Correlates of Cutting Behavior among Sexual Minority Youths and Young Adults

N. Eugene Walls, Julie Laser, Sarah J. Nickels, and Hope Wisneski

Using secondary analyses of data from a sample of 265 sexual minority youths, the authors examined correlates of cutting behavior to determine whether patterns are similar to those found in studies of self-injury with community samples of predominately heterosexual youths. The sample consisted of youths who received services at an urban social service agency serving the sexual minority community; youths from the region attending social events, who located the survey through the Internet, or who were referred from other youth-serving agencies; and youths from out of state who found the survey through the Internet or were referred by youth-serving agencies. Prevalence of cutting was higher than that found in community-based samples of similar age groups. However, similar patterns of risk were found with regard to peer victimization, homelessness, suicidality, and depression. Female and transgender respondents were more likely to have engaged in cutting behavior than were male respondents. No significant race-based differences emerged. Both age and having knowledge of a supportive adult were associated with decreased likelihood of cutting. Additional findings link higher levels of "outness," higher occurrence of suicidality among social network, and higher rates of smoking to increased likelihood of cutting. Implications for practice and future research are discussed.

KEY WORDS: cutting; gay; lesbian; nonsuicidal self-injury; transgender

Historically, nonsuicidal self-injury research has focused on adult populations, on populations that experience developmental disabilities or psychoses, or on clinical samples (Brodsky, Cloitre, & Dulit, 1995). Although rates of self-injurious behavior have been increasing over the past few decades among the adolescent population (Brener, Krug, & Simon, 2000; Briere & Gil, 1998), it is only more recently that attention has turned to examining NSSI among this population (Pristin, 2008). This study seeks to contribute to the knowledge about NSSI through analyses of secondary data in a number of ways. First, it examines the prevalence of cutting behavior among a nonclinical sample of sexual minority youths and young adults, a population of young people about which very little is known with regard to NSSI. Second, it examines correlates that predict cutting behavior to determine whether the emergent patterns mirror patterns found in NSSI research with other youths and young adult populations. Third, it examines a number of variables not currently explored in other literature with youths and adolescent populations. Finally, it examines what youths and young adults in the sample report as helping them resist urges to cut.

NOMENCLATURE
The language and definitions used in the literature to indicate intentional self-injurious behavior create confusion. A number of terms, including "self-inflicted injury" (Crowell et al., 2008; Welch, Linehan, Sylvers, Chittams, & Rizvi, 2008) and "deliberate self-harm" (Crawford, Geraghty, Street, & Simonoff, 2003), have been used to refer to a range of behaviors that encompass self-injury with and without suicidal intention. Research that has focused more specifically on self-injurious behavior with nonsuicidal intent has used terms such as "self-injury" (Simeon & Favazza, 2001), "self-mutilation" (Babiker & Arnold, 2004), and "self-injurious behavior" (Whitlock, Eckenrode, & Silverman, 2006; Whitlock & Knox, 2007). In this article, we use the term nonsuicidal self-injury (NSSI) (Armey & Crowther, 2008; Nock & Mendes, 2008) to indicate self-injurious behavior that occurs without the intent to die, and we use the term deliberate self-harm (DSH) to indicate self-injurious behavior that
encompasses both NSSI and behavior with suicidal intent. When the behavior is even more narrowly defined, we use the specific term for that behavior, such as "cutting" or "burning."

In addition, we use the terms sexual minority youths and young adults to mean youths (ages 13 to 17 years) and young adults (ages 18 to 22 years) who report their sexual orientation as gay, lesbian, bisexual, questioning, or queer or who report their gender identity as transgender. The term questioning indicates those who are in the process of exploring their sexual orientation (Morrow & Messinger, 2006). The term queer, although historically used as an epithet against sexual minority individuals, has increasingly been adopted by youths and young adults to indicate an activist orientation toward issues of sexual and gender identity, to reject binaristic notions of sexual and gender identities, and to indicate that they experience their sexual or gender identity as fluid rather than fixed (Appleby & Anastas, 1998; Armstrong, 2002).

LITERATURE REVIEW

Prevalence estimates indicate that approximately 1.4% of the general U.S. adult population engages in NSSI (Briere & Gil, 1998; Favazza, 1996; Klonsky, Oltmanns, & Turkheimer, 2003). Rates among clinical samples, however, have been found to be significantly higher, with approximately 21% of adults and between 21% and 61% of youths in such samples engaging in this behavior (Briere & Gil, 1998; Darche, 1990). There is also evidence that NSSI has been increasing in prevalence and severity over the past 30 years (Arney &Crowther, 2008; Briere & Gil, 1998).

Rates of NSSI are significantly higher among preadolescents and adolescents than they are among adults, with 7% of preadolescents in one community sample (Hilt, Nock, Lloyd-Richardson, & Prinstein, 2008) and between 12% and 21% of adolescents engaging in NSSI (Weierich & Nock, 2008; Whitlock et al., 2006). Most findings suggest that the onset of NSSI typically occurs in early to middle adolescence (Favazza & Conterio, 1988; Woldorf, 2005) and that the behavior continues into adulthood (Favazza & Conterio, 1988). Young adults may be at an even higher risk than adolescents, with research on college students finding rates of NSSI between 17% and 38% (Gratz, Conrad, & Roemer, 2002; Klonsky & Olin, 2008), and three-quarters of those reporting NSSI having engaged in repeated episodes (Yates, Tracy, & Luthar, 2008).

With regard to gender, some studies have suggested that both DSH (Brent, 1997; Olfson, Gameroff, Marcus, Greenberg, & Shaffer, 2005) and NSSI (for repeated behaviors) (Whitlock et al., 2006) are more common among women and girls. Other studies suggest, however, that this difference is not always present or as salient as was previously thought, particularly in regard to adolescents (Gratz et al., 2002; Yates et al., 2008). Whitlock et al. (2006), for example, found gendered patterns in types of NSSI, with female college students being more likely to scratch, pinch, or cut than male college students but with male college students more likely to punch an object with the intent to harm themselves. The experiences of transgender adults and youths have been completely absent from research on NSSI, although there is limited research on the prevalence and correlates of suicidal behavior among transgender youths (Grossman & D'Augelli, 2007).

To date, little research has explored the role of race and ethnicity in NSSI, and, as a result, little is known about whether a relationship exists (Prinstein, 2008). Racial differences have been found with regard to different subtypes of NSSI (Klonsky & Olin, 2008), and Whitlock et al. (2006) found that international students were more likely than domestic students to report a single NSSI incident. Likewise, racial patterns do appear to exist in the effect that a family's reaction to the behavior has on a youth (Rosenfarb, Bellack, Aziz, Kratz, & Sayers, 2004), underscoring the importance of culturally relevant interventions with youths and their families (Trepal, Wester, & MacDonald, 2006).

PSYCHOSOCIAL CORRELATES OF NSSI

Victimization

Research on the environmental risk factors associated with NSSI has focused primarily on family stress, including parent-child conflict (Brent et al., 1994), and NSSI has been found to be associated with histories of abuse and other types of early trauma (Weierich & Nock, 2008; Whitlock et al., 2006). Family environments where caregivers respond inconsistently, inappropriately, or insensitively to children's thoughts, feelings, and behaviors are also believed to play a key role in the development of NSSI (Connors, 2000; Linehan, 1993). Alexander and Clare (2004) have argued that this pattern may also include increased likelihood of development
of these behaviors among people who belong to stigmatized groups, as their marginalized identities are often invalidated by their environments. Victimization at the hands of peers (Hilt, Cha, & Nolen-Hoeksema, 2008) and social exclusion (Rivers, 2000) also appear to play a role.

**Mental Health**

There is considerable diagnostic heterogeneity among individuals who engage in NSSI, from 12% who do not meet diagnostic criteria for any psychiatric disorder (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006) to 20% who have “heightened psychiatric problems requiring more aggressive treatment” (Klonsky & Olino, 2008, p. 26). Individuals who engage in NSSI are more likely to experience features of borderline personality disorder (Klonsky et al., 2003; Whitlock et al., 2006), although approximately 40% of individuals experiencing this disorder do not engage in NSSI (Joyce et al., 2003).

Anxiety and depression are experienced more frequently by individuals who engage in self-injury than those who do not (Klonsky et al., 2003; Whitlock et al., 2006), and those who engage in self-injury are more likely to have a depression diagnosis (Weierich & Nock, 2008). Similarly, Andover, Pepper, Ryabchenko, Orrico, and Gibb (2005) found that young adults who engaged in cutting behavior had more anxiety symptoms than those who engaged in other types of NSSI behavior, and Klonsky and Olino (2008) found higher levels of anxiety symptoms among those youths who engaged in a variety of NSSI behaviors compared with those who engage in only a single type of NSSI. Lower levels of serotonin have also been identified as a correlate (Mann, Brent, & Arango, 2001; Stoff & Mann, 1997).

**Suicidality**

Some scholars have conceptualized NSSI as parasuicidal (see Skegg, 2005, for a review), and there is empirical support for a significant correlation between NSSI and suicidality (Andover et al., 2005; Whitlock et al., 2006). Individuals who engage in NSSI frequently have a history of suicide attempts (Brown, Comtois, & Linehan, 2002), with the behavior often viewed as one of the risk factors for suicidality (Gunnell & Frankel, 1994).

Others scholars, however, have suggested that NSSI is qualitatively distinct from suicide attempts and may have very different functions (Brown et al., 2002; Welch et al., 2008). Nock and Kessler (2006), for example, argued that NSSI and suicide attempts emerge from different motivations, are differently correlated with other diagnoses, and have different demographic profiles.

Whitlock and Knox (2007) have suggested a perspective that is, perhaps, a synthesis of these two viewpoints. They theorized that although NSSI rarely occurs with the intent of suicide, it does signal “an attempt to cope with psychological distress that may co-occur or lead to suicidal behaviors in individuals experiencing more duress than they can effectively mitigate” (p. 634). They further suggested that if NSSI begins to lose its effectiveness as a functional coping mechanism, an individual might be at increased risk for turning to suicidal behavior.

**Other Psychosocial Factors**

A number of other psychosocial correlates of NSSI have also been documented in the literature. The most common one that has been identified is having poorer problem-solving, coping, and social skills (Gratz, 2003; Nock & Mendes, 2008). Given that youths report engaging in NSSI as a way to cope with stressful situations (Babiker & Arnold, 1997; Simeon & Favazza, 2001) this is not surprising. Other correlates include academic and behavioral problems (Taylor & Stansfield, 1989), low self-esteem and self-loathing (Babiker & Arnold, 1997; Favazza, 1996), and parental divorce or family loss (Turell & Armsworth, 2000).

**NSSI AMONG SEXUAL MINORITY YOUTHS AND ADULTS**

Only a few studies have directly examined NSSI behaviors among sexual minority populations, and even fewer have been specific to youths and young adults. In their examination of the meaning of self-injury among lesbian and bisexual adult females, Alexander and Clare (2004) found that the patterns that emerged in their sample were similar to those within the general community, including histories of childhood trauma, invisibility, and invalidation; feelings of self-loathing; high levels of anxiety, depression, and suicidal thoughts; and difficulty fitting in with peers. For women who experienced childhood abuse, NSSI frequently began in childhood, whereas for many of the others it started during adolescence. Most of the women reported having used more than one method of NSSI, and rather than being
motivated by a desire to end one’s life, NSSI was described as “not a means of self-destruction, but of staying alive” (Alexander & Clare, 2004, p. 79).

Other themes more specific to having a stigmatized sexual identity also emerged. Initiation of NSSI was often associated with emergent feelings of being different and the fear of being judged as a lesbian or bisexual (Alexander & Clare, 2004). Discomfort with one’s sexuality appeared to exacerbate any already existing feelings of being different. The experience of coming out, however, was frequently reported as being “true to oneself” and had a protective effect, as it “provided the foundation for developing the more positive relationships and circumstances that helped to reduce the need to self-injure” (Alexander & Clare, 2004, p. 80).

Hall (1996) found that 60% of her sample of adult lesbians in recovery from alcohol addiction reported either a suicidal or NSSI behavioral history. Of those who had not experienced childhood sexual abuse, 32% reported DSH behaviors, whereas 100% of those who had experienced childhood sexual abuse reported engaging in DSH. Among the women in Hall’s sample, NSSI was typically described as a means of stopping dissociative states.

In their study of college-age adults, Whitlock and Knox (2007) found that gay- or lesbian-identified students were not significantly more or less likely to engage in DSH than heterosexual students, but that those who identified as bisexual were 3.7 times as likely as heterosexually identified students to have engaged in DSH. Finally, although their examination of the differences in social service needs of homeless and nonhomeless sexual minority youths was not specifically about NSSI, Walls, Hancock, and Wineski (2007) documented that 42% of their sample reported cutting behavior in the previous year and that those who had experienced homelessness were significantly more likely to engage in cutting behavior than were those who had not.

In the following sections, we turn our attention to the current study, in which we examined the prevalence of cutting behavior among a nonclinical sample of sexual minority youths and young adults to help determine whether correlates of such behavior are similar to those found with other populations and to explore additional potential correlates that may be uniquely associated with NSSI among this population. In addition, we examined what respondents reported was helpful in assisting them to resist the urge to engage in cutting behavior.

**METHOD**

**Participants**

Rainbow Alley is a program of the Gay, Lesbian, Bisexual, and Transgender Community Center of Colorado (the Center) that provides support, education, advocacy, youth leadership, and social activities for sexual minority youths and their allies. Support is provided through open-topic groups, case management, peer-to-peer support programming, and a drop-in center. Educational support includes access to homework assistance, GED preparation, and basic computer skills trainings. Social activities have included talent nights and annual events like a queer prom. The project is built on a youth–adult partnership model whereby staff engage youths in decision-making roles for programming and policy decisions.

As part of Rainbow Alley’s annual evaluation, staff conduct a survey of youths that has historically been administered as a pen-and-paper survey targeting only youths receiving services. In 2006, staff switched to an online survey format. The survey was made available to a wider audience of sexual minority youths as a way to understand the social service needs of sexual minority youths who were not receiving services and provide direction for future program development. Staff directly requested that youths receiving services take part in the survey, explaining that participation was voluntary and that decisions not to participate would not influence any individual youth’s relationship with the program. Participants were also recruited at social events where large groups of sexual minority youths could be found, and to broaden participation, information was mailed to numerous community-based agencies in the United States that work with sexual minority youths, and a link to the survey was prominently displayed on the Center’s Web page, allowing youths and young adults not associated with youth-serving agencies to access the survey. Data were collected anonymously, with no identifying information, and all respondents electronically signed a consent form prior to completing the survey. Although no mechanism was used to prevent an individual from participating in the survey more than once, Rainbow Alley staff did not anticipate this being a problem given the length of the survey.

The full sample consists of 306 youths who identify as gay, lesbian, bisexual, transgender, questioning, or queer, between the ages of 13 and 22 years. Of those, data from 31 were not used because
examination of responses indicated extensive missing data—that is, youths had answered only the first few questions of the survey. An additional 10 records were dropped because of missing data on the dependent variable or demographics, resulting in a sample of 265 participants. Multiple imputation by chained equations (van Buuren, Boshuizen, & Knook, 1999) was used to address the remaining missing values. Of the variables with missing data, 80.9% were missing data on only one record.

The final sample used in the analyses represented a mixture of sexual minority youths and young adults who used services from Rainbow Alley (n = 81), youths from the region who had never accessed Rainbow Alley services (n = 77), and youths from outside the state of Colorado (n = 107).

Measures
Most measures used in this study were modeled after questions in the National Youth Risk Behavior Surveillance survey (Centers for Disease Control and Prevention, 2004) and have been used in surveys by Rainbow Alley since 2004 as a way to provide trend data for the agency’s use in program development. The full questionnaire is available on request from N. Eugene Walls.

Respondents were asked to indicate their age and to identify their gender as either male, female, female-to-male (FTM), or male-to-female (MTF). In analyses, gender was dummy-coded using male as the reference category and including female and a combined transgender category. Sexual orientation was asked about separately from gender identity. Because of the small size of the Asian sample (n = 5) and because examination indicated that Asian respondents did not significantly differ from white respondents on the variables of interest, a combined white and Asian category was used as the reference category.

Two questions regarding victimization were included in the analysis. The first asked about physical harassment and attack by a family member because of sexual orientation or gender identity. The second asked about harassment at school because of perceived sexual orientation or gender identity. To capture experiences of homelessness, respondents were asked whether they had slept on someone’s couch, outside, or in a shelter because they had nowhere else to go; all three variables were coded dichotomously and combined, indicating absence or presence of the experience.

Two questions were included in the analysis regarding mental health. The first asked about depressed feelings, and the second asked about the number of suicide attempts in the past 12 months. As with other questions, both were coded dichotomously. Numerous questions were asked in the survey regarding legal and illegal drug use, but because of multicollinearity, only four were included in the analyses. The first two inquired about the frequency of tobacco and alcohol usage in the previous 30 days, and the other two asked about lifetime usage of methamphetamines and inhalants. The responses for methamphetamines and inhalants were recoded into dichotomous variables to indicate whether they had ever been used.

Respondents were asked to indicate their level of “outness” on a Likert-type scale ranging from “very out” to “not at all out.” This section of the survey was introduced by the following statement: “The following five questions concern how open you are about your sexual orientation and/or gender identity. (In other words, how ‘out’ you are.)” Respondents were then asked, “In general, how out would you say you are about your sexual orientation and/or gender identity?” Responses were reverse coded so that higher numbers represented greater levels of outness.

Next, respondents were asked whether they had a teacher, counselor, social worker, or other adult in their school or college who they felt safe talking to about their sexual orientation or gender identity; this question had a yes/no response set. Another question inquired about the prevalence of suicide among the participant’s network of friends: “Thinking about all of your friends, which would you say is true?” The question had a response set ranging from “None of my friends have attempted suicide” to “Most of my friends have attempted suicide.”

Two questions regarding cutting behavior were included in the survey. The first—“How many times during the past 12 months did you cut yourself on purpose?”—had a response set of “0 times,” “1 time,” “2 or 3 times,” “4 or 5 times,” or “6 or more times.” The second question asked about what activities helped the respondent refrain from engaging in cutting behavior: “When you did feel like cutting/harming yourself in the past 12 months, what helped you keep from doing so? (Check all that apply.)” The list provided in the response set was as follows: “I did not feel like cutting/harming myself,” “Nothing seemed to help,” “Talking to..."
family helped,” “Talking to friends helped,” “Talking with a counselor or social worker,” “Talking with support group,” “Relaxation (exercise, reading, meditation, etc.),” and “Other (please specify).”

Analyses

After an initial examination of the univariate statistics of the sample, we used chi-square analysis to determine whether the respondents who engaged in cutting behavior were significantly different from the respondents who did not. Following that, we examined six different logistical regression models predicting the likelihood of having engaged in cutting behavior. We started with a model that included only demographics (gender, age, and race) to give us a baseline. From there, we examined models that included the baseline model with variables capturing victimization, homelessness, mental health, drugs and alcohol, and potential protective factors. Given that most of the research on NSSI among youths has been limited to one or two of the domains of psychosocial variables that we examined in this study, and because collinearity between the independent variables has the potential to obscure important relationships, we opted to examine the clusters of variables from the same domain in separate models. This improved our ability to determine whether the patterns regarding NSSI identified in other samples of youths also emerged in our sample of sexual minority youths.

Following our examination of the correlates of cutting behavior among sexual minority youths in the logistical regression models, we turn our attention to examining the variable in the survey in which the youths and young adults reported what strategies were helpful in preventing them from engaging in cutting behavior.

RESULTS

Descriptive Statistics

Female respondents made up 54.3% (n = 144) of the sample, and respondents who identified as transgender made up 4.9% (n = 13) of the sample. A majority (74.3%, n = 197) of the respondents identified as white or Asian, 10.6% (n = 28) identified as bi- or multiracial, 6.0% (n = 16) identified as African American, 6.0% (n = 16) identified as Latino or Latina, and 3.0% (n = 8) identified as Native American or Hawaiian Native. Ages ranged from 13 to 22 years, with a mean age of 17.9 (SD = 2.1).

Shifting now to the psychosocial variables of interest in this study, we found that 7.2% (n = 19) reported physical harassment or attack by a family member in the past year, and 55.5% (n = 147) reported that they had been harassed at or on their way to or from school because of their sexual orientation or gender identity. More than a third of the youths and young adults (38.5%, n = 102) reported that they had experienced a spell of homelessness during the past year.

Most of the respondents (59.3%, n = 157) reported experiencing an episode of depression during the past year, with 22.3% (n = 59) reporting that they attempted suicide in the previous 12 months. Although 55.1% (n = 147) reported that they had not smoked a cigarette in the past month, slightly more than one-fifth of the respondents (21.9%, n = 58) reported that they smoked every day of the past month. A smaller percentage (37.9%, n = 100) reported that they had not had an alcoholic drink in the past month. Methamphetamine use (ever) was reported by 9.8% (n = 26) of the sample, and 21.5% (n = 57) reported ever having used inhalants.

In terms of being out about their sexual orientation or gender identity, 47.9% (n = 127) of the respondents reported that they were very out, 33.2% (n = 88) reported that they were somewhat out, 10.2% (n = 27) reported that they were slightly out, and 8.7% (n = 23) reported that they were either hardly out or not at all out. Almost 70% (n = 183) reported having a safe adult with whom they could discuss their sexual orientation or gender identity. In terms of their social network, 23.8% (n = 63) reported that none of their friends had ever attempted suicide, 54.7% (n = 145) reported that a few had, 14.0% (n = 37) reported that some had, 4.9% (n = 13) reported that a lot had, and 2.6% (n = 7) reported that most had at some point in their lives.

To determine whether significant differences existed between respondents who cut and respondents who did not cut in the psychosocial variables, we ran chi-square analyses, which are presented along with overall sample percentages in Table 1. In all of the psychosocial risk factors examined, the percentages of youths and young adults who engaged in potential risk behaviors were higher among the group that reported engaging in cutting behavior than among those who did not. In a similar manner, youths and young adults who had cut were less likely to be able to name a safe adult. With the exception of use of
Table 1: Percentages of Respondents Reporting Independent Variables, for Full Sample and by Cutting Behavior (N = 265)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Full Sample</th>
<th>RWC</th>
<th>RWDNC</th>
<th>$\chi^2$ (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family physical abuse</td>
<td>7.2</td>
<td>12.0</td>
<td>2.9</td>
<td>8.29** (1)</td>
</tr>
<tr>
<td>Harassment at school</td>
<td>55.5</td>
<td>65.6</td>
<td>46.4</td>
<td>9.83** (1)</td>
</tr>
<tr>
<td>Spell of homelessness</td>
<td>38.5</td>
<td>47.2</td>
<td>30.7</td>
<td>7.58** (1)</td>
</tr>
<tr>
<td>Depressed</td>
<td>59.3</td>
<td>76.8</td>
<td>43.6</td>
<td>30.20*** (1)</td>
</tr>
<tr>
<td>Suicide attempt</td>
<td>22.3</td>
<td>40.8</td>
<td>5.7</td>
<td>46.97*** (1)</td>
</tr>
<tr>
<td>Smoking (past 30 days)</td>
<td>44.9</td>
<td>56.8</td>
<td>34.3</td>
<td>13.53*** (8)</td>
</tr>
<tr>
<td>Alcohol (past 30 days)</td>
<td>85.7</td>
<td>88.8</td>
<td>82.9</td>
<td>0.17 (6)</td>
</tr>
<tr>
<td>Methamphetamine use (lifetime)</td>
<td>9.8</td>
<td>11.2</td>
<td>8.6</td>
<td>0.52 (1)</td>
</tr>
<tr>
<td>Inhalant use (lifetime)</td>
<td>21.5</td>
<td>29.6</td>
<td>14.3</td>
<td>9.17** (1)</td>
</tr>
<tr>
<td>Knows safe person</td>
<td>69.1</td>
<td>60.0</td>
<td>77.0</td>
<td>9.08** (1)</td>
</tr>
</tbody>
</table>

Note: RWC = respondents who cut; RWDNC = respondents who did not cut.
**p < .01. ***p < .001.

methamphetamines and use of alcohol in the past 30 days, all of these differences reached a level of statistical significance.

Finally, with regard to the dependent variable, 47.2% of respondents (n = 125) reported that they had engaged in intentional cutting behavior in the past year. For youths (age 17 and under), 56.5% of the respondents reported cutting, whereas the rate was 40.8% for young adults (ages 18 to 22). Even though these numbers capture only one specific type of NSSI, they are higher than reported percentages of NSSI among community samples of adolescents. The rate for youths in the sample was between two and three times that of the reported prevalence rate for that age group, whereas the rate for young adults in the sample ranged from slightly greater to up to twice the rate for that age group.

Inferential Statistics

Model 1: Baseline Model. In the baseline model, we included only demographic variables to predict the likelihood of engaging in cutting behavior. Information on these results is provided in Table 2. With regard to gender, we found—in line with much of the literature—that lesbian- and bisexually identified female respondents had three times the odds of having engaged in cutting behavior in the past year that gay- and bisexual male respondents did (p < .001). Transgender individuals had 14.8 times the odds of having engaged in the behavior than gay and bisexual male respondents did (p < .001).

Age had the opposite effect, with an almost 15% reduction in the odds of having engaged in cut-

ting behavior with each additional year of age (p < .05). Given that the range of ages in the sample ran from 13 to 22, this suggests that the oldest group of sexual minority young adults had a 75% reduction in the odds of cutting in the past year over the youngest group of sexual minority youths. Finally, we found no significant differences in the likelihood of having engaged in cutting behavior in the past year on the basis of race or ethnicity. Overall, the baseline model predicted 10.8% of the variability in likelihood of one having intentionally cut oneself in the past year.

Model 2: Victimization. In the second model (see Table 2), we added the two victimization variables to the baseline model. Experiencing physical harassment or attack by a family member was not a significant predictor of having engaged in cutting behavior, although it did reach a level of marginal significance (p < .10). However, sexual minority youths who reported that they had been harassed in the school context because of their sexual orientation or gender identity had 2.3 times the odds of cutting that those who had not been harassed had (p < .01). Overall, the model predicted 14.7% of the variability in likelihood of cutting.

Model 3: Homelessness. In the third model (see Table 2), we added the variable capturing homelessness and found that sexual minority youths and young adults who had experienced a spell of homelessness in the past year had 2.7 times the odds of having engaged in cutting that sexual minority youths and young adults who had not been homeless in the past year had (p < .001). This finding mirrors the findings of Walls et al. (2007) in their study of...
Table 2: Logistic Regressions Predicting Cutting Behavior (N = 265)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>3.02***</td>
<td>3.41***</td>
<td>3.09***</td>
<td>2.69**</td>
<td>3.59***</td>
<td>3.10***</td>
</tr>
<tr>
<td>(0.846)</td>
<td>(1.003)</td>
<td>(0.886)</td>
<td>(0.859)</td>
<td>(1.073)</td>
<td>(0.923)</td>
<td></td>
</tr>
<tr>
<td>Transgender</td>
<td>14.82***</td>
<td>16.88***</td>
<td>15.72***</td>
<td>14.02**</td>
<td>15.61***</td>
<td>14.27**</td>
</tr>
<tr>
<td>Age</td>
<td>0.86*</td>
<td>0.89*</td>
<td>0.83**</td>
<td>0.86*</td>
<td>0.84*</td>
<td>0.83**</td>
</tr>
<tr>
<td>(0.055)</td>
<td>(0.059)</td>
<td>(0.056)</td>
<td>(0.063)</td>
<td>(0.058)</td>
<td>(0.057)</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>0.66</td>
<td>0.51</td>
<td>0.43</td>
<td>0.36</td>
<td>0.84</td>
<td>0.61</td>
</tr>
<tr>
<td>(0.387)</td>
<td>(0.327)</td>
<td>(0.266)</td>
<td>(0.260)</td>
<td>(0.507)</td>
<td>(0.382)</td>
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</tr>
<tr>
<td>Latino/Latina</td>
<td>2.37</td>
<td>2.11</td>
<td>2.15</td>
<td>2.55</td>
<td>2.97*</td>
<td>2.11</td>
</tr>
<tr>
<td>(1.435)</td>
<td>(1.294)</td>
<td>(1.320)</td>
<td>(1.678)</td>
<td>(1.023)</td>
<td>(1.390)</td>
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<td>Native American</td>
<td>1.71</td>
<td>1.44</td>
<td>1.14</td>
<td>1.12</td>
<td>1.73</td>
<td>1.94</td>
</tr>
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<td>(1.337)</td>
<td>(1.179)</td>
<td>(0.902)</td>
<td>(1.00)</td>
<td>(1.379)</td>
<td>(1.708)</td>
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<tr>
<td>Bi- or multiracial</td>
<td>0.67</td>
<td>0.65</td>
<td>0.56</td>
<td>0.43</td>
<td>0.65</td>
<td>0.56</td>
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<tr>
<td>(0.304)</td>
<td>(0.305)</td>
<td>(0.260)</td>
<td>(0.225)</td>
<td>(0.303)</td>
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</tr>
<tr>
<td>Family abuse</td>
<td>3.03*</td>
<td>2.33**</td>
<td></td>
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<tr>
<td>(2.020)</td>
<td>(0.676)</td>
<td></td>
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<tr>
<td>Homelessness</td>
<td>2.68***</td>
<td></td>
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<tr>
<td></td>
<td>(0.802)</td>
<td></td>
<td></td>
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<tr>
<td>Depression</td>
<td></td>
<td>2.95***</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(0.928)</td>
<td></td>
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<tr>
<td>Suicide attempt</td>
<td></td>
<td>9.98***</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>(4.600)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Smoking (past 30 days)</td>
<td></td>
<td></td>
<td></td>
<td>1.19**</td>
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<tr>
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<td></td>
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<td>(0.075)</td>
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<td>Alcohol (past 30 days)</td>
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<td>1.25</td>
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<td></td>
<td></td>
<td>(0.519)</td>
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<tr>
<td>Methamphetamines (ever used)</td>
<td>0.78</td>
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<td></td>
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<td></td>
<td>(0.402)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Inhalants (ever used)</td>
<td></td>
<td>2.06*</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(0.765)</td>
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<tr>
<td>Level of &quot;outness&quot;</td>
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<td></td>
<td></td>
<td>1.38*</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>(0.206)</td>
<td></td>
</tr>
<tr>
<td>Knows safe person</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.44**</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.141)</td>
<td></td>
</tr>
<tr>
<td>Friends attempted suicide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.63**</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>(0.276)</td>
<td></td>
</tr>
<tr>
<td>Pseudo-$R^2$</td>
<td>.108</td>
<td>.147</td>
<td>.139</td>
<td>.265</td>
<td>.154</td>
<td>.170</td>
</tr>
</tbody>
</table>

Note: Values represent odds ratios, with standard errors reported in parentheses. 
*p < .10; **p < .05; ***p < .01; ****p < .001.

sexual minority youths. The model predicted 13.9% of the variability in the dependent variable.

**Model 4: Mental Health.** The fourth model contained the baseline model and the two mental health variables (see Table 2). Youths and young adults who expressed that, in the past year, they experienced at least two weeks of being so sad or hopeless that they stopped engaging in some of their everyday activities, had three times the odds of engaging in cutting behavior than those who had not experienced spells of sadness or hopelessness did (p < .001). In a similar manner, those in the sample who reported that they had attempted suicide in the past year had 10 times the odds of engaging in cutting behavior that those who had not attempted suicide did (p < .001). The addition of the two mental health variables to the model raised the variability explained to 26.5%.

**Model 5: Drugs and Alcohol.** The results from the model that included variables regarding drug and alcohol use are presented in Table 2. Neither
the frequency of use of alcohol in the past 30 days nor lifetime usage of methamphetamines were significant predictors of cutting behavior. However, the frequency of smoking in the past 30 days was significant, and lifetime usage of inhalants was marginally significant. For every increase in category of frequency in smoking in the past 30 days, there was a 19% increase in the odds of having engaged in cutting behavior. Comparing those who said that they did not smoke at all in the previous month with those who smoked daily, the results suggest that the daily smokers had almost 2.8 times the odds of engaging in cutting behavior that nonsmokers did. In a similar manner, those who reported that they had engaged in inhalant use at some point in their lives had two times the odds of having engaged in cutting behavior that those who have never used inhalants did. Model 5 explained 15.4% of the variability in the likelihood to engage in cutting behavior.

Model 6: Social Factors. In the final model (see Table 2), we added three social factors to the baseline model to determine whether they were associated with changes in likelihood of engaging in cutting behavior among sexual minority youths and young adults. Level of outness was significant ($p < .05$). The pattern in the data suggests that youths who were very out had 3.6 times the odds of cutting that those who were not at all out did. Knowing a safe adult with whom one could talk about sexuality and gender identity was, likewise, statistically significant ($p < .01$). Having this resource was associated with a 56% reduction in the odds of having engaged in cutting behavior. In the opposite direction, having a social network of friends who had attempted suicide was associated with a significant increase in the likelihood of having engaged in cutting behavior ($p < .01$). For each categorical increase in the proportion of friends one had who had attempted suicide, there was a 60% increase in the odds of cutting. This finding suggests that sexual minority youths whose social network of friends included youths most of whom had attempted suicide had seven times the odds of having engaged in cutting behavior in the past year that sexual minority youths whose social network of friends contained no youths who had attempted suicide did.

What Helps?
In this section, we turn our attention to the 125 respondents who reported that they had engaged in cutting behavior in the past year and examine the variable in which respondents indicated what was helpful to them in preventing them from engaging in cutting behavior when they experienced the urge to do so. The number of different activities reported to help prevent cutting behavior ranged from 0 to 8, with a mean of 1.22 ($SD = 1.54$).

The most frequently cited helpful activity was engaging in an activity that was relaxing (51.2%, $n = 64$). This included activities such as exercising and participating in sports, reading, and meditation. Close behind that category was talking with friends. Almost half (49.6%, $n = 62$) of the respondents who had cut reported that being with and talking to friends helped them manage their urge. Slightly more than a quarter (26.4%, $n = 33$) of the youths and young adults indicated that talking with a social worker or counselor was beneficial. Support groups were next, with 14.4% ($n = 18$) of the respondents indicating that they were helpful; 12.8% ($n = 16$) indicated talking with their families was helpful. The most common response among those who wrote in a response was some type of creative outlet (art, writing, and so forth) (7.2%, $n = 9$). Other categories that were written in included fear of friends or family finding out, having increased awareness or some type of better coping skill, drugs and medications, pets, and avoiding triggers (sharp objects or certain places).

Although most of the respondents (83.2%, $n = 104$) indicated that at least one activity was helpful to them, 16.8% ($n = 21$) selected no activities as particularly helpful, 13.6% ($n = 17$) indicated that "nothing seemed to help," and 1.6% ($n = 2$) wrote in indicating that they did not perceive their cutting to be negative.

DISCUSSION
Although methodological issues prevent our findings from being extrapolated to the larger sexual minority youth and young adult population, the findings do offer some tentative suggestions for both social work practice and future research. Our findings suggest, for example, that among sexual minority youths and young adults, female respondents are significantly more likely to engage in cutting behavior than male respondents. The pattern is similar to what Whitlock et al. (2006) found with a college-age sample; unfortunately, as data on other types of NSSI were not available in our data set, we were unable to replicate Whitlock and colleagues' findings of increases in other types of NSSI among male young adults. Our
findings are the first we are aware of in the scholarly literature to document that transgender youths may be at significantly greater risk than other segments of the sexual minority youth community. Clearly, more research is needed in this area.

In our sample, age was associated with decreased likelihood of reporting cutting behavior. The literature, however, hints that age may actually have a curvilinear relationship whereby there is an increase in prevalence from preadolescence to adolescence and then a decrease in prevalence beginning in early adulthood. We examined age for a curvilinear relationship in all of the models presented, and although the squared term never reached a level of significance, it frequently was marginally significant, suggesting that with a wider age range we might have detected both a significant increase from preadolescence and a significant decrease in early adulthood.

Findings on race and NSSI are fairly limited, particularly in research on youth NSSI. Our examination found that no significant differences emerged between sexual minority youths and young adults of color (African American, Latino and Latina, Native American, and bi- and multiracial) and those who were white. As in most other studies, we found that respondents in our sample who had experienced victimization were more likely to report a history of cutting than were those who did not. For familial abuse, that increase was marginally significant, whereas it reached a level of significance for sexual minority youths and young adults is four times higher than the rate for the general youth or emerging adulthood populations. Because of this, any clinical assessment of sexual minority youths should include a brief discussion of NSSI.

In a similar manner, homelessness, having attempted suicide at some point, and feeling sad or hopeless were all associated with increased reporting of cutting behavior. Given the strong linkages in past research between mental health issues and NSSI, these findings were not particularly surprising. In terms of alcohol and drug use, there was a marginally significant increase in likelihood of cutting for those who reported that they had ever used inhalants and a significant increase in likelihood of cutting for those who reported increased levels of smoking in the past 30 days.

Sexual minority youths who are more out about their sexual orientation or gender identity were significantly more likely to report a cutting history than were those who were less out, even when age was controlled for. This finding fits with results in the literature that suggest a positive correlation between NSSI and both victimization and experiencing an invalidating environment, as youths who are more out report greater levels of victimization (Kiedman, 2002). Further examination of this pattern is needed to shed light on whether this relationship is attenuated or is no longer significant in the presence of variables that capture different experiences of victimization.

Similar to findings in the literature that suggest a social aspect in the presence of NSSI (Hilt, Cha, & Nolen-Hoeksema, 2008; Klonsky, 2007), we found that having a social network of friends who had attempted suicide was associated with increased likelihood of engaging in cutting. Finally, the only variable we examined that indicated a protective influence was our finding that having a safe adult with whom one could openly discuss sexual orientation and gender identity was associated with a significant decrease in likelihood of reporting a cutting history.

Implications for Social Work Practice

Although practitioners should view these recommendations as tentative, pending replication studies to substantiate our findings, the outcomes of this research do suggest some potentially helpful strategies for working with sexual minority youths around issues of NSSI. First and foremost, the rate of NSSI for sexual minority youths appears to be much higher than the rate for the general youth or emerging adulthood populations. Because of this, any clinical assessment of sexual minority youths should include a brief discussion of NSSI.

Second, for the social worker involved in the evaluation of suicidality of youths and young adults who identify as gay, lesbian, bisexual, or transgender, NSSI should be conceptualized as a different but related construct and should be included in the suicide assessment. Although NSSI is qualitatively different than suicide, because its intent is not to cause death, the methods of self-injury may be similar to suicidal behavior.

Because this population experiences higher rates of depression (59.3%) than youths in general (14.0%) (Substance Abuse and Mental Health Services Administration, 2005), a critical component of working with sexual minority youths is assessing their level of depression and its relationship to NSSI. In addition to NSSI, numerous other factors that we identify in this research could also contribute to depression, such as peer victimization, homelessness, and lack of social support. Given that the rate of depression for sexual minority youths and young adults is four
times that rate within the general youth population, all of these factors warrant real concern.

Several interventions have been found to be beneficial for youths who engage in NSSI. In a recent study, Nock and Mendes (2008) concluded that clients benefited from therapy that helped them select adaptive solutions rather than therapy that simply generated solutions. They found that youths who self-injure often were able to generate a myriad of solutions, but they were often unable to pick a solution that was most appropriate. Therefore, techniques such as cognitive–behavioral therapy could be of great use in treatment of these youths.

Because NSSI is used primarily as a coping mechanism for management of feelings that youths and young adults have difficulty managing, development of alternative coping strategies would appear to be a central goal of clinical work. A significant proportion of youths and young adults in our sample who engaged in NSSI reported that activities that helped them relax—physical activities, meditation, reading, and the like—were one of the most effective strategies they had found to help them manage the urge to cut. Closely following that strategy was being with and connecting with friends—a finding that underscores the importance of helping youths develop skills to build a supportive network of friends. In light of our findings that having a social network in which others have attempted suicide is beneficial for youths who engage in NSSI. In a recent study, Nock and Mendes (2008) concluded that clients benefited from therapy that helped them select adaptive solutions rather than therapy that simply generated solutions. They found that youths who self-injure often were able to generate a myriad of solutions, but they were often unable to pick a solution that was most appropriate. Therefore, techniques such as cognitive–behavioral therapy could be of great use in treatment of these youths.

Implications for Future Research

This study represents an initial exploration into an important but generally neglected topic. Further inquiry into this subject is necessary to better understand NSSI in sexual minority youths. In particular, research should center on better understanding the correlates of NSSI and how they function. Unfortunately, much of the research done on NSSI among youths and young adults has failed to inquire about sexual orientation as part of the standard demographic information collected (Whitlock et al., 2006, is an exception to this pattern). On the basis of the findings presented here, future omission of these data will continue to exclude a potential important factor of NSSI.

Whereas little is known about gay, lesbian, and bisexual youths and NSSI, virtually nothing is known about transgender youths and patterns of NSSI. Although the number of transgender individuals in the present sample was small, the strength of the relationship found suggests that transgender youths may be particularly vulnerable to the use of cutting as a way to cope with their experience of the world. This also suggests that research into the greater arena of gender conformity and nonconformity may provide additional valuable insights.

Although this study only examined cutting behavior, the eight other NSSI categories of biting, abrading, severing, inserting, burning, ingesting or inhaling, hitting, and constricting should be evaluated, including their frequency and severity among sexual minority youths. Future research should explore the function of NSSI for these youths and whether it is the same or different than that documented for youths in general. Because little is known regarding which interventions for NSSI are particularly efficacious for sexual minority youths, research on treatment and support could greatly benefit the field.

Limitations

The results presented here should be considered in light of a few limitations. First, although the sample included sexual minority youths and young adults from numerous areas, the majority of respondents were from urban areas and predominately from Colorado. The patterns found here
may not be characteristic of rural sexual minority youths or sexual minority youths in other regions of the country. Second, the sample had an over-representation of youths who receive services at a community-based social service agency that primarily provides services to the gay, lesbian, bisexual, and transgender community or who participate in social activities specifically for sexual minority youths and young adults. As such, we would expect an underrepresentation of youths who are not out; youths who do not seek social services because of shame, fear, or lack of access; and youths who are out but receive enough support in their school, church, and family communities that they do not seek out social services. Third, because the study was not longitudinal, our findings cannot be interpreted as indicating causality. Fourth, because our dependent variable asked specifically about cutting behavior, and because the literature suggests that cutting behavior is more present among female youths and adults, our findings may or may not hold when the broader range of NSSI behaviors are examined. Likewise, because this study relied on secondary data analyses, variables capturing the complexity of NSSI, mental health issues, and other psychosocial factors were unavailable.

**CONCLUSION**

This study marks a much needed step toward addressing a significant gap in the literature regarding NSSI and sexual minority youths and young adults. In addition, because we included a variable capturing a transgender identity, we have introduced preliminary findings suggesting that NSSI may be much more prevalent among this population than among the population whose gender identity matches the gender they were assigned at birth. A final contribution of this study is the finding correlating increased levels of outness with increased likelihood of having engaged in cutting behavior. Although this finding could be interpreted in such a way as to pathologize sexual minority youths who are open about their sexual orientation and gender identity, we suggest that it is more likely a reflection of the continued severity of the hostile environment in which these youths and young adults must negotiate a stigmatized identity. Combining this supposition with our finding of the potential protective function of having safe and nonjudgmental adults in one's life, we hope that social workers, teachers, counselors, youth ministers, and other adults in the lives of these young people will be motivated to create visible safe spaces to support sexual minority youths and young adults so that fewer will feel the need to turn to NSSI to cope.

**REFERENCES**


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