ABSTRACT

Objective: The purpose of this research was to establish estimates of the prevalence and correlates of non-suicidal self-injury among university students. Participants: Participants (n=2,843) were recruited from a random sample of 5,021 undergraduates and graduate students attending a large, Midwestern, public university. Method Summary: The prevalence of self-injury and that of potential risk factors, including depression, anxiety, eating disorders, suicidal thoughts, and health behaviors were measured using an Internet-based survey. Results: 7.2% of students reported any self-injury over the previous four weeks. Factors associated with a significantly higher likelihood (p<0.05) of self-injury included cigarette smoking, concurrent depressive and anxiety disorders, and for males, growing up in a low socioeconomic status family and having symptoms of eating disorders. Only 26% of those who reported self-injury received any mental health therapy or medication in the previous year. Conclusions: Students who harm themselves experience high anxiety and distress, yet are unlikely to seek help.
There has been increasing attention in the scholarly and lay press to self-injury—the deliberate destruction of body tissue without conscious suicidal intent—among young people, and college students in particular.\textsuperscript{1,2} Traditionally linked to borderline personality disorder, self-injury has been associated with more prevalent mental health diagnoses, including depression, anxiety, substance abuse, and eating disorders.\textsuperscript{3} The most common forms of self-injurious behaviors include cutting or burning skin, banging body parts, scratching, and interfering with wound healing.\textsuperscript{4} Behaviors usually begin in adolescence or young adulthood,\textsuperscript{5,6} and information about self-injury is readily available to young people through the media and the Internet.\textsuperscript{7}

While self-injury is often conflated with suicidal ideation, researchers suggest the two are different in intent and function. Young people who self-injure clearly distinguish their acts from suicidal ideation,\textsuperscript{8} and research suggests the behavior serves a maladaptive coping function—to decrease tension, provide relief from troubling emotions, and manage stress or distress.\textsuperscript{1,5,9} Still, young people who self-injure are more likely to report suicidal thoughts and are at greater risk for future suicidal actions.\textsuperscript{10,11} Moreover, engaging in self-injury can engender negative social reactions, disrupt relationships, produce feelings of shame and isolation,\textsuperscript{1} and possibly confer serious physical harm, suggesting cause for concern about its prevalence among college students.

Until recently, there were few reliable prevalence estimates of self-injury within the non-psychiatric population. Reported estimates among adults range from 4\% (lifetime) among military recruits\textsuperscript{12} and 4\% (in the last 6 months) among a representative sample of adults\textsuperscript{9} to 22\% (lifetime) among women presenting for gynecological care.\textsuperscript{13} Among samples of adolescents, reported prevalence estimates of self-injury range from 14\% (lifetime)\textsuperscript{14} and 16\% (lifetime),\textsuperscript{15} while a recent study reports a 12-month prevalence as high as 46.5\%.\textsuperscript{16} The prevalence of self-injury may be similarly high among college students, ranging from 12\%\textsuperscript{17} to 38\% (lifetime).
among undergraduate psychology students.\textsuperscript{18} Among a random sample of college students at
two elite northeastern U.S. universities, the lifetime prevalence was 17\%, with a 12-month
prevalence of 7.3\%.\textsuperscript{19} Because prior college-student studies relied on convenience samples,\textsuperscript{17,18}
had relatively low response rates (37\% in the case of the northeastern college student sample),\textsuperscript{19}
or did not adjust extensively for the possibility of non-response bias, more work is needed to
establish the prevalence of self-injury.

Research is also needed to clarify the demographic and health-related correlates of self-
injury. While self-injury was originally thought to be more common among women, recent
studies do not suggest gender differences.\textsuperscript{9,12,15,16,18,19} Eating disorders have been linked to
self-injury,\textsuperscript{17,19} and depression and anxiety may be co-occurring conditions.\textsuperscript{12,14} There has been
no prior research that addresses the relationship between self-injury and drug or alcohol abuse in
community-based samples of young people, although research on convenience samples suggests
such associations.\textsuperscript{20}

We conducted the Healthy Minds Study to assess mental health needs and service
utilization among students attending a large, Midwestern, public university. Unlike prior
research on self-injury, we used detailed information to adjust for non-response bias – the
possibility that those who respond to a survey on a sensitive topic may be significantly different
from those who do not respond. This study also employed validated screening instruments to
measure co-occurring depressive and anxiety disorders. In this paper, we used these data to
answer several research questions. First, what is the prevalence of self-injury in a representative
sample of university students? Second, does self-injury co-occur with eating disorders, suicidal
thoughts, and/or depressive and anxiety disorders? In addition, we attended to research
questions that have not been explored adequately in prior research of self-injury among young
adults, including investigating the differences in the prevalence of self-injury across socioeconomic and racial/ethnic groups, and the relationship between self-injury and tobacco and alcohol use.

METHOD

Sample and Data Collection

We conducted an Internet-based survey of students attending a large, Midwestern, public university, called the Healthy Minds Study, in fall 2005. This student population is roughly similar to the national population of enrolled students at all United States degree-granting institutions in terms of gender (50% female at the sample university versus 58% nationwide) and race/ethnicity (68% white, non-Hispanic, 8% black, 5% Hispanic, and 13% Asian/Pacific Islander at the sample university versus 64%, 13%, 11%, and 7%, respectively, nationwide). In other aspects, such as being a large and academically competitive research university, the institution is not necessarily representative of colleges and universities in general. Five thousand twenty-one students were randomly selected (2,495 undergraduates and 2,526 graduate or professional students) from a database of all enrolled students who were at least 18 years old for recruitment into the study.

The survey was fielded in October-November 2005. The timing of the study was chosen to avoid the beginning and end of the semester, when students are typically undergoing a variety of stresses associated with moving, settling into a routine, or preparing for final exams and projects. To recruit subjects, we first sent an introductory letter by mail along with $2 as a token of appreciation. We then sent up to four email reminders with a link to the survey for those who...
had yet to respond. Subjects were also notified that they had been entered into a cash sweepstakes regardless of their participation. After reading a description of the study on an online consent form, participants indicated their consent by clicking on the link to begin the survey. The study was approved by the university's Health Sciences Institutional Review Board.

For additional details about the sample, recruitment strategy, and study design, see our previous paper.22

A web-based survey mode was used for a number of reasons. First, web surveys of college populations have been shown to produce similar results as mail surveys for questions related to substance use and other sensitive topics.23 Second, because this research investigates sensitive topics, a self-administered survey is preferable to a face-to-face or telephone interview to reduce social desirability bias.24 Third, while web-based surveys can raise questions about biased findings given unequal access to the Internet among the general population, college students generally—and at the studied university in particular—have excellent Internet access and computer literacy.25

Accounting for Non-response Bias

To account for the potential of non-response bias, we constructed non-response weights to adjust for differences between respondents and non-respondents, using administrative data on demographic characteristics of the whole sample (gender, race/ethnicity, year in school, international student status, and GPA) and data from a brief survey of non-respondents to the main survey. The brief non-response survey achieved a 55% response rate, and found, relative to the main sample, significantly lower prevalence of positive screens for depression and significantly less use of mental health services. These results highlighted the importance of
adjusting for response bias. Full details about the construction of the response propensity weights are available elsewhere.\textsuperscript{22}

**Measures**

**Self-injury.** One question, developed for this study, assessed self-injury in the last four weeks. The item asks about the most common forms of self-injurious behaviors:\textsuperscript{4,26} “This question asks about ways you may have hurt yourself on purpose, without intending to kill yourself. In the past 4 weeks, have you ever done any of the following intentionally? (Select all that apply.) ‘Cut myself’; ‘Burned myself’; ‘Banged my head or other body part’; ‘Scratched myself’; ‘Punched myself’; ‘Pulled my hair’; ‘Bit myself’; ‘Interfered with wound healing’; ‘Other (specify)’; or, ‘No, none of these’.” Respondents who exclusively specified behaviors in the “Other” category that were not consistent with self-injury as the deliberate and direct destruction of body tissue resulting in injury severe enough for tissue damage\textsuperscript{1} (e.g., alcohol abuse, minor nail-biting, or binge-eating) were re-classified as “No, none of these.” Such responses were coded by one author (SEG) and also classified by Dr. Kim L. Gratz (personal communication, August 14, 2006). Given ambiguity in the literature about whether hair-pulling should be defined as self-injury, we conducted our analyses with and without the hair-pulling item. To be consistent with a definition of self-injury that results in tissue damage,\textsuperscript{1} results reported herein exclude the item.

**Mental health status.** Symptoms of depression in the past two weeks were measured using the Patient Health Questionnaire-9 (PHQ-9), a screening instrument based on the nine DSM-IV criteria for a major depressive episode.\textsuperscript{27} We used the PHQ-9’s standard algorithm to categorize people as screening positive for major depression, other depression (which includes dysthymia or depression not otherwise specified), any depression (either major or other), or
neither. In the original PHQ validation study, the sensitivity and specificity for major depression were 73% and 98% in a sample of primary care patients. Symptons of panic disorder and generalized anxiety disorder over the past four weeks were measured using items from the PHQ anxiety module. We used the standard algorithm to categorize people as screening positive for panic disorder, generalized anxiety disorder, either, or neither. In the original validation study, the sensitivity and specificity of this scale were 81% and 99% respectively, for panic disorder, and 63% and 97% for generalized anxiety disorder.

Potential eating disorders were measured using the SCOFF screening instrument, a 5-item questionnaire. Respondents who agreed with two or more of the items were classified as having a probable eating disorder, per the standard SCOFF algorithm. In a validation study with a graduate student population, this screen had a positive predictive value of 66.7% and a negative predictive value of 88.7%.

One item asked whether in the past four weeks the participant ever seriously thought about committing suicide. Participants were also asked if they had ever been diagnosed by a health professional with a mental health condition.

Substance use. We defined substance use based on criteria that roughly correspond to behavior likely to be harmful, which includes regular cigarette use and any marijuana use or binge drinking. Participants were classified as smokers if they reported that they smoked at least one cigarette per day in the past four weeks. They were classified as marijuana users if they reported that they used marijuana at least once in the past four weeks. Following previous studies of college student binge drinking, they were classified as binge drinkers if they reported consuming five drinks (for males) or four drinks (for females) in a row on at least one occasion in the past two weeks. Due to the need to limit the length of the survey as well as concerns
about redundancy with other student surveys that focus on substance abuse, we were unable to
ask students about other legal or illegal substance use.

**Socio-demographic characteristics.** We collected information on the following
characteristics of study participants: gender, age, race/ethnicity, nationality (U.S. or
international), sexual orientation, graduate or undergraduate status, year in current degree
program, perceived financial situation when growing up, and current relationship status.

**Perceived need and service utilization.** We asked all participants about their perceived
need for and utilization of mental health services over the past year, using items from the
Healthcare for Communities study. Perceived need was indicated if participants responded
affirmatively to the question: “In the past 12 months, did you think you needed help for
emotional or mental health problems such as feeling sad, blue, anxious or nervous?” Service
utilization was indicated if participants reported receiving counseling or therapy for their mental
or emotional health from a health professional (psychiatrist, psychologist, social worker, or
physician), or if they had taken any psychotropic medications, in the past year. Finally, those
who indicated they had received no mental health services were asked if they had visited any
medical provider for any reason in the past year.

**Statistical Analysis**

First, we calculated prevalence estimates of self-injury for the full population, by gender,
and for undergraduates and graduate students. To compare the proportions of self-injury across
groups (e.g., males versus females), bivariate logistic regression models were estimated with a
dichotomous measure of any self-injury as the dependent variable and the group variable as the
independent variable. To assess the associations between self-injury and all potential correlates,
multivariate logistic regression models were estimated. All analyses were weighted using the non-response adjustment weights described above. When statistics were estimated for the pooled sample of undergraduates and graduate students, a post-stratification weight was used to reflect the mix of undergraduates and graduate students (approximately 2:1) of the student population. Standard errors were calculated to reflect the sample design using survey functions in Stata 9.0.

**RESULTS**

Of the 5,021 students recruited, 2,843 completed the survey, yielding a 56.6% response rate. Graduate students and females were more likely to respond, while black students were less likely (p<0.05). The results weighted for non-response reflect a combined undergraduate and graduate student population composed of 60.6% white, 6.3% black, 19.9% Asian or Asian-American, 3.5% Hispanic, 5.4% multiracial, and 3.6% students who identified some other race. Forty-eight percent were female, 11.8% were international students, and 33.9% were graduate students.

Table 1 displays the prevalence of any self-injury for undergraduates and graduate students, by gender. (In all findings described below, "any self-injury" refers to self-injury in the past four weeks.) Seven percent of all students reported any self-injury. Undergraduates (7.9%) were more likely than graduate students (5.9%) to report self-injury (p=0.04). There were no significant differences by gender in the prevalence of self-injury (6.7% for females, 7.7% for males; p=0.36).

Among those who reported any self-injury, the most frequent behaviors reported were wound interference (36.7%), banging one's head or other body parts (35.8%), punching (20.7%), scratching (18.4%), and biting oneself (17.5%). Only 11.1% reported cutting. Female students
were less likely to report banging their head or other body parts \( (p=0.003) \) and punching themselves \( (p=0.001) \) and more likely to report wound interference \( (p=0.03) \). Among those who reported self-injury, 34.8\% reported more than one type of behavior, while 65.2\% reported only one type of behavior. Among those who reported more than one type of behavior, the two most common combinations were banging one’s head or body parts and punching oneself, and scratching one’s skin and wound interference.

Table 2 displays mental health conditions and health behaviors co-occurring with self-injury. Of those who reported any self-injury, 32.4\% screened positive for a probable depressive disorder \( (15.0\% \text{ major depression, } 17.4\% \text{ other depression}) \); 16.6\% for a probable anxiety disorder \( (7.5\% \text{ panic disorder, } 10.6\% \text{ generalized anxiety disorder}) \), and 25.9\% for a probable eating disorder. These are all significantly higher estimates of mental disorders \( (p<0.01) \) than among those who did not report any self-injury. Male students’ levels of eating disorder symptoms were particularly elevated compared to the prevalence of symptoms among males who reported no self-injury. Among those who reported any self-injury, 11\% also reported suicidal thoughts during the past four weeks, significantly higher \( (p<0.001) \) than the 1.6\% of students who reported suicidal thoughts among students who reported no self-injury. The prevalence of suicidal thoughts among those who reported self-injury was higher among men than women \( (15.6\% \text{ vs } 5.3\%) \) and among undergraduates than graduate students \( (13.3\% \text{ vs } 5.1\%) \). Among those who reported any self-injury, 43.9\% screened negative for depression, anxiety, and eating disorders and did not report any suicidal thoughts. Those who reported self-injury were more likely to report daily cigarette smoking \( (18.4\% \text{ vs } 4.9\% ; \text{ OR}=3.94, p<0.01) \), marginally more likely to report marijuana use \( (18.0\% \text{ vs } 12.4\% ; \text{ OR}=1.53, p=0.058) \), and no more likely to report
binge-drinking (48.1% vs 45.2%; OR=1.19, p=0.793) than their peers who did not report self-injury.

We estimated multivariate logistic regression models to identify the socio-demographic and mental health predictors of any self-injury, for the full population and for men and women separately (table not shown, but available from the authors upon request). For the full student population, controlling for age, gender, race/ethnicity, international student status, sexual orientation, year in school, graduate student status, family's past financial status, relationship status, PHQ positive screens for depression and anxiety, and positive screens for eating disorders, women were less likely to report self-injury than men (OR=0.6, 95% CI=0.41-0.89, p=0.01), and black students were less likely to report self-injury than whites (OR=0.27, CI=0.09-0.78, p=0.02). Those who reported that their family's financial status was poor when they were growing up (compared to “comfortable”) were more likely to report self-injury (OR=3.00, CI=1.12-8.02, p=0.03). Students who reported being in a relationship were more likely to report self-injury than those who reported being single (OR=1.66, CI=1.13-2.44, p=0.009). Those respondents who screened positive for depression (OR=3.19, CI=2.03-5.00, p<0.001), anxiety (OR=6.44, CI=3.11-6.44, p<0.001), or both depression and anxiety (OR=9.25, CI=5.24-16.32, p<0.001), were all more likely to report self-injury than those who did not screen positive for a depressive or anxiety disorder. Those who screened positive for an eating disorder were also more likely to report any self-injury (OR=1.84, CI=1.17-2.91, p=0.009). For the full student population, there were no significant associations between self-injury and students’ age, international student status, sexual orientation, graduate or undergraduate student status, or their year in school, controlling for all covariates.
Logistic regression models estimated separately for male and female students revealed several notable differences in the predictors of self-injury for men and women. The associations between mental health disorders and self-injury were greater for males than for females, as reflected by males’ higher odds-ratios associated with depressive disorders (OR=4.15, CI=2.19-7.18, p<0.001 for males and OR=1.92, CI=0.97-3.80, p=0.06 for females) and males’ higher odds-ratios for having both depressive and anxiety disorders (OR=16.8, CI=6.21-45.52, p<0.001 for males and OR=5.94, CI=2.84-12.43, p<0.001 for females). Among females, the presence of a probable eating disorder was not significantly related to self-injury (OR=1.24, CI=0.71-2.15, p=0.44) whereas having a probable eating disorder was significantly related to self-injury for males (OR=3.35, CI=1.66-6.78, p=0.001). No black females reported any self-injury, while there were no racial differences in reporting self-injury among males. Bisexual males (OR=4.75, CI=0.98-23.01, p=0.053) and lesbians (OR=5.52, CI=1.80-16.9, p=0.003) were more likely to report self-injury than those who reported they were heterosexual, and females in their second year were less likely to report self-injury (OR=0.49, CI=0.26-0.93, p=0.028). While in the full student population there appeared to be significant associations between self-injury and poor financial status and between self-injury and being in a relationship, in fact, these covariates were only significant predictors of self-injury among male students, not female students: Males in a relationship (OR=2.07, CI=1.15-3.72, p=0.015) and males who reported poor financial status when growing up (OR=5.43, CI=1.60-18.46, p=0.007) were more likely to report self-injury.

Figure 1 illustrates students’ perceived need for and utilization of mental health services. About half of those who reported self-injury perceived a need for help in the past year. Of those who reported any self-injury, 15.7% reported that they used any psychiatric medication in the past year, 19.9% reported past-year counseling or therapy visits, 26.4% reported that they had
used any medication or had any counseling visits, and 25.9% reported that they had ever been diagnosed with a mental health condition. Over 80% of those who reported self-injury had seen a health professional in the past year.

COMMENT

In a random sample of students at a large public university, 7% of students reported they hurt themselves on purpose in the past four weeks without intending to kill themselves. This figure adds to growing evidence that there is a substantial prevalence of self-injury among university students.\(^{18,19}\) The combination of a relatively high response rate for an Internet survey (56.6%),\(^{34}\) the diversity of the sample, and the adjustments for non-response bias is unique in the literature to date and strengthens the validity of our estimates. Although other studies have identified “cutting” as the most commonly reported form of self-injury,\(^{11,18,26}\) this behavior was infrequent in this population (less than 1% in the past four weeks), while wound interference, banging one’s body parts and punching oneself were more common. In another Internet-based survey of college students, Whitlock and colleagues identified skin scratching as the most common form of self-injury, followed by banging/punching objects, cutting, and banging/punching oneself.\(^{19}\) Authors of a recent study of a community sample of adolescents also identified wound interference as the most common form of self-injury, and they questioned the clinical significance of this behavior.\(^{16}\) We agree with Lloyd-Richardson and colleagues' suggestion that more work is needed to evaluate the clinical significance of the various types of self-injury among young adults.

This study identified several socio-demographic associations with self-injury. There were no overall gender differences in the prevalence of self-injury, yet multivariate models
accounting for mental health characteristics indicated that women were less likely to report self-injury than men. Black students (particularly black female students) were less likely to engage in self-injury than white students, racial differences which are consistent with previous research.\textsuperscript{11, 15, 35} Like other studies,\textsuperscript{19, 35} this study also identified gay and bisexual students as having a higher likelihood of self-injury. In contrast to a prevailing assumption in the historical literature on self-injury that young adults who self-injure are of middle or high socioeconomic status (SES),\textsuperscript{20} we found that male students from a poor socioeconomic background were at highest risk of engaging in self-injury, even after controlling for mental health status. This finding, combined with our prior work showing that students from poor backgrounds had higher rates of depression, anxiety, and suicidal ideation, suggests that students with lower SES may require targeted support to ensure that their success in college is not compromised by mental health problems.\textsuperscript{35}

Co-occurring mental health conditions (major or other depression, generalized anxiety disorder and panic disorder) were all significantly related to self-injury, supporting previous research that suggests that feelings of depression and anxiety co-occur with self-injury.\textsuperscript{14} About 11\% of those who reported any self-injury also reported suicidal thoughts. The relationship between self-injury and suicidal ideation was especially strong for males, suggesting that young men who self-injure may be at particular risk for suicidal actions. Self-injury was unrelated to binge drinking but strongly related to cigarette smoking.

This study contributes to growing evidence of gender differences in the mental health correlates of self-injury.\textsuperscript{12, 18} The association between depression and self-injury was stronger for men than for women. Moreover, symptoms of eating disorders appeared to be associated with self-injury for men but not for women. Such a gender difference in co-occurring eating
disorders has not been previously identified, possibly because early studies identifying the association with eating disorders used convenience samples of women.\textsuperscript{17}

Like Whitlock and colleagues,\textsuperscript{19} we found that levels of mental health services utilization among those who self-injured were low. Even while nearly half of those who self-injured perceived a need for mental health services, and in spite of significant associations between self-injury, depression, and anxiety, only one-fourth of the students who injured themselves in the past four weeks had received any counseling or treatment in the prior year. These low utilization levels are consistent with our previous research, in which we found that fewer than half of students with major depression were receiving any therapy or counseling.\textsuperscript{22}

Low utilization of mental health services among students who reported self-injury could reflect a variety of factors—failure of these students to perceive a need for help, lack of awareness about where to go for help, negative attitudes about the potential effectiveness of services, or feelings of shame about their behavior. Given that more than half of students who self-injured also screened positive for other common mental health-related conditions (depression, anxiety, suicidal ideation, or eating disorders), on-campus educational campaigns to increase knowledge and awareness about the availability of mental health services could go a long way toward reaching those students who self-injure. Despite low levels of utilization of mental health help, the vast majority of students who self-injured reported visiting health professionals in the previous year. This finding suggests roles for campus primary care health service providers to screen for self-injury behaviors upon intake and to connect students who self-injure to specialty services that might help them learn more positive coping skills and manage any underlying emotional or mental health problems. Moreover, given that the frequency of and forms of self-injury are only recently becoming characterized, the findings
from this study might be useful for educating providers about how to identify self-injury. For instance, while many might associate self-injury exclusively with cutting skin, we find that other behaviors are in fact more common. Providers might screen for students’ wound-interference, banging their heads or body parts, and punching as signs of students who may be in significant distress. Initiatives to educate students about self-injury may also be beneficial, if such initiatives can increase recognition and help-seeking.

In terms of research priorities, longitudinal analysis is needed to establish the temporal sequencing of self-injury with respect to other behaviors and symptoms. For instance, while we found that self-injury and suicidal ideation were correlated in this cross-sectional sample, longitudinal research might inform whether self-injury actually precedes suicidal ideation. Such a finding might have important implications for designing interventions to identify and manage students at risk for suicide. Also, additional research is needed to improve understanding of how students view their own self-injuring behavior, and what motivates or impedes their willingness to seek help. Finally, the design and evaluation of interventions to address self-injury among students should receive a high priority among college health researchers.

**Limitations**

This study has several important limitations. First, the single item used to measure self-injury was designed neither to assess the frequency nor the severity of behaviors. While we classified multiple types of self-injury together as “any self-injury,” this does not mean these behaviors are equivalent in their clinical implications. Because we did not assess the behaviors’ frequency over the four-week period, only whether or not students engaged in them at all, we cannot categorize students as meeting criteria for any putative diagnostic category of self-injury that has been proposed. Second, the study did not assess associations with certain risk factors.
that have been previously linked with self-injury, such as abuse or trauma. Third, these findings are based on data from a single university. As noted earlier, the overall demographic characteristics of our sample are roughly similar to the national population of students at four-year colleges or universities, but the university is not necessarily representative in other respects such as academic competitiveness.

Conclusions

This study highlights the importance of understanding and addressing self-injury among college students, and young adults in general. Students who injure themselves are unlikely to seek help, yet they are at risk for experiencing significant anxiety, distress, and suicidal thoughts. Colleges, comprising a unique constellation of potential supports including residential life, social networks, health services, and mental health services, could have an important role in the detection, prevention, and treatment of self-injury at a critical stage in young people’s lives.
REFERENCES


Table 1: Four-week Prevalence of Self-Injury among University Students

<table>
<thead>
<tr>
<th></th>
<th>All students</th>
<th>Undergraduates</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>All</td>
</tr>
<tr>
<td>n</td>
<td>1,469</td>
<td>1,319</td>
<td>2,788</td>
</tr>
<tr>
<td>Any self-injury</td>
<td>6.71%</td>
<td>7.72%</td>
<td>7.23%</td>
</tr>
<tr>
<td>Cutting</td>
<td>0.97%</td>
<td>0.64%</td>
<td>0.80%</td>
</tr>
<tr>
<td>Burned oneself</td>
<td>0.12%</td>
<td>0.41%</td>
<td>0.27%</td>
</tr>
<tr>
<td>Banged head or other body part</td>
<td>1.56%</td>
<td>3.55%</td>
<td>2.59%</td>
</tr>
<tr>
<td>Scratched oneself</td>
<td>1.17%</td>
<td>1.48%</td>
<td>1.33%</td>
</tr>
<tr>
<td>Punched oneself</td>
<td>0.60%</td>
<td>2.34%</td>
<td>1.50%</td>
</tr>
<tr>
<td>Bit oneself</td>
<td>1.38%</td>
<td>1.16%</td>
<td>1.27%</td>
</tr>
<tr>
<td>Interfered with wound healing</td>
<td>3.43%</td>
<td>1.93%</td>
<td>2.65%</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>0.22%</td>
<td>0.48%</td>
<td>0.35%</td>
</tr>
</tbody>
</table>
Table 2: Mental Health Problems and Health Behaviors, Co-occurring with Self-Injury

<table>
<thead>
<tr>
<th>Percentage who screened positive for:</th>
<th>Any Self-Injury</th>
<th>No Self-Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage who engaged in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binge drinking, past 30 days</td>
<td>49.0% 47.4% 48.1%</td>
<td>43.2% 47.1% 45.2%</td>
</tr>
<tr>
<td>Cigarette smoking (at least 1-5/day, past 30 days)</td>
<td>14.1% 21.9% 18.4%</td>
<td>3.7% 6.1% 4.9%</td>
</tr>
<tr>
<td>Marijuana use, past 30 days</td>
<td>15.5% 20.0% 18.0%</td>
<td>11.9% 12.9% 12.4%</td>
</tr>
</tbody>
</table>
Figure 1: Perceived Need and Health Services Utilization, by Self-Injury Status

Note. All differences between students with reported self-injury and students without reported self-injury are significant (p<.05) except for the proportions of those with visits to any health professional.