# Educational stakeholders' attitudes and knowledge about nonsuicidal self-injury among university students: A cross-national study

## Abstract

**Objective:** Nonsuicidal self-injury (NSSI) is a commonly occurring, yet historically poorly understood, mental health concern among post-secondary students. The present study sought to identify the current knowledge needs of university stakeholders to inform training efforts around effective NSSI response and student support on university campuses.

**Participants:** Participants were 1,762 university students, staff, and student-staff (77% female) from seven universities in Canada, the USA, New Zealand, and Australia.

**Methods:** Participants completed an online survey about their attitudes and knowledge of both general mental health and NSSI.

**Results:** University stakeholders reported significantly greater stigma toward NSSI than mental illness in general. Student-staff reported greater perceived knowledge and comfort, and demonstrated greater knowledge of NSSI, than students and staff.

**Conclusions:** Findings underscore the need for additional training and resources to reduce stigma and increase knowledge about NSSI on university campuses internationally.

*Keywords:* knowledge, nonsuicidal self-injury, post-secondary school, stigma, schools

The post-secondary years are a period of both heightened opportunity and vulnerability, characterized by significant change and transition for emerging adults (ages 18 − 25 years), such as moving away from family and friends, and increased academic demands.[1,2] Difficulty adapting to these transitions can lead to increased engagement in risky behaviors, such as alcohol and substance use, and mental health struggles among students.[3–5] In particular, one commonly occurring mental health concern among post-secondary students is nonsuicidal self-injury (NSSI).[6,7] NSSI is the deliberate, self-inflicted damage of bodily tissue without suicidal intent for purposes not socially or culturally sanctioned (e.g., self-cutting, battery, severe scratching).[8] Among young adults attending university, one out of every five students has engaged in NSSI,[9] with an estimated 15% of students initiating self-injury in their first two years of attending university.[10] Young adults attending university are twice as likely to engage in NSSI than same-aged peers who do not attend university,[9,11] suggesting there may be particular risk factors unique to this group. Previous research indicates the most commonly endorsed reason to engage in NSSI is to self-regulate intense emotional distress,[12] so it follows that increased stress during the transition to university is associated with increased risk for NSSI among post-secondary students.[13,14]

Students who begin to self-injure while at university, as well as those who continue this behavior from adolescence into their university years, are at greater psychosocial risk than students without a history of NSSI. Specifically, they report more high risk behaviors (e.g., substance use), difficulties with parents, and mental health disorders and symptomatology, such as anxiety and depressive disorders, eating disorders, and psychotic symptoms.[10,15] It is also important to note that although NSSI, by definition, lacks conscious suicidal intent,[16] NSSI is a robust predictor of subsequent suicidal thoughts and behaviors among post-secondary

students.[17,18] Indeed, post-secondary students with a history of NSSI have been found to be 5.5 times more likely to make a suicide attempt during the later university years, even after controlling for other risk factors for suicidal behavior.[19] Given the prevalence of NSSI among young adults, and its links with aversive outcomes for students, further exploration of NSSI among university students is critical to gain insight and develop strategic prevention and intervention efforts.

Many colleges and universities are increasingly recognizing the importance of students' mental health and well-being and have begun implementing risk assessments and other intervention services.[20,21] These include providing gatekeeper training to students and staff to recognize, respond, and facilitate mental health referrals for distressed students,[22,23] as well as training college and university mental health practitioners in therapeutic techniques such as cognitive behavior therapy, dialectical behavior therapy, and other strategies to enhance coping and emotion regulation among students.[24,25] However, according to an analysis of US national college health data from 2009-2015, although students' reported intentions to seek campus mental health services have increased from 67.1% to 73.7%, actual use of services remains low, increasing only from 14.4% to 18.7%.[26]

Studies focused specifically on help-seeking for NSSI are limited. In one previous study of university students who had recently engaged in NSSI, half reported a need for mental health services, but only one-fourth of these students had received any treatment/care.[27] More recent research suggests that rates of help-seeking for NSSI among post-secondary students remain comparably low.[11,28] Barriers to help-seeking for NSSI may include a lack of perceived need, lack of awareness of available resources, negative attitudes toward mental health services, or

concerns around perceived stigma about NSSI, such as being (mis)labeled as attention seeking.[28–31]

Alternatively, barriers may be more structural in nature, including lengthy waitlists to access services, lack of available or appropriate resources, and/or ineffective referral processes on college and university campuses.[32–34] However, to date, there is little empirical work examining student and staff attitudes and knowledge of NSSI in post-secondary contexts, despite these being critical to a better understanding of NSSI help-seeking behavior among post-secondary students.

**Stigma and NSSI**

Two factors that are thought to play a crucial role in the development of stigma are the origin of the stigmatized behavior, and the extent to which engaging in the behavior is regarded as within one's personal control.[35] These factors together suggest that NSSI may be more stigmatized than other mental health conditions.[31] NSSI is often associated with mental illness, so it stands to reason that students who self-injure may be subject to mental illness stigma. Additionally, NSSI is within one's volition, and behaviors over which people have personal responsibility are more likely to be stigmatized. In recent work, Lloyd et al.[36] noted that perceived responsibility for NSSI was associated with more stigmatizing attitudes among post-secondary students. Of concern, these authors also found more stigma and discrimination, including a reluctance to offer support, when a character in a vignette disclosed their self-injury, which was regarded as manipulative.

Research suggests that stigmatizing beliefs held by the public (public stigma), lead individuals with lived experience to anticipate negative reactions from others if they disclose their experiences (anticipated stigma). Experiencing negative reactions (enacted stigma) may

then lead these negative attitudes to be internalized (self-stigma), enhancing the sense of shame or unworthiness commonly felt by individuals who self-injure.[31,37,38] Engaging in NSSI can also result in visible scarring to body tissue that may prompt stigmatizing responses from others.[39,40] In one study, Burke and colleagues[41] found more negative implicit, and explicit, biases toward NSSI scarring than toward socially acceptable damage to the skin, such as tattooing, or scarring caused by an accident. Focusing only on participants with a history of NSSI, NSSI was more likely to be associated with negative attributes (e.g., manipulative, dishonest, disliked, rejected) than the other forms of injury, suggesting some internalization of these negative beliefs.[42] This stigma may arise from misconceptions about NSSI, such that NSSI is manipulative or attention-seeking.[43] Therefore efforts to reduce stigma on post-secondary campuses must first address people's knowledge about NSSI and ensure widespread dissemination of accurate information.

**Knowledge of NSSI among post-secondary educational stakeholders**

Although research on NSSI knowledge in post-secondary contexts is scarce, previous research focused within secondary school contexts suggests that key stakeholders, such as educators and administrators, often report low levels of knowledge about NSSI.[43,44] However, it is important to note that many studies are dated, and that it is possible that attitudes have changed in recent years with the promotion of anti-stigma campaigns across post-secondary campuses,[45,46] as well as the addition of NSSI to the DSM-5.[47] In the absence of newer findings, we turn to these previous studies now as a basis for our work. In terms of absolute knowledge, secondary school teachers have historically underestimated the prevalence of NSSI, and regarded the behavior as typically limited to young women.[44,48] Understanding of the motivations for NSSI has also been limited; in two studies, approximately a third of secondary school teachers agreed or were unsure whether students who self-injured were doing so to manipulate others,[43,44]

an incorrect belief also held by some school students.[49] In terms of self-perceived knowledge, although 62% to 67% of secondary school teachers said that they would feel comfortable if a student spoke to them about NSSI, only 20% to 43% reported feeling knowledgeable about NSSI and less than half reported feeling confident that they would know how to respond to NSSI.[43,44]

This lack of widespread self-perceived knowledge and confidence is mirrored in requests from school staff for further education and school policies for addressing NSSI to better guide their work.[48] Although previous research among elementary and secondary schools provides some understanding of the attitudes toward NSSI among students and staff, as well as their knowledge needs around NSSI, there has been comparatively less research on the experiences of students and staff within university contexts. In the only study investigating staff attitudes and knowledge, 88% of university mental health practitioners incorrectly thought of NSSI as an almost exclusively female behavior, and only 29% reported that they were well informed about NSSI.[50] Among college students, individuals with and without a history of NSSI generally held similar perceptions of the motivations underlying NSSI, although students without a history of NSSI tended to weigh the importance of some interpersonal functions of NSSI, such as getting support from others, slightly higher.[51] Research on student-staff, or students that work on campus such as residence dons and teaching assistants is particularly scant, though these students are often in roles that involve direct contact for students. Student-staff may serve as important peer supports useful for identifying and reducing mental health difficulty and risk behaviors on college campuses.[22] Across stakeholders, a lack of knowledge can lead to misconceptions about NSSI, underlie poor responses to NSSI, and perpetuate stigma.[52] Indeed, research on the disclosure of NSSI among university students demonstrates that concern about reactions from recipients, such as lack of understanding and avoidance, as well as feelings of shame on behalf of

the discloser, serve as salient barriers to disclosures.[53] These findings highlight the need to better understand the level of general NSSI knowledge among the diversity of stakeholders who engage with students (i.e., other students, staff, and student-staff), and address knowledge gaps, in post-secondary contexts.

**The present study**

The present study was designed to assess NSSI attitudes and knowledge among students and staff in post-secondary school contexts. Given that there are often stakeholders in multiple roles (e.g., faculty, staff, peers, peers employed in residence, student support networks, etc.) involved in responding to NSSI, multi-stakeholder campus-wide approaches are required for effective NSSI response and student support.[54] Thus, the overarching goal of this study was to identify knowledge and skills for targeted training and resource development. Specifically, the study explored: a) stigma-linked attitudes, b) knowledge of NSSI among students and staff stakeholder groups, specifically, students, staff, and student-staff, and c) the relation between knowledge of NSSI and stigma-linked attitudes. We predicted that there would be high levels of stigma toward NSSI, and that stigma toward NSSI would be greater than stigma toward mental illness more generally. We also anticipated that low levels of knowledge would be associated with higher levels of stigma. Additionally, we sought to identify unique stakeholder knowledge needs to inform targeted knowledge and training efforts on post-secondary campuses. In recognition that NSSI prevalence and many of the concommittment challenges associated with the behavior are similar across Western Cultures,[55] and to enhance generalizability of study findings, the study was intentionally cross-national. This approach also was used to facilitate the identification of common knowledge gaps among stakeholders to inform the development of training materials across multiple settings.

## Method

### Participants

Our sample was comprised of 1762 individuals (77% female, 19% male, and 4% who reported other identities) who participated in a larger study on student mental health needs on campus. Participants were recruited from seven universities in four countries ($n$ = 598 in Canada, $n$ = 419 in the United States, $n$ = 420 in New Zealand, $n$ = 325 in Australia) during the 2018-2019 academic year. Participants were primarily Caucasian (56%), East Asian (15%), and South Asian (7%). Of these participants, 1599 were enrolled as students at participating universities ($M_{age}$ = 21.23, $SD$ = 5.31) and 75% lived off-campus – which was common at the sites in which data was collected. In the present study, 1257 students were surveyed about their employment, and 13.7% indicated they were also employed at the university. Twenty five percent of student-staff were employed in support staff roles such as advisors and student services employees, 20% were employed in academic staff roles such as course lecturers, 20% were employed in research assistant positions, 8% were employed in tutor roles, 6% were employed in work study placements, 5% were employed in residence staff roles, and 4.2% were employed in teaching roles. Of the sample of 1762 participants, 163 were staff at the university but not registered as students ($M_{age}$ = 39.39, $SD$ = 11.27). Of these staff, 42% were employed as academic staff such as faculty or sessional instructors, 34% were employed in support staff roles, and the rest of the sample consisted of diverse employees at the university such as residence staff, mental health practitioners, administrators, emergency services, and athletic coaches.

### Procedure

At each academic institution, participants were recruited to take part in a study focused on understanding student mental health needs on campus, using hard copy and electronic

advertisements (e.g., posted on lab websites, university social media pages, emailing student club listservs, etc.), and classroom announcements. We recruited broadly around student mental health, to reduce selection bias by recruiting only participants who wanted to complete a study on NSSI. The study advertisements provided a link to the online consent form and survey, which included eligibility screening items. The present study was approved by the Institutional Review Ethics Board at each participating site, and informed consent was obtained from participants. To be eligible to take part, participants had to be: a) fluent in English, b) at least 18 years of age, and c) enrolled as a student or employed at the host university. Ineligible participants were redirected to the study debriefing form. The survey was completed by eligible participants anonymously and took approximately 20 minutes to complete. Participants reported on their attitudes toward NSSI and mental illness, their perceived knowledge and comfort with NSSI, and assessed their levels of NSSI knowledge. At the end of the survey, participants were prompted to click a link to submit their email address on a separate survey, if they wanted to be included in a cash draw, or awarded course credit for participation, depending on the institution in which data was collected. Following the assessment, all participants were provided with a study debriefing form and a list of mental health resources and supports.

## Measures

**Demographics.** Participants completed a demographic questionnaire reporting on their age, sex, ethnicity, living situation, and whether they were a student and/or employed at the university.

**Perceived public stigma toward mental illness and NSSI.** Participants completed five items from the awareness subscale of the Self-Stigma of Mental Illness Scale Short Form (SSMIS-SF)[56] to assess perceived public stigma toward mental illness (e.g., “I think the public

believes that most persons who have a mental illness are… dangerous, unpredictable, trying to manipulate others"). Participants completed these same five items again, but adapted to NSSI (e.g., "I think the public believes that most persons who engage in NSSI are dangerous, unpredictable, trying to manipulate others"). Participants responded to the items for both mental health and NSSI using a scale from 1 = *strongly disagree* to 9 = *strongly agree*, and scores on each scale were averaged such that higher scores indicated greater perceived public stigma. The SSMIS-SF has demonstrated good convergent and discriminant validity in previous research.[56] Cronbach's alpha for the scales assessing stigma toward mental illness and NSSI in the present study were .85 and .84, respectively.

**Personal NSSI stigma.** Participants also completed an adapted version of the short form Attribution Questionnaire (AQ-9)[57] to assess personal stigma toward NSSI. Participants read the following scenario: "You recently met CK during your university student orientation. As you get to know CK, they disclose to you that they engage in nonsuicidal-self-injury." Participants responded to eight items about the scenario (e.g., "I would feel pity for CK," "I would feel scared of CK") using a scale from 1 = *not at all* to 9 = *very much*. The AQ-9 was adapted from the original AQ-27 for children ages 10 − 18 years, and has demonstrated strong reliability and validity in previous research.[57,58] In the present study, the internal consistency of this scale was acceptable ($\alpha = .77$).

**Perceived knowledge and comfort with NSSI.** Perceived knowledge and comfort with NSSI were assessed using four items developed for the purposes of this study. Participants were asked to report on: a) how much they know about NSSI from 1 = *none* to 5 = *a lot*, b) their ability to locate and utilize resources for NSSI from 1 = *strongly disagree* to 5 = *strongly agree*, c) their comfort talking about NSSI with someone who self-injures from 1 = *not at all*

*comfortable* to 5 = *comfortable to a high degree*, and d) how knowledgeable they felt about how to effectively help someone who engages in NSSI from 1 = *not at all knowledgeable* to 5 = *knowledgeable to a high degree*. Items were averaged such that higher scores indicated greater perceived knowledge about NSSI. Cronbach's alpha for the scale was .76 in the present study.

**Knowledge of NSSI.** Participants were asked to complete a 13-item measure developed for this study to assess their actual knowledge of NSSI (e.g., "How prevalent is NSSI?" "Which statement best describes the association between NSSI and suicidal behavior?"). Response items varied depending on question format (e.g., true/false, select all that apply). A knowledge score was created by totaling the number of correct answers for items that had empirically supported answers, with a possible range of 0 − 12.

**Participant NSSI.** Participants' own history of NSSI was assessed using one item: "Have you ever engaged in nonsuicidal self-injury (direct and deliberate damage of bodily tissue without lethal intent such as self-cutting, burning, carving, severe scratching)?" Comparable one-item assessments have been used in previous research.[9]

**Missing data**

In total, 5.43% of survey data was missing. Missing data was attributed to two primary sources: a) participants did not complete some questions on the survey – an incomplete survey, or b) a site did not include all of the survey questions on the assessment. For data that was missing due to incomplete responding, expectation-maximization (EM) imputation was used. EM is an iterative maximum likelihood procedure in which a cycle of calculating means and covariances followed by data imputation is repeated until a stable set of estimated missing values is reached. Methodological research has demonstrated that EM estimation is preferable to pairwise deletion, list-wise deletion, or means substitution.[59] When data was missing because a

question was excluded at a participating site, we reported analyses using only those sites that included the measure.

**Data analytic plan**

Descriptive analyses were conducted and means for the stigma, perceived knowledge and comfort, and knowledge measures were reported for the entire sample. To examine differences in perceived public stigma toward mental illness compared to NSSI, a paired samples t-test was used. Next, a MANOVA and follow-up analyses were conducted to explore differences between the stakeholder groups of students, staff, and student-staff on the stigma, perceived knowledge and comfort, and objective knowledge measures. At one participating site, students were not asked about their employment; therefore, participants from this site ($n$ = 356) were not included in analyses comparing stakeholder groups. To ensure sufficient sample size for the primary analyses, a power analysis was conducted.[60] With an effect size of 0.0625 for the MANOVA, and a power of .80, a minimum sample size of 162 was required to compare the three groups (students, staff, student-staff) across the 8 dependent variables. Our sample met this requirement, as well as the minimum number of participants needed per group. Finally, we examined the correlations among levels of knowledge and stigma, and then examined whether levels of knowledge uniquely predicted stigma using a regression analysis. To account for multiple analyses, a reduced alpha of $\leq 0.01$ was used to identify statistically significant results.

## Results

An examination of variable skewness and kurtosis revealed the stigma scale scores and the perceived knowledge items were normally distributed – skewness and kurtosis less than |2|. Descriptive analyses showed that on average participants reported low to moderate levels of perceived public stigma for mental illness and NSSI (see Table 1), moderate perceived

knowledge and comfort (see Table 2), and low to moderate levels of NSSI knowledge (see Table 3). A paired samples t-test revealed that participants reported greater perceived public stigma for NSSI than mental illness, $t(1405) = -9.63$, $p < .001$ ($M = 5.52$ for mental illness, and $M = 5.81$ for NSSI). In terms of overall knowledge about NSSI, on average participants correctly identified 6.42 items ($SD = 2.11$) out of 12, which is equivalent to an average score of 54%. Knowledge scores were comparable across countries, $M = 6.37$ for Canada, $M = 6.34$ for the United States, $M = 6.42$ for New Zealand, and $M = 6.62$ for Australia.

The MANOVA revealed there was a small statistically significant effect of stakeholder group on the stigma, perceived knowledge and comfort, and knowledge of NSSI measures, $F(16, 2792) = 4.601$, $p < .001$, Wilks $\Lambda = .95$, $\eta^2 = .03$. An examination of the tests of between-subjects effects demonstrated that stakeholder group had a significant effect on personal NSSI stigma, $F(2, 1403) = 11.02$, $p < .001$ $\eta^2 = .02$, perceived comfort talking with someone who engages in NSSI, $F(2, 1403) = 7.21$, $p = .001$ $\eta^2 = .01$, perceived knowledge about how to help someone who self-injures, $F(2,1403) = 6.91$, $p = .001$ $\eta^2 = .01$, and actual NSSI knowledge $F(2, 1403) = 9.55$, $p < .001$ $\eta^2 = .01$. There was a trend effect of the stakeholder group on how much individuals reported knowing about NSSI, $F(2, 1403) = 4.54$, $p = .01$ $\eta^2 = .01$. Games-Howell follow-up analyses indicated that student-staff and staff reported less personal stigma than students. In addition, student-staff reported higher levels of perceived comfort talking to someone who self-injures, and knowing how to help someone who self-injures than both staff and students. Finally, student-staff demonstrated higher levels of knowledge than students and staff, and students demonstrated higher levels of knowledge than staff ($M = 6.86$ for student-staff, $M = 6.42$ for students, and $M = 5.89$ for staff).[1]

We next considered the relation between knowledge of NSSI and stigma toward NSSI. Zero-order correlations are provided in Table 4. In general, both perceived knowledge and comfort, and actual knowledge were positively associated with perceived public stigma and negatively associated with personal stigma toward NSSI. In order to assess which factors uniquely predicted personal NSSI stigma, sex, lived experience with NSSI, perceived knowledge and comfort, and actual knowledge were entered as predictors into a linear regression model – see Table 5. The model was significant, $F(8,1334) = 36.38$, $p < 0.001$, $R^2 = .18$. Overall, controlling for sex and lived experience with NSSI, greater perceived knowledge, feeling more comfortable speaking about NSSI, and a greater knowledge score were uniquely associated with less personal stigma toward NSSI.

## Discussion

NSSI is a commonly occurring mental health concern among college and university students,[9] and recent research suggests that NSSI may be increasing on post-secondary campuses.[7] Despite the high rates of NSSI observed among post-secondary students, to date there is a lack of research focused on describing student and staff attitudes and understanding of NSSI. However, identifying the specific knowledge needs of educational stakeholders on post-secondary campuses can inform targeted training and resource development to facilitate effective NSSI response and student support on college and university campuses.[50] To ascertain the specific knowledge needs of university stakeholders, we examined students', staff 's, and student-staff 's attitudes, perceived knowledge and comfort, and knowledge about NSSI. As expected, we found that university stakeholders reported greater stigma toward NSSI than other mental health concerns, and low levels of knowledge were reported cross-nationally. Staff were identified as a particular stakeholder group in need of additional training and support, such that

they reported higher personal NSSI stigma and greater knowledge needs, whereas student-staff reported lower levels of personal NSSI stigma and fewer knowledge needs. Findings highlight specific knowledge gaps among key stakeholders and can serve to inform targeted training efforts on post-secondary campuses.

Stigma associated with mental illness and mental health difficulties more broadly has been well documented in the literature[61] and reported as a salient concern by students on university campuses.[62] Despite increasing efforts to reduce stigma on post-secondary campuses[45,46] participants in our study still reported moderate levels of perceived public stigma for both mental illness and NSSI. However, in general, participants reported more public stigma toward NSSI than mental illness, indicating that NSSI may be a particularly stigmatized behavior. This coheres with recent research[41] and adds empirical support to recent theoretical developments on stigma regarding NSSI.[31] NSSI may be uniquely stigmatized because of its association with mental illness, as well as the perception that NSSI is within one's personal control.[36] Although more research is necessary to understand stigmatizing beliefs toward NSSI, our findings suggest that efforts to combat stigma associated with mental illness in university settings may need to specifically target NSSI stigma.

Knowledge appears to play a critical role in the stigmatizing attitudes an individual holds toward people who self-injure. In the current study, perceived knowledge about NSSI, perceived comfort speaking about NSSI, and total knowledge score were uniquely associated with reduced levels of personal stigma toward NSSI, even after controlling for perceived public stigma. Given evidence that brief NSSI psychoeducational training can improve perceived knowledge and self-efficacy for responding to NSSI among staff in secondary school settings,[63] implementing university-wide resources for staff and students may improve university responses to NSSI as

well as reduce NSSI stigma more generally. University stakeholders may be receptive to increased training about NSSI, given their reported lack of perceived knowledge and comfort with NSSI. Indeed, close to 30% of respondents reported that they knew little or very little on all the perceived knowledge and comfort items. However, future research is necessary to ascertain university stakeholders' interest in additional training, and their preferred training formats, to optimize uptake of training resources.

Our work also provides new insight into the specific knowledge gaps among students, staff and student-staff in post-secondary contexts that need to be targeted. Cross-nationally, most respondents were only able to correctly identify half of the empirically-supported statements on the NSSI knowledge questionnaire. Similar to previous findings with secondary school teachers,[36,48] participants struggled to identify NSSI prevalence accurately; 21% were unsure about how prevalent NSSI was, and 30% tended to underestimate prevalence. Additionally, participants were often unclear whether NSSI always had its first onset before university. Of the sample, 37% were unsure, and 17% inaccurately thought NSSI always had its onset before university. Participants were also unsure about what behaviors constitute NSSI, with close to 40% reporting that NSSI almost always involves cutting, or were unsure if this was true. Extending previous research with college students,[51] most participants understood that NSSI was a form of coping behavior to reduce painful emotions or to express anger toward the self. However, nearly a quarter of stakeholders reported that they were unsure or thought that NSSI was manipulative or attention seeking – equivalent to rates found among secondary school teachers.[43,44] Additionally, one in 10 participants were unsure about the association between suicidal behavior and NSSI, and over 50% thought individuals who engage in NSSI have a mental illness or were unsure. Given that fear of being labeled as attention-seeking or judged is a

considerable barrier to NSSI help-seeking,[49,53,64] it is worth highlighting the qualitative difference between a lack of knowledge, such as lack of understanding of the prevalence and time of onset of NSSI, and these more detrimental misconceptions of NSSI.

It is important to note that our findings also demonstrated varying levels of stigma, perceived knowledge and comfort, and knowledge depending on the stakeholder group. Specifically, student-staff reported less personal stigma toward NSSI than students, as well as greater comfort talking to individuals who engage in NSSI, greater perceived knowledge about how to effectively support someone who engages in NSSI, and higher levels of actual knowledge than students and staff. It is possible that the types of roles students work in, or their related course work, already involve more mental health literacy training/education relative to students and staff. Our findings also underscore that staff represent an important target group in need of further training around effectively supporting students who self-injure. Indeed, staff reported the lowest levels of absolute knowledge, relative to students and student-staff. Moreover, there is a need to increase understanding of NSSI among students on college and university campuses more generally, given that peers are often among the first recipients of NSSI disclosures (for a review, see Simone & Hamza).[65] Greater psychoeducational training in NSSI could facilitate both more effective responses to NSSI and empower self-efficacy beliefs among students and staff when it comes to effectively supporting students who self-injure.

**Limitations**

Although this large cross-national study offers new insight into the knowledge and attitudes toward NSSI among university stakeholders, it is not without limitations. Given the cross-sectional nature of the present study, it remains difficult to ascertain the directionality of associations between constructs of interest. However, our findings are consistent with a larger

literature, which suggests that increasing knowledge can serve to reduce stigmatizing beliefs among educational stakeholders.[66] In addition, the study included primarily Caucasian participants from Western countries, which limits the generalizability of findings. As a next step, a similar study in non-western settings is necessary to extend the findings to more diverse contexts. Another potential way to increase public knowledge of NSSI and the associated stigma that may be experienced by those who engage in NSSI is to utilize qualitative methodological approaches designed to gain a greater depth of understanding from persons with lived experience, which would offer an opportunity to develop more informed prevention and support efforts. Our study also did not specifically examine help-seeking behavior among students who engage in NSSI, which is necessary to understand the extent to which stigmatizing beliefs among stakeholders impact help-seeking among students. Further, although research suggests more students intend to seek help than access services,[26] it is unclear to what extent this may be attributable to concerns about being stigmatized, versus lack of accessible services, or the follow-up effect, such that lengthy waitlists deter help-seeking. Future research should consider the complex interplay among these factors when it comes to students accessing supports on campus.

**Conclusion and implications**

Despite the addition of NSSI to the DSM-5 as a condition warranting further research,[47] and increased efforts on post-secondary campuses to reduce stigma around mental health and help-seeking,[45,46] the results of the present study underscore that NSSI remains a stigmatized behavior, perhaps even more so than other mental health concerns.[31] These findings demonstrate why a targeted and campus-wide approach to addressing stigma toward NSSI is necessary. Given that higher levels of knowledge were associated with lower levels of stigma, increasing

knowledge about NSSI may be one way, when coupled with targeted skills training, to reduce stigmatizing beliefs about NSSI. In our study, participants reported low levels of NSSI knowledge, and this effect was most pronounced among staff and students. Our findings offer specific examples of consistent knowledge gaps about NSSI among stakeholders that can be targeted in future training, to bolster more effective NSSI responses and support. By increasing understanding about NSSI and resources available, stakeholders will be more strongly positioned to respond to NSSI with warmth and understanding, as well as help students way-finding to access appropriate supports.

Given the ongoing COVID-19 pandemic and its impact on university student mental health and well-being,[67] the dissemination of resources and training using online delivery approaches also merit consideration. Indeed, while vaccines are being distributed globally there is much variability with the pace of roll-out and many campuses across the globe continue to rely on remote delivery of coursework and provision of student support. Hence, ensuring research-informed NSSI websites that place emphasis on recovery and coping (e.g., www.sioutreach.org) are shared widely among students and support staff via university social media and websites is recommended. Likewise, online training programs that address NSSI and how to support students with lived experience may have utility (e.g., http://www.selfinjury.bctr.cornell.edu/training.html).

Post-secondary institutions serve as primary access points for care for students, which means that promoting a culture of support and understanding among students and staff on post-secondary campuses is critical to reduce stigma and other barriers to help-seeking. It also will be important to engage stakeholders in prevention and intervention programming. Gatekeeper interventions have been used effectively to train staff and students how to respond appropriately

to distressed peers and make appropriate mental health referrals.[22,23] Further, mental health professionals who work on college campuses must have training in intervention approaches recommended for NSSI. Such approaches include dialectical behavior therapy and other techniques aimed at enhancing coping and emotion regulation as well as those rooted in motivational change, such as motivational interviewing.[24,25] Should this training be unavailable, hosting professional development workshops or related opportunities for campus mental health professionals may be needed.

**Note**

1. It is important to note that in a secondary MANCOVA analysis, significant differences among stakeholders did not change taking into account participants' lived experience with NSSI.

**Conflict of interest disclosure**

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the country of each participating site and received approval from the Institutional Review Board of each University.

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## References


1. Arnett JJ, Žukauskienė R, Sugimura K. The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *Lancet Psychiatry*. 2014;1(7):569–576. doi:10.1016/S2215-0366(14)00080-7.

2. Arnett JJ. Emerging adulthood: What is it, and what is it good for? *Child Dev Perspect*. 2007;1(2):68–73. doi:10.1111/j.1750-8606.2007.00016.x.

3. Jao NC, Robinson LD, Kelly PJ, Ciecierski CC, Hitsman B. Unhealthy behavior clustering and mental health status in United States college students. *J Am Coll Health*. 2019;67(8):790-800. doi:10.1080/07448481.2018.1515744.

4. Kwan MY, Arbour-Nicitopoulos KP, Duku E, Faulkner G. Patterns of multiple health risk-behaviours in university students and their association with mental health: Application of latent class analysis. *Health Promot Chronic Dis Prev Can.* 2016;36(8):163–170. doi:10.24095/hpcdp.36.8.03.

5. Willoughby T, Tavernier R, Hamza C, Adachi PJ, Good M. The triadic systems model perspective and adolescent risk taking. *Brain Cogn*. 2014;89:114–115. doi:10.1016/j.bandc.2013.11.001.

6. Wester KL, Trepal H, King K. Nonsuicidal self-injury: Increased prevalence in engagement. *Suicide Life Threat Behav*. 2018;48(6):690–698. doi:10.1111/sltb.12389.

7. Xiao H, Carney DM, Youn SJ, et al. Are we in crisis? National mental health and treatment trends in college counseling centers. *Psychol Serv*. 2017;14(4):407–415. https://doi.org/10.1080/08831157.1986.9925783 doi:10.1037/ser0000130.

8. International Society for the Study of Self-injury. What is Self-Injury? 2018. Retrieved from: https://itriples.org/about-self-injury/what-is-self-injury. Accessed February 6, 2020.

9. Swannell SV, Martin GE, Page A, Hasking PA, St John NJ. Prevalence of nonsuicidal self-injury in nonclinical samples: Systematic review, meta-analysis and meta-regression. *Suicide Life Threat Behav*. 2014;44(3):273–303. doi:10.1111/sltb.12070.

10. Kiekens G, Hasking P, Claes L, et al. Predicting the incidence of non-suicidal self-injury in college students. *Eur Psychiatry*. 2019;59:44–51. doi:10.1016/j.eurpsy.2019.04.002.

11. Whitlock J, Muehlenkamp J, Purington A, et al. Nonsuicidal self-injury in a college population: general trends and sex differences. *J Am Coll Health*. 2011;59(8):691–698. doi:10.1080/07448481.2010.529626.

12. Taylor PJ, Jomar K, Dhingra K, Forrester R, Shahmalak U, Dickson JM. A meta-analysis of the prevalence of different functions of non-suicidal self-injury. *J Affect Disord*. 2018;227:759–769. doi:10.1016/j.jad.2017.11.073.

13. Ewing L, Hamza CA, Willoughby T. Stressful experiences, emotion dysregulation, and nonsuicidal self-injury among university students. *J Youth Adolesc*. 2019;48(7):1379–1389. doi:10.1007/s10964-019-01025-y

14. Karyotaki E, Cuijpers P, Albor Y, et al. Sources of stress and their associations with mental disorders among college students: Results of the World Health Organization World Mental Health Surveys International College Student Initiative. *Front Psychol*. 2020;11:1759. doi:10.3389/fpsyg.2020.01759.

15. Hamza CA, Willoughby T. A longitudinal person-centered examination of nonsuicidal self-injury among university students. *J Youth Adolesc*. 2014;43(4):671–685. doi:10.1007/ s10964-013-9991-8.

16. Hamza CA, Stewart SL, Willoughby T. Examining the link between nonsuicidal self-injury and suicidal behavior: A review of the literature and an integrated model. *Clin Psychol Rev*.

2012;32(6):482–495. doi:10.1016/j.cpr.2012.05.003.

17. Franklin JC, Ribeiro JD, Fox KR, et al. Risk factors for suicidal thoughts and behaviors: a meta-analysis of 50 years of research. *Psychol Bull*. 2017;143(2):187–232. doi:10.1037/bul0000084.

18. Ribeiro JD, Franklin JC, Fox KR, et al. Self-injurious thoughts and behaviors as risk factors for future suicide ideation, attempts, and death: a meta-analysis of longitudinal studies. *Psychol Med.* 2016;46(2):225–236. doi:10.1017/S0033291715001804.

19. Kiekens G, Hasking P, Boyes M, et al. The associations between non-suicidal self-injury and first onset suicidal thoughts and behaviors. *J Affect Disord*. 2018;239:171–179. doi:10.1016/j.jad.2018.06.033.

20. Harrer M, Adam SH, Fleischmann RJ, et al. Effectiveness of an internetand app-based intervention for college students with elevated stress: Randomized controlled Trial. *J Med Internet Res.* 2018;20(4):e136. doi:10.2196/jmir.9293.

21. Okanagan Charter. An International Charter for Health Promoting Universities and Colleges. 2015. Retrieved from: https://collegehealthqi.nyu.edu/20x30/frameworks/okanagan-charter/

22. Ross SG, DeHay T, Deiling M. The suicide prevention for college student gatekeepers program: a pilot study. *Crisis J Crisis Interven Suicide Prev*. 2021;42(1):48–48. doi:10.1027/0227-5910/a000686.

23. Rallis BA, Esposito-Smythers C, Disabato DJ, et al. A brief peer gatekeeper suicide prevention training: Results of an open pilot trial. *J Clin Psychol*. 2018;74(7):1106–1116. doi:10.1002/jclp.22590.

24. Kothgassner OD, Robinson K, Goreis A, Ougrin D, Plener PL. Does treatment method matter? A meta-analysis of the past 20 years of research on therapeutic interventions for self-

harm and suicidal ideation in adolescents. *Borderline Personal Disord Emot Dysregul*. 2020;7:9–16. doi:10.1186/s40479-020-00123-9.

25. Turner BJ, Austin SB, Chapman AL. Treating nonsuicidal self-injury: a systematic review of psychological and pharmacological interventions. *Can J Psychiatry*. 2014;59(11):576–585. doi:10.1177/070674371405901103.

26. Oswalt SB, Lederer AM, Chestnut-Steich K, Day C, Halbritter A, Ortiz D. Trends in college students' mental health diagnoses and utilization of services, 2009-2015. *J Am Coll Health*. 2020;68(1):41–51. doi:10.1080/07448481.2018.1515748.

27. Gollust SE, Eisenberg D, Golberstein E. Prevalence and correlates of self-injury among university students. *J Am Coll Health.* 2008;56(5):491–498. doi:10.3200/JACH.56.5.491-498.

28. Pumpa M, Martin G. The impact of attitudes as a mediator between sense of autonomy and help-seeking intentions for self-injury. *Child Adolesc Psychiatry Ment Health*. 2015;9(1):27–29. doi:10.1186/s13034-015-0058-3.

29. Bruffaerts R, Mortier P, Auerbach RP, Alonso J, Hermosillo De la Torre AE, WHO WMH-ICS Collaborators, et al. Lifetime and 12-month treatment for mental disorders and suicidal thoughts and behaviors among first year college students. *Int J Methods Psychiatr Res*. 2019;28(2):e1764 doi:10.1002/mpr.1764.

30. Ebert DD, Mortier P, Kaehlke F, WHO World Mental Health-International College Student Initiative orators, et al. Barriers of mental health treatment utilization among first-year college students: First cross-national results from the WHO World Mental Health International College Student Initiative. *Int J Methods Psychiatr Res*. 2019;28(2):e1782 doi:10.1002/mpr.1782.

31. Staniland L, Hasking P, Boyes M, Lewis S. Stigma and nonsuicidal self-injury: Application of a conceptual framework. *Stigma and Health*. 2021;6(3):312–323. doi:10.1037/sah0000257.

32. DiPlacito-DeRango ML. Situating the post-secondary instructor in a supportive role for the mental health and well-being of students. *Int J Ment Health Addiction*. 2018;16(2):284–290. doi:10.1007/s11469-017-9740-4.

33. Heck E, Jaworska N, DeSomma E, et al. A survey of mental health services at post-secondary institutions in Alberta. *Can J Psychiatry*. 2014;59(5):250–258. doi:10.1177/070674371405900504.

34. Jaworska N, De Somma E, Fonseka B, Heck E, MacQueen GM. Mental health services for students at postsecondary institutions: A national survey. *Can J Psychiatry*. 2016;61(12):766–775. doi:10.1177/0706743716640752.

35. Major B, Dovidio JF, Link BG, Calabrese SK. Stigma and its implications for health: Introduction and overview. In: Major B, Dovidio JF, Link BG, Calabrese SK, eds. *The Oxford Handbook of Stigma, Discrimination, and Health*. New York, NY: Oxford University Press; 2018:3–28.

36. Lloyd B, Blazely A, Phillips L. Stigma towards individuals who self harm: Impact of gender and disclosure. *JPMH*. 2018;17(4):184–194. doi:10.1108/JPMH-02-2018-0016.

37. Schoenleber M, Berenbaum H, Motl R. Shame-related functions of and motivations for self-injurious behavior. *Personal Disord*. 2014;5(2):204–211. doi:10.1037/per0000035.

38. Sheehy K, Noureen A, Khaliq A, et al. An examination of the relationship between shame, guilt and self-harm: A systematic review and meta-analysis. *Clin Psychol Rev*. 2019;73:101779 doi:10.1016/j.cpr.2019.101779.

39. Lewis SP, Mehrabkhani S. Every scar tells a story: Insight into people's self-injury scar experiences. *Couns Psychol Q.* 2016;29(3):296–310. doi:10.1080/09515070.2015.1088431.

40. Lewis SP. The overlooked role of self-injury scars: Commentary and suggestions for clinical practice. *J Nerv Ment Dis*. 2016;204(1):33–35. doi:10.1097/NMD.0000000000000436.

41. Burke TA, McArthur BA, Daryanani I, Abramson LY, Alloy LB. Latent classes of trait affect and cognitive affective regulation strategies are associated with depression, non-suicidal self-injury, and well-being. *J Affect Disord*. 2018;225 (225):180–187. doi:10.1016/j.jad.2017.08.015.

42. Piccirillo ML, Burke TA, Moore-Berg SL, Alloy LB, Heimberg RG. Self-stigma toward nonsuicidal Self-Injury: An Examination of Implicit and Explicit Attitudes. *Suicide Life Threat Behav*. 2020;50(5):1007–1024. https://doi.org/10.31234/osf.io/qcs84 doi:10.1111/sltb.12640.

43. Heath NL, Toste JR, Sornberger MJ, Wagner C. Teachers' perceptions of non-suicidal self-injury in the schools. *School Ment Health*. 2011;3(1):35–43. doi:10.1007/s12310-010-9043-4.

44. Heath NL, Toste JR, Beettam EL. I am not well-equipped": High school teachers' perceptions of self-injury. *Can J Sch Psychol*. 2006;21(1-2):73–92. doi:10.1177/0829573506298471.

45. Kosyluk KA, Al-Khouja M, Bink A, et al. Challenging the stigma of mental illness among college students. *J Adolesc Health*. 2016; 59(3):325–331. doi:10.1016/j.jadohealth.2016.05.005.

46. Monaghan C, Linden B, Stuart H. Postsecondary Mental Health Policy in Canada: A Scoping Review of the Grey Literature: Politique de santé mentale post-secondaire au Canada: un examen de la portée de la littérature grise. *Can J Psychiatry*. 2021;66(7):603–613. doi:10.1177/0706743720961733.

47. American Psychological Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington, VA: American Psychiatric Association; 2013.

48. Berger E, Reupert A, Hasking P. Pre-service and in-service teachers' knowledge, attitudes and confidence towards self-injury among pupils. *J Teach Educ*. 2015;41(1):37–51. doi:10.1080/02607476.2014.992633.

49. Klineberg E, Stansfeld SA, Bhui KS. How do adolescents talk about self-harm? Findings from a qualitative school-based study in England. *J Adolesc Health*. 2013;52(2):S78–S79. doi:10.1016/j. jadohealth.2012.10.183.

50. Whitlock J, Eells G, Cummings N, Purington A. Nonsuicidal self-injury in college populations: Mental health provider assessment of prevalence and need. *J Coll Student Psychother.* 2009;23(3):172–183. doi:10.1080/87568220902794366.

51. Batejan KL, Swenson LP, Jarvi SM, Muehlenkamp JJ. Perceptions of the functions of nonsuicidal self-injury in a college sample. *Crisis.* 2015;36(5):338–344. doi:10.1027/0227-5910/a000332.

52. De Riggi ME, Moumne S, Heath NL, Lewis SP. Non-suicidal self-injury in our schools: A review and research-informed guidelines for school mental health professionals. *Can J Sch Psychol.* 2017;32(2):122–143. doi:10.1177/0829573516645563.

53. Rosenrot SA, Lewis SP. Barriers and responses to the disclosure of non-suicidal self-injury: a thematic analysis. *Couns Psychol Q.* 2020;33(2):121–141. doi:10.1080/09515070.2018.1489220.

54. Lewis SP, Heath NL, Hasking PA, Whitlock J, Wilson MS, Plener PL. Addressing self-injury on college campuses: Institutional recommendations. *J Coll Couns*. 2019;22(1):70–82. doi:10.1002/ jocc.12115.

55. Gholamrezaei M, De Stefano J, Heath NL. Nonsuicidal self-injury across cultures and ethnic and racial minorities: A review. *Int J Psychol*. 2017;52(4):316–326. doi:10.1002/ijop.12230.

56. Corrigan PW, Michaels PJ, Vega E, Gause M, Watson AC, Rüsch N. Self-stigma of mental illness scale-short form: reliability and validity. *Psychiatry Res*. 2012;199(1):65–69. doi:10.1016/j.psychres.2012.04.009.

57. Corrigan P, Markowitz F, Watson A, Rowan D, Kubiak M. An attribution model of public discrimination towards persons with mental illness. *J Health Soc Behav*. 2003;44(2):162–179. doi:10.2307/1519806.

58. Corrigan PW, Lurie BD, Goldman HH, Slopen N, Medasani K, Phelan S. How adolescents perceive the stigma of mental illness and alcohol abuse. *Psychiatr Serv*. 2005;56(5):544–550. doi:10.1176/appi.ps.56.5.544.

59. Schafer JL, Graham JW. Missing data: Our view of the state of the art. *Psychol Methods.* 2002;7(2):147–177. doi:10.1037/1082-989X.7.2.147.

60. Faul F, Erdfelder E, Buchner A, Lang A-G. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behav Res Methods*. 2009;41(4):1149–1160. doi:10.3758/ BRM.41.4.1149.

61. Corrigan PW, Watson AC. Understanding the impact of stigma on people with mental illness. *World Psychiatry*. 2002;1(1):16–20.

62. Wada M, Suto MJ, Lee M, et al. University students' perspectives on mental illness stigma. *Ment Health Prev*. 2019;14:200159. doi:10.1016/j.mph.2019.200159.

63. Glennon SD, Viola SB, Blakely AO. Increasing school personnel's self-efficacy, knowledge, and response regarding nonsuicidal self-injury in youth. *Psychol Schs*. 2020;57(1):135–151. doi:10.1002/pits.22300.

64. Fortune S, Sinclair J, Hawton K. Help-seeking before and after episodes of self-harm: A descriptive study in school pupils in England. *BMC Public Health*. 2008;8(1):369 doi:10.1186/1471-2458-8-369.

65. Simone AC, Hamza CA. Examining the disclosure of nonsuicidal self-injury to informal and formal sources: A review of the literature. *Clin Psychol Rev*. 2020;82:101907 doi:10.1016/j. cpr.2020.101907.

66. Wei Y, Kutcher S, Baxter A, Heffernan A. The program evaluation of 'Go-To Educator Training' on educators' knowledge about and stigma toward mental illness in six Canadian provinces. *Early Interv Psychiatry*. 2021;15(4):922–931. doi:10.1111/ eip.13037.

67. Wang X, Hegde S, Son C, Keller B, Smith A, Sasangohar F. Investigating mental health of US college students during the COVID-19 pandemic: cross-sectional survey study. *J Med Internet Res*. 2020;22(9):e22817. doi:10.2196/22817.

**Table 1.** Mean stigma by stakeholder group.

| | Student | Staff | Student-staff | Significant differences between stakeholders |
|---|---|---|---|---|
| Perceived public stigma toward mental health | 5.49(1.33) | 5.43(1.27) | 5.71(1.31) | – |
| Perceived public stigma toward NSSI | 5.81(1.34) | 5.59(1.22) | 6.00(1.31) | – |
| Personal stigma toward NSSI | 3.07(1.08) | 2.77(1.21) | 2.73(1.01) | Students > staff, and student-staff |

*Note*: For each scale, stigma was scored from 1 to 9, with higher scores indicating greater stigma. Stakeholder comparisons are based on reduced sample of 1406 (only sites that differentiated students from student-staff).

**Table 2.** Percentage of respondents indicating each response to perceived knowledge/comfort questions.

| | 1 = none | 2 | 3 | 4 | 5 = A lot | *Mean* | *Significant differences between stakeholders* |
|---|---|---|---|---|---|---|---|
| 1. How much do you know about NSSI? | | | | | | | |
| Students | 5.2 | 22.0 | 35.5 | 26.4 | 11.0 | 3.16 | |
| Staff | 5.4 | 34.5 | 30.9 | 22.1 | 7.4 | 2.92 | - |
| Student-staff | 6.8 | 18.8 | 29.2 | 32.8 | 12.5 | 3.26 | |
| Total sample | 5.9 | 25.0 | 34.6 | 24.6 | 9.9 | 3.08 | |
| 2. I know how to locate and utilize resources for NSSI. | | | | | | | |
| Students | 7.6 | 27.2 | 22.8 | 35.8 | 6.6 | 3.06 | |
| Staff | 5.4 | 30.9 | 21.5 | 34.9 | 7.4 | 3.08 | - |
| Student-staff | 8.9 | 20.3 | 18.8 | 39.1 | 13.0 | 3.27 | |
| Total sample | 8.4 | 26.4 | 20.6 | 37.2 | 7.4 | 3.09 | |
| 3. How comfortable would you feel talking about NSSI with someone who self-injures? | | | | | | | |
| Students | 11 | 22.8 | 26.0 | 28 | 12.2 | 3.08 | |
| Staff | 14.1 | 27.5 | 26.2 | 20.8 | 11.4 | 2.88 | Student-staff > students, and staff |
| Student-staff | 7.8 | 18.2 | 22.4 | 33.3 | 18.2 | 3.36 | |
| Total sample | 11.9 | 24.6 | 24.6 | 27.3 | 11.6 | 3.02 | |
| 4. How knowledgeable do you feel about how to effectively help someone who engages in NSSI? | | | | | | | |
| Students | 21.9 | 35.6 | 24.0 | 15.8 | 2.7 | 2.42 | |
| Staff | 30.2 | 38.9 | 12.8 | 14.8 | 3.4 | 2.22 | Student-staff > students, and staff |
| Student-staff | 19.8 | 30.7 | 21.4 | 19.8 | 8.3 | 2.66 | |
| Total sample | 22.5 | 35.3 | 22.5 | 16.2 | 3.6 | 2.43 | |

*Note:* Item one was scored from 1=*none* to 5=*a lot*, item two was scored from 1=*strongly disagree* to 5=*strongly agree*, item three was scored from 1=*not at all comfortable* to 5=*comfortable to a high degree*, and item 4 was scored from 1=*not at all knowledgeable* to 5=*knowledgeable to a high degree*. Stakeholder comparisons are based on a reduced sample of 1406 (only sites that differentiated students from student-staff), but the mean is based on data from the full sample.

**Table 3.** Percentage of respondents endorsing each response item on the NSSI knowledge questionnaire.

| Question | Response Options | Students | Staff | Student-staff | Total |
|---|---|---|---|---|---|
| In your opinion, how prevalent is nonsuicidal self-injury in universities/ colleges? | a. 0-5% | 6.6 | 10.1 | 5.2 | 7.7 |
| | b. 6-15% | 28.6 | 30.9 | 25.0 | 29.7 |
| | c. 16-25% (**) | 29.3 | 19.5 | 39.1 | 29.5 |
| | d. 26-35% | 13.0 | 17.4 | 12.0 | 12.1 |
| | e. unsure | 22.5 | 22.1 | 18.8 | 12.1 |
| In your opinion, do you feel the prevalence of nonsuicidal self-injury in universities/colleges is: | a. Increasing over time | 54.9 | 51.7 | 53.6 | 52.6 |
| | b. Staying the same | 18.9 | 15.4 | 16.7 | 19.4 |
| | c. Decreasing over time | 4.0 | 0.7 | 2.1 | 4.2 |
| | d. Unsure | 22.2 | 32.2 | 27.6 | 23.9 |
| Nonsuicidal self-injury is almost exclusively a female behavior. | a. True | 5.8 | 5.4 | 6.3 | 5.4 |
| | b. False (**) | 79.2 | 69.1 | 80.7 | 79.2 |
| | c. Unsure | 14.9 | 25.5 | 13.0 | 15.4 |
| Which are females more likely to do (compared to males)? | a. Scratch or cut themselves (**) | 64.9 | 61.7 | 66.1 | 65.2 |
| | b. Injure their hands and knuckles | 1.5 | 0.7 | 3.6 | 1.8 |
| | c. Self-injure in public | 2.6 | 0.7 | 1.0 | 1.9 |
| | d. Use self-injury as a way of getting a rush or a high | 2.8 | 4.0 | 3.6 | 3.0 |
| | e. Unsure | 28.2 | 32.9 | 25.5 | 28.0 |
| If someone discloses to you that they are engaging in nonsuicidal self-injury, it most likely reflects: | a. A form of manipulation | 1.1 | 0.7 | 0.0 | 0.8 |
| | b. A need for professional help | 23.8 | 26.8 | 18.2 | 24.0 |
| | c. A desire for support (**) | 67.4 | 65.1 | 75.5 | 67.5 |
| | d. An indication that they do not have family support | 2.2 | 1.3 | 0.5 | 1.6 |
| | e. Unsure | 5.5 | 6.0 | 5.7 | 6.1 |
| People who engage in non-suicidal self-injury are almost always: | a. Part of the ""Emo"" or ""Gothic"" subgroup | 0.7 | 0.0 | 0.5 | 0.6 |
| | b. Diagnosed with Borderline Personality Disorder | 3.8 | 2.0 | 1.6 | 3.1 |
| | c. People who enjoy the pain of self-injuring | 6.2 | 2.0 | 6.3 | 5.7 |
| | d. People who have experienced physical or sexual abuse | 17.0 | 10.1 | 13.5 | 15.4 |
| | e. None of the above (**) | 45.3 | 46.3 | 54.2 | 46.3 |
| | f. Unsure | 27.1 | 39.6 | 24.0 | 28.9 |
| The fact that someone purposefully injures means that they have mental illness. | a. True | 28.5 | 24.2 | 29.7 | 28.5 |
| | b. False (**) | 50.4 | 53.7 | 50.5 | 49.5 |
| | c. Unsure | 21.1 | 22.1 | 19.8 | 22.0 |
| Nonsuicidal self-injury is often attention-seeking or manipulative. | a. True | 9.1 | 6.0 | 4.2 | 8.3 |
| | b. False (**) | 75.6 | 75.8 | 84.9 | 76.2 |
| | c. Unsure | 15.3 | 18.1 | 10.9 | 15.5 |
| What statement(s) is/are true about nonsuicidal self-injury (check all that apply)? | a. Nonsuicidal self-injury is mostly used as a way to practice suicide | 10.1 | 4.7 | 3.6 | 9.3 |
| | b. Nonsuicidal self-injury is mostly used to express anger toward the self (or the body) (**) | 82.8 | 53.0 | 70.3 | 78.8 |
| | c. Nonsuicidal self-injury is mostly used to feel a rush of energy | 43.4 | 23.5 | 37.5 | 41.4 |
| | d. Nonsuicidal self-injury is mostly used as a way to obtain relief from difficult feelings (**) | 91.2 | 94.0 | 91.1 | 91.0 |
| Of the following, which of the following are common reason(s) for stopping nonsuicidal self-injury (check all that apply)? | a. Changes in friend group/influence (**) | 59.2 | 48.3 | 50.5 | 58.3 |
| | b. Learning other ways to cope (**) | 94.5 | 93.3 | 95.8 | 94.5 |
| | c. Healing conversations with loved ones (**) | 77.7 | 63.1 | 68.2 | 76.3 |
| | d. Stressors no longer present (**) | 78.2 | 74.5 | 78.6 | 78.1 |
| | e. Growing out of it (**) | 26.2 | 15.4 | 25.5 | 25.8 |
| | f. Didn't want sexual partners to know about self-injury (**) | 21.4 | 12.8 | 21.9 | 20.5 |
| Nonsuicidal self-injury almost exclusively begins before starting university | a. True | 17.1 | 17.4 | 16.7 | 16.5 |
| | b. False (**) | 47.1 | 31.5 | 44.3 | 46.2 |
| | c. Unsure | 35.8 | 51.0 | 39.1 | 36.9 |
| Which statement below best describes the association between nonsuicidal self-injury and suicidal behavior? | a. They are basically the same thing | 0.4 | 0.0 | 0.5 | 0.5 |
| | b. They have nothing to do with each other | 6.8 | 16.8 | 10.9 | 8.1 |
| | c. They are not the same thing but are related (**) | 73.4 | 65.8 | 74.6 | 73.5 |
| | d. A person who engages in nonsuicidal self-injury and is suicidal will generally use the same methods | 10.1 | 3.4 | 6.8 | 7.7 |
| | e. Unsure | 9.3 | 14.1 | 7.3 | 10.2 |
| Nonsuicidal self-injury almost always involves "cutting" | a. True | 18.9 | 10.1 | 12.5 | 16.5 |
| | b. False (**) | 63.8 | 62.4 | 72.9 | 64 |
| | c. Unsure | 17.3 | 27.5 | 14.6 | 19.5 |

*Note:* ** indicates a response option supported by evidence. Stakeholder comparisons are based on a reduced sample of 1406 (only sites that differentiated students from student-staff) but the total column is based on data from the full sample.

**Table 4.** Zero-order correlations between knowledge of NSSI and NSSI stigma.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1. Total knowledge score | – | | | | | | |
| 2. Perceived knowledge about NSSI | .25* | – | | | | | |
| 3. Perceived ability to locate resources | .17* | .42* | – | | | | |
| 4. Perceived comfort speaking about NSSI | .18* | .38* | .34* | – | | | |
| 5. Perceived ability to help someone with NSSI | .21* | .47* | .45* | .55* | – | | |
| 6. Perceived public stigma toward NSSI | .08* | .12* | -.02 | .09* | .03 | – | |
| 7. Personal stigma toward NSSI | -.26* | -.32* | -.16* | -.33* | -.22* | -.03 | – |

*Note:* *$p < 0.01$; correlations are provided for the full sample.

**Table 5.** Sex, lived experience with NSSI, exposure to NSSI, knowledge, and perceived knowledge as predictors of personal NSSI stigma.

| Variable | β | 95% CI | *p* |
|---|---|---|---|
| Sex (1 = male, 2 = female) | -.10 | -.15, −.05 | *<.001* |
| Lived experience with NSSI (0 = no, 1 = yes) | -.10 | -.16, −.05 | *<.001* |
| Perceived public stigma toward NSSI stigma | .06 | .01, .10 | *.029* |
| Knowledge score | -.14 | -.20, −.07 | *<.001* |
| Perceived knowledge about NSSI | -.14 | -.20, −.07 | *<.001* |
| Perceived ability to locate resources | <.01 | -.05, .06 | *.907* |
| Perceived comfort speaking about NSSI | -.23 | -.29, −.17 | *<.001* |
| Perceived ability to help someone with NSSI | .02 | -.05, .08 | *.618* |

*Note:* Sample is limited only to sites which included all items ($N = 1406$). Tolerance values ranged from .56 to .97 and VIF values range from 1.03 to 1.78, suggesting that multicollinearity was not a concern.