder (4.3%), and PTSD (4.3%). Approximately 17% of participants in the clinical population had an Axis II diagnosis, with the percentage of diagnoses equally distributed among avoidant personality disorder, borderline personality disorder, dependent personality disorder, and histrionic personality disorder. Approximately 61% of participants in the clinical population were on medication, with Effexor (29%), Celexa (21%), Depakote (14%), and Remeron (14%) being reported the most frequently.

Participants in the clinical and nonclinical samples included both individuals who self-mutilate and those who do not. Self-mutilating individuals were defined as individuals who currently engage in self-mutilating behavior or have engaged in self-mutilation in the past, as indicated by the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001). Individuals who do not self-mutilate were defined as individuals who do not endorse any present or past self-mutilating behavior, as indicated by the DSHI. There were 80 participants who were classified as nonmutilators (76.2%) and 25 participants who reported self-mutilative behavior (23.8%). The breakdown of self-mutilators and nonmutilators at each site was as follows: 75% of the participants from the residential treatment facility, 37% from the outpatient facility, and 18% from the undergraduate population were classified as self-mutilators. Among the self-mutilators, there were 15 males (60%) and 10 females (40%). The average age of the self-mutilators was 21 years, with an age range of 16 to 35. Sixteen percent of the self-mutilators reported having only engaged in one episode of self-mutilative behavior while 84% reported having self-mutilated on two or more occasions. The average number of self-mutilative episodes was 7, with a range of 1 to 44. Fifty-two percent of the self-mutilators had engaged in self-mutilation within the last year, 12% had engaged in self-mutilation from 1 to 5 years ago, and 32% reported their most recent self-mutilative act as 5 or more years ago. Forty percent reported that they had engaged in only one method of self-mutilation, while 60% reported that they had engaged in more than one method of self-mutilation. The most common methods of self-mutilation were cutting (36 %), carving words into the skin (36%), sticking sharp objects into the skin (36%), and punching oneself (36%), followed by carving designs in the skin (24%), banging one's head against something (24%), burning oneself (20%), preventing wounds from healing (16%), scratching oneself to the point of bleeding (12%), and biting oneself (4%).

Participants in the nonclinical group were recruited from the undergraduate psychology department at a college near Philadelphia. They received course credit for participation in the study. There were 82 participants in the nonclinical group, 27 males and 55 females. The average age of the participants in the nonclinical group was 18 years, with the ages ranging from 17 to 24.

The processes of recruitment and informed consent were different at each site and occurred as follows.

College Counseling Center. The investigator was an intern at the college Counseling Center during the period of data collection and was granted permission to recruit participants from the site. The investigator asked all clients that she was seeing and asked all staff and psychology interns at the Counseling Center to ask their clients if they would be willing to participate in a research study. The investigator gave all staff and psychology interns informed consent forms to give to those of their clients who expressed interest in participating in the study. The informed consent form contained the name of the investigator and a telephone number at which the investigator could be reached if the clients had any questions. Once any questions had been answered and the consent form had been signed, the clients were then able to participate in the study.

Residential Treatment Facility. The recruitment process at the residential treatment facility differed slightly. The parents of the potential participants were first contacted via a letter from the director of this site. The letter asked the parents for consent for their child to participate in the study and contained the name of the investigator and a telephone number at which the investigator could be reached if there were any questions about the study. An informed consent form was included with the letter and the parents were asked to read, sign, and return the informed consent form if they consented to their child's participation in the study. An addressed and stamped envelope was included, in which the parents could return the consent forms to the director. After receiving parental consent, assent was obtained from the child.

Undergraduate Psychology Department. Undergraduate students taking an introductory psychology course are required to participate in research studies as part of the course. The investigator posted a sign in the undergraduate psychology building informing students of this study. This sign was posted on the sign-up board that contains the research studies that are available for the students to participate in as part of their class requirements. A brief description of the study and the time required to complete the study was included on the sign-up sheet. A specific room and time for those wishing to participate in the study was indicated on the sign-up sheet. Students interested in participating signed the sheet and arrived at the designated time and place. The investigator gave the students informed consent forms to read and sign if they agreed to participate in the study.

Materials

Participants were given the Young Schema Questionnaire–Long Form, 2nd Edition (YSQ–L2; Young & Brown, 1990) in order to identify EMS. The YSQ–L2 is a 205-item self-report inventory designed to assess 16 EMS. The YSQ–L2 was developed prior to Young's more recent conceptualization of 18 schemas; thus, the YSQ–L2 measures only the original 16 schemas proposed by Young. Each item is rated using a 6-point scale indicating how far each item is true for the individual (1 = completely untrue of me to 6 = describes me perfectly). A mean score for each of the schemas was then calculated, with higher scores indicating a more dysfunctional level of the schema. Schmidt, Joiner, Young, and Telch (1995) have demonstrated the psychometric validity and utility of the YSQ. The scale has been found to possess adequate test-retest reliability and internal consistency, as well as discriminant and convergent validity with respect to measures of self-esteem, psychological distress, and cognitive vulnerability for depression and personality disorder symptoms (Schmidt et al., 1995). However, one of the proposed YSQ scales, Social Undesirability, has been shown to be psychometrically invalid (Schmidt et al., 1995). Therefore, this scale was not used in the present study, leaving the remaining 15 scales. The 15 YSQ scales used in this study were as follows: Abandonment/Instability, Defectiveness/Shame, Dependence/Incompetence, Emotional Deprivation, Emotional Inhibition, Enmeshment/Undeveloped Self, Entitlement/Grandiosity, Failure to Achieve, Insufficient Self-Control/Self-Discipline, Mistrust/Abuse, Self-Sacrifice, Social Isolation/Alienation, Subjugation, Unrelenting Standards/Hypercriticalness, and Vulnerability to Harm or Illness.

Participants were also given the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001). The DSHI is a 17-item self-report measure that assesses various aspects of self-harm, including frequency, severity, duration, and type of self-harming behavior. The scale was used to determine whether any differences in EMS emerge as a result of differences in self-mutilating behavior. The DSHI has been found to have high internal consistency ($\alpha = .82$), adequate test-retest reliability, and adequate construct, discriminant, and convergent validity (Gratz, 2001).

A demographics sheet identifying the gender, age, diagnosis, and current medications being taken was also included in the study. The participants in the clinical population did not receive this sheet; rather, it was completed by the investigator, therapist, or director in charge of collecting the completed YSQ–L2 and DSHI from the participants. Once the demographics sheet had been completed, it was attached to the corresponding packet containing the YSQ–L2 and DSHI that had been completed by the participant. In the control group, the participants completed a form that asked only about gender and age.

Procedure

The procedure was different at each site. Please see the section on participants, describing how the participants were recruited and how informed consent was obtained.

College Counseling Center. Upon receiving consent, the investigator, staff, or psychology interns gave the participants the YSQ–L2 and the DSHI. The directions on how to complete the questionnaires were provided at the top of the questionnaires as written instructions that are part of the standard administration of these questionnaires. The questionnaires took approximately 20–60 minutes to complete. After completing and returning the forms to the therapist, the therapist attached the demographics sheet to the packet, indicating the gender, age, diagnosis, and current medications of the participant. No financial or other type of compensation was provided for participation in this study.

Residential Treatment Facility. The investigator gave the director packets, which included the YSQ–L2, the DSHI, and the demographics sheet. After both parental consent and the assent of the participant were obtained, the director distributed the YSQ–L2 and the DSHI to the participants. The participants returned the forms to the director once they were completed. The director then completed the demographics sheet for each participant, indicating the gender, age, diagnosis, and current medications of the participant. The demographics sheet was then attached to the questionnaires that had been completed by the participant. No financial or other type of compensation was provided for participation in this study.

Undergraduate Psychology Department. The investigator reserved a room and specific time for the students who wanted to participate in the study. When the students arrived, they were given informed consent forms to read and sign, if they agreed to participate. They were allowed to ask any questions about the study and were told that they could discontinue participation at any time. The students were then given the demographics sheet, the YSQ–L2, and the DSHI. Upon completion of these forms, the participants returned them to the investigator and were free to leave. Students received course credit in their introductory psychology course for participating in the study.

Results

In order to determine whether there were any differences in mean scores for the 15 schemas between self-mutilators and nonmutilators, independent sample *t*-tests were conducted. Significance testing (Levene's *F* for equality of variance) suggested that equal variances were not present between the samples across the following variables: age ($F = 13.219$, $p = .000$), Emotional Deprivation ($F = 16.296$, $p = .000$), Social Isolation/Alienation ($F = 8.777$, $p = .004$), Defectiveness/Shame ($F = 7.651$, $p = .007$), and Subjugation ($F = 5.780$, $p = .018$). Thus, for the variables in which equal variance was not present, the results of the *t*-test were analyzed using the significance level that is used when equal variances cannot be assumed. The results suggest that there are significant differences between the self-mutilating and nonmutilating groups on 4 of the 15 schemas, when analyzed at the .05 level: Emotional Deprivation ($t = -2.330$, $p = .027$), Mistrust/Abuse ($t = -2.221$, $p = .029$), Social Isolation/Alienation ($t = -2.829$, $p = .008$), and Insufficient Self-Control/Self-Discipline ($t = -2.996$, $p = .003$). However, in order to account for the multiple analyses (experiment-wide error) conducted, a more conservative significance criterion of $p = .01$ was also examined. This more stringent criterion resulted in only two of the previous four schemas reaching significance: Social Isolation/Alienation ($t = -2.829$, $p = .008$) and Insufficient Self-Control/Self-Discipline ($t = -2.996$, $p = .003$).

A series of ANOVAs (Analyses of variance [univariate]) were conducted to compare mean scores on each of the 15 schemas as a function of the amount of time since the last self-mutilative episode. No significant differences were found between the mean scores of each schema and whether the last self-mutilative episode was within 1 year, from 1 to 5 years ago, or more than 5 years ago.

A final ANOVA was conducted to compare mean scores on each of the 15 schemas as a function of whether or not the self-mutilation was repetitive. Significant results were obtained for the following schemas: Emotional Deprivation ($F = 5.059$, $p = .008$), Social Isolation/Alienation ($F = 8.084$, $p = .001$), Defectiveness/Shame ($F = 3.564$, $p = .032$), and Insufficient Self-Control/Self-Discipline ($F = 5.510$, $p = .005$). Post-hoc tests (Tukey, pairwise comparison) revealed that nonmutilators had significantly lower mean scores ($M = 1.71$) on the Emotional Deprivation schema as compared to self-mutilators who had engaged in self-mutilation on more than one occasion ($M = 2.44$), with no significant difference between self-mutilators who had mutilated once and those who had mutilated more than once, or between self-mutilators who had mutilated once and nonmutilators. Nonmutilators also had significantly lower mean scores ($M = 1.57$) on the Social Isolation/Alienation schema as compared to self-mutilators who have mutilated more than once ($M = 2.59$). There were no differences between nonmutilators and one-time mutilators or between one-time mutilators and repetitive mutilators. Nonmutilators had significantly lower mean scores ($M = 1.44$) on the Defectiveness/Shame schema as compared to individuals who had mutilated on more than one occasion ($M = 1.95$), with no significant difference between nonmutilators and repetitive mutilators or between one-time mutilators and repetitive mutilators. Nonmutilators also had significantly lower mean scores ($M = 2.13$) on the Insufficient Self-Control/Self-Discipline schema than did individuals who had engaged in self-mutilation more than once ($M = 2.86$). There were no significant differences between nonmutilators and those who had mutilated only once or between those who had mutilated once and those who had mutilated more than once.

A correlation was conducted to determine whether there was a relationship between the mean scores on each of the 15 schemas and the number of self-mutilative episodes reported. A significant positive relationship was found between the number of self-mutilative episodes and the Social Isolation/Alienation schema ($r = .724$, $p = .001$). No other schemas were significantly related to the number of self-mutilative episodes reported.

Discussion

Several analyses were conducted in order to determine whether any differences in early maladaptive schemas exist based on self-mutilative behavior. Differences in scores on the early maladaptive schemas were compared as a function of the amount of time since the last self-mutilative episode. No significant differences were obtained, indicating that schemas do not differ between individuals who currently self-mutilate, who have mutilated from 1 to 5 years ago, or who haven't mutilated for more than 5 years. Thus, the recency of a self-mutilative act does not determine what particular schemas an individual may have. It is possible that self-mutilators have certain underlying schemas that predispose them to self-mutilation and that these schemas remain consistent even when the self-mutilation has been discontinued. Therefore, individuals who are currently mutilating do not differ in their schemas from others who have only mutilated in the past. These findings may have implications for clinical practice, in that even if an individual is not currently mutilating, he or she may share many of the same early maladaptive schemas as those who are current self-mutilators. Thus, inquiring about any history of self-mutilation may provide insight into the schemas of the client, even if that client is no longer engaging in self-mutilation.

Several additional significant findings were generated from this study. When the results were examined at the .05 level of confidence, four schemas were found that differentiate self-mutilators from nonmutilators. These schemas are Emotional Deprivation, Mistrust/Abuse, Social Isolation/Alienation, and Insufficient Self-Control/Self-Discipline. Thus, individuals who self-mutilate have higher mean scores on the Emotional Deprivation, Mistrust/Abuse, Social

Isolation/Alienation, and Insufficient Self-Control/Self-Discipline schemas compared to individuals who do not self-mutilate. When a more conservative value of .01 is used to examine the data, only Social Isolation/Alienation and Insufficient Self-Control/Self-Discipline reach significance. However, while the results at the .05 level are less stringent and, therefore, may have less statistical significance, these findings may be clinically significant. An analysis of these findings from a clinical perspective will be discussed later.

Analyses were also conducted to determine any differences in schemas based on whether or not the self-mutilation was repetitive. There were several significant findings, indicating that individuals who mutilated multiple times had higher scores (indicating a more dysfunctional level of the schema) on the Emotional Deprivation, Social Isolation/Alienation, Defectiveness/Shame, and Insufficient Self-Control/Self-Discipline schemas compared to nonmutilators. However, no differences were found between individuals who had mutilated on one occasion compared to nonmutilators or compared to those who had mutilated multiple times. These findings suggest that self-mutilators differ from nonmutilators in their early maladaptive schemas only if their self-mutilation is more repetitive. If they have mutilated on only one occasion, they endorse schemas that are similar both to those of nonmutilators and to those of repetitive self-mutilators. Thus, self-mutilators more strongly endorse these schemas only when their self-mutilation is repetitive, as opposed to a one-time event.

These results suggest that it is the repetitive nature of self-mutilation that is responsible for the discrimination between self-mutilators and nonmutilators. It can be hypothesized that individuals who engage in self-mutilation repetitively have underlying feelings of defectiveness/shame that contribute to their repetitive attack on themselves. Additionally, feelings of emotional deprivation, in which the individual feels that no one will be able to be emotionally supportive or provide her or him with feelings of understanding, affection, or warmth, lead the individual to use self-mutilation as a means of self-soothing. Moreover, feeling socially isolated and different from others leads to feelings of loneliness and a heightened sensitivity to rejection. These feelings may then again lead the individual to engage in self-mutilation in order to self-soothe as a result of feelings of loneliness, isolation, and rejection. Finally, the self-mutilator has underlying beliefs that he or she lacks self-control, is impulsive, and thus may be unable to cope with unbearable affect and cognitions in more adaptive and thought-out ways. As a result, the use of self-mutilation is maintained and, therefore, repetitive because it becomes a short-term, immediate method of coping.

The severity of self-mutilative behavior was also examined to determine any relationship to scores on the early maladaptive schemas. A significant positive relationship was found between the number of self-mutilative episodes reported and the Social Isolation/Alienation schema. These results suggest that the greater the number of times an individual engages in self-mutilation, the higher the score, and thus, the greater the endorsement of the Social Isolation/Alienation schema. These findings are consistent with prior research indicating that self-mutilators report feeling as though they are outsiders, lone wolves, and strangers (Graff & Mallin, 1967). Self-mutilators frequently report that they engage in self-mutilation due to feelings of loneliness and often after experiencing rejection or separation (Herpertz, 1995). These feelings are the hallmark of individuals who endorse the Social Isolation/Alienation schema, in that they feel very different from others, isolated, and not part of any group. Thus, individuals who are particularly sensitive to feeling isolated and alone use self-mutilation to help relieve feelings of loneliness. Since feelings of loneliness often precede engaging in self-mutilation, it is not surprising that the more strongly one endorses the Social Isolation/Alienation schema, the greater the number of times that one will engage in self-mutilation.

The results of the present study can be understood in the context of schema therapy. There were four schemas that were more strongly endorsed by self-mutilators than by nonmutilators: Emotional Deprivation, Mistrust/Abuse, Social Isolation/Alienation, and

Insufficient Self-Control/Self-Discipline. Three of these schemas—Emotional Deprivation, Mistrust/Abuse, and Social Isolation/Alienation—are all within the domain of Disconnection and Rejection (Young et al., 2003). Individuals with schemas in this domain have difficulty forming secure, satisfying attachments with others. They believe that their needs for safety, stability, nurturance, love, and belonging will not be met. Individuals with the Mistrust/Abuse schema believe that they will be used by others by being abused, hurt, humiliated, lied to, or cheated. Those who have the Emotional Deprivation schema believe that their desire for emotional connections with others will not be satisfied. This schema can take three forms: deprivation of nurturance (the absence of affection or caring), deprivation of empathy (the absence of listening or understanding), and deprivation of protection (the absence of strength or guidance from others). Individuals with the Social Isolation/Alienation schema feel different from others and as though they do not belong to any group. The typical families of origin of individuals within this domain are very abusive (Mistrust/Abuse), cold (Emotional Deprivation), or isolated from the outside world (Social Isolation/Alienation).

The other schema that is found more commonly among self-mutilators than among non-mutilators is the Insufficient Self-Control/Self-Discipline schema. Individuals with this schema have great difficulty exercising sufficient self-control and frustration tolerance. They have difficulty restraining themselves from excessively expressing their emotions and impulses. This schema falls within the Impaired Limits domain and is characterized by deficiencies in limits, responsibility to others, or long-term goal orientation. The typical family of origin is characterized by permissiveness, overindulgence, lack of direction, or a sense of superiority rather than appropriate confrontation, discipline, and limits in relation to taking responsibility, cooperating in a reciprocal manner, and setting goals. Growing up, the child may not have been pushed to tolerate normal levels of discomfort.

The families of origin that have been described as characteristic of the four schemas endorsed by self-mutilators are consistent with the findings of other research describing the families of origin and life experiences of self-mutilators. The majority of self-mutilators have reported that they were always told to be strong (Favazza & Conterio, 1989; Graff & Mallin, 1967), perhaps in an attempt to deny any unpleasant or negative emotions. This experience of not being pushed to experience any discomfort may have contributed to the Insufficient Self-Control/Self-Discipline schema. Social isolation was reported in almost half of the self-mutilators studied in a meta-analysis of self-mutilators (Pattison & Kahan, 1983). This experience would help in the formation and maintenance of the Social Isolation/Alienation schema. Abuse is also commonly reported among self-mutilators, with approximately 62% to 69% of the self-mutilators endorsing a history of childhood abuse (Favazza & Conterio, 1989; Warm et al., 2003). This experience of abuse likely contributed to the development of the Mistrust/Abuse schema. Emotional neglect has been found to be a strong predictor of self-mutilation (Nijman et al., 1999), which would contribute to the development and maintenance of the Emotional Deprivation schema. Finally, self-mutilators have described their parents as cold, distant, and detached (Graff & Mallin, 1967; Pao, 1969), which is characteristic of families for whom individuals develop schemas within the Disconnection and Rejection domain. Thus, the four prominent schemas endorsed by self-mutilators can be understood as a result of the families of origin that have been described by self-mutilators themselves.

Implications for Clinical Practice

The findings of the present study have clear relevance to clinical practice. It appears that one could use a schema therapy approach to treat self-mutilators in order to address the early maladaptive schemas that are contributing to the self-mutilative behavior. In order to understand

how one would treat a self-mutilator using schema therapy, a general description of the sequence of schema therapy is necessary. Schema therapy typically begins with an assessment of the client's early maladaptive schemas and a phase of education about the client's most prominent schemas. This assessment phase includes an assessment and discussion of the early childhood experiences that helped to contribute to the development of the schemas. Once the schemas are identified and understood, an analysis of how the client typically responds to the schemas is made. The ways in which individuals respond to their schemas are called coping styles (Young et al., 2003). There are three identified coping styles: surrender (individuals accept the schemas as true and act in ways that confirm the schema), avoidance (they avoid the schema and any thoughts or feelings that might trigger it), and overcompensation (they think, feel, behave, and relate as if the opposite of the schema were true).

After this period of assessment and education, specific strategies to help heal the schema are implemented. There are four main modes of change that occur in schema therapy. These involve cognitive techniques, experiential techniques, behavioral pattern-breaking, and the therapist-patient relationship (Young & Behary, 1998; Young et al., 2003). The cognitive techniques involve helping the individual to find evidence supporting and refuting the schema and then evaluating the evidence. The experiential techniques involve the use of imagery and dialogues to express anger or sadness about what happened to the client as a child. The client links childhood images with experiences from the present, confronting and challenging the schemas from a more emotional level. Behavioral pattern-breaking involves replacing maladaptive coping responses with new, more adaptive patterns of behavior. Finally, the therapist-patient relationship is used to help create a relationship for the client in which the activation of the schema within the therapy can be explored and the client's dysfunctional way of relating to the therapist can be understood as reflecting the client's schemas and coping styles. The therapist can also help to supply some of the client's needs that were not met by the parents during childhood.

Treatment strategies can be used that specifically address each of the four schemas that are characteristic of self-mutilators: Social Isolation/Alienation, Emotional Deprivation, Mistrust/Abuse, and Insufficient Self-Control/Self-Discipline (Young et al., 2003). In addressing the Social Isolation/Alienation schema, the basic goal of treatment is to help the client to feel less different from other people. Cognitive strategies are used to help clients see that they are not as different from others as they think. They are encouraged to focus on the similarities that they share with others and to challenge the thoughts that keep them from joining groups and connecting with people. Experiential strategies are employed to address any exclusion or isolation they experienced in their childhood and to express their emotions regarding these experiences. Behavioral strategies focus on overcoming their avoidance of social situations by attending more social events and making more connections with others. Finally, the therapeutic relationship helps to counter feelings of loneliness and isolation and potentially provide evidence that clients can form a connection with others.

Treatment focusing on the Emotional Deprivation schema has as its goal helping clients to become aware of their emotional needs and to accept their emotional needs as natural and right. There is a strong emphasis on experiential strategies by which clients explore the childhood origins of the schema and become aware of what emotional needs were not met. The therapeutic relationship is of the utmost important in creating the empathic and protective environment that was often missing from clients' childhoods. Cognitive strategies are employed to help clients counter black-and-white thinking that assumes that all others are acting selfishly or depriving the clients. Behaviorally, clients receive help in choosing significant others who will meet their emotional needs appropriately and are coached in how to ask others in healthy ways to meet their emotional needs.

The goal of treatment for the Mistrust/Abuse schema is to help clients realize that there are people who can be trusted. Cognitive strategies are employed to help clients learn to recognize a spectrum of trustworthiness. Behavioral strategies focus on helping clients share secrets and

memories of abuse with trusted others when appropriate, find nonabusive partners, and set limits with abusive people in their lives. Experientially, clients relive childhood memories of abuse through imagery, and they express anger toward the abuser for the abuse. They also visualize themselves being open and trusting with appropriate people in their current lives. The therapeutic relationship is important in providing a safe place for clients to tell their stories. The therapist is as honest and genuine as possible and asks clients to share any negative feelings they have toward the therapist.

Treatment for the Insufficient Self-Control/Self-Discipline schema focuses on helping clients recognize the value of giving up short-term gratification for the sake of long-term goals. Cognitive and behavioral techniques are of the utmost importance in treating this schema, as clients need to learn that between an impulse and an action, a thought must be inserted. Treating self-mutilators with this schema involves teaching them to think, before they engage in self-mutilation, about the consequences of giving in to the impulse of self-mutilating. Clients are taught self-control techniques, including relaxation and distraction, in order to control their emotions and to reduce the likelihood of engaging in self-mutilation or other impulsive behaviors. Experiential techniques can be used to help clients remember situations in which they displayed insufficient self-control and to help them visualize more effective ways of handling the situation by exerting self-control. Finally, the relationship with the therapist is important in setting limits and consequences for behaviors that interfere with therapy (e.g., lateness for sessions, noncompliance with homework) in an attempt to counter some of the permissiveness that clients may have experienced as children. Further, clients are encouraged to experience the negative affect associated with their experiences, in order to counteract the message they may have received as children that discomfort should not or could not be tolerated.

There are several limitations to the present study. First, the sample size was relatively small. Second, the sample was also very homogenous, in that the majority of the participants were approximately the same age and were college students. Third, while participants were obtained from three different sites, the number of participants at each site was not equal. Thus, any differences between the participants as a function of the site from which they were obtained were not accounted for and may have influenced the results. Another possible limitation is that certain factors were not controlled for in the study. The age of the participants, their gender, and the site from which they were obtained (i.e., residential, outpatient, or undergraduate control) were not controlled for. Thus, the influence of these factors on the results could not be ascertained.

Future research should address some of the limitations of the present study. Including a larger sample size with relatively equal numbers of participants from multiple sites would be beneficial. Future research should include information about race and ethnicity, in order to obtain more data regarding the effects of race and ethnicity on self-mutilation and on early maladaptive schemas. Additionally, information related to age and gender should be examined to determine any influence these factors have on the schemas of self-mutilators.

Finally, the present study has clear implications for working with self-mutilating clients from a schema-based approach. Several schemas were identified that help to differentiate self-mutilators from others, which provides valuable information for clinicians on some of the core issues that underlie self-mutilation. Future research should be conducted to obtain outcome data on the effectiveness of schema therapy for the treatment of self-mutilation.

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Correspondence regarding this article should be directed to Maurice Prout, PhD, Widener University, Institute for Graduate Clinical Psychology, Bruce Hall Room 221, Chester, PA 19013. E-mail: mfprout@widener.edu