

Running Head: NON-SUICIDAL SELF-INJURY IN SECONDARY SCHOOLS

Non-suicidal self-injury in secondary schools: A descriptive study of prevalence, characteristics,
and interventions

Amanda Purington¹, Janis Whitlock², Randi Pochtar³

Family Life Development Center, Cornell University, Ithaca, NY

¹ Amanda Purington is a research support specialist in the Family Life Development Center and study coordinator of the Cornell Research Program on Self-Injurious Behavior in Adolescents and Young Adults at Cornell University, Ithaca, NY. She is interested in how context and culture influence adolescent and adult behavior and development.

² Janis Whitlock is a research scientist and director of the Cornell Research Program on Self-Injurious Behavior in Adolescents and Young Adults at Cornell University, Ithaca, NY. She is interested in self-injury and the influence of context on adolescent and young adult development.

³ Randi Pochtar is currently a graduate student in the clinical psychology department at St. John's University in Queens, NY. She completed this research during her undergraduate studies at Cornell University.

Abstract

Secondary school professionals were surveyed to assess their perceptions of student non-suicidal self-injury (NSSI). Nearly all respondents indicated some portion of their schools' student population currently engaged in NSSI and 74.5% indicated its prevalence had increased over five years. The majority estimated NSSI prevalence to be 10% or less, to first emerge in sixth to ninth grades, with common forms including cutting, scratching, carving, punching or banging objects, and burning. Respondents reported awareness of individuals who practice NSSI alone or as part of a group. Respondents from schools with greater than 1500 students were significantly more likely to perceive a larger portion of their student body engaged in NSSI, this prevalence was increasing, and to encounter group-level NSSI. While nearly half of all respondents indicated their schools have taken some steps towards NSSI prevention or intervention, many reported the need for better NSSI prevention, detection, intervention, and treatment.

Key words: self-injury, secondary school, adolescent, mental health

Non-suicidal self-injury in secondary schools: A descriptive study of
prevalence, characteristics, and interventions

Non-suicidal self-injury (NSSI) is defined as behaviors in which an individual intentionally harms the body without intent to die and for reasons that are not socially sanctioned (Favazza, 1998). Lifetime prevalence of NSSI is estimated to be between 12% and 28% in adolescent populations, depending on what definition of self-injury is used and how it is measured (De Leo & Heller, 2004; Hawton, Rodham, Evans, & Weatherall, 2002; Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp & Gutierrez, 2004; Ross & Heath 2002). In a review of studies using a more restricted definition of self-injury, Jacobson and Gould (2007) found adolescent lifetime prevalence to be between 13.0% and 23.2% and twelve-month prevalence findings between 2.5% and 12.5%.

Differences in prevalence findings may also be due to changes in the prevalence of NSSI over time, as has been suggested by some research (Hawton, Fagg, Simkin, Bale, & Bond, 2000; Walsh, 2006; Whitlock, Powers, & Eckenrode, 2006). Some have referred to NSSI as the “new epidemic,” suggesting the practice of NSSI is rapidly increasing, particularly among youth (Derouin & Bravender, 2004; Machoian, 2001). Limited empirical support of this idea comes from separate studies conducted by Muehlenkamp and Gutierrez (2004, 2007), who analyzed data collected in the same high school over a span of four years. These investigators found that lifetime NSSI prevalence increased from 15.9% in the earlier study to 23.2% in the latter. Although limited by study design and sample bias, these prevalence findings suggest a trend worthy of more investigation.

In addition to prevalence, primary characteristics of NSSI are increasingly well-described in the literature. Common forms of NSSI include scratching, cutting, and banging objects or

oneself (Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp & Gutierrez, 2004, 2007; Ross & Heath, 2002; Whitlock, Eckenrode, & Silverman, 2006). Studies consistently find the average age of onset to be mid-adolescence, often between the ages of 12 and 15 (Muehlenkamp & Gutierrez, 2004; Nixon, Cloutier, & Jansson, 2008; Whitlock, Eckenrode et al., 2006; Yates 2004). Emotion regulation appears to be the primary function of NSSI, with some research indicating younger populations may also use this behavior for social reinforcement purposes, such as eliciting attention from others (Nock & Prinstein, 2004; see Jacobson & Gould, 2007, for review).

Although advances have been made in describing certain features of NSSI in adolescent populations, very little is known about other characteristics (e.g., whether NSSI is practiced in isolation or with other people) nor about how schools are responding to the presence of NSSI in the youth population (e.g., what intervention and prevention approaches, if any, have been tried). Professionals working in the school setting may be among the first individuals to encounter a student's self-inflicted injuries, and as such may be a valuable source of information about NSSI (Galley, 2003; Lieberman, 2004; Ross & Heath, 2002; Shapiro, 2008). Research suggests that large percentages (from 68.7% - 89.9%) of school professionals report a personal encounter with a self-injuring student (Beld, 2007; Carlson, DeGreer, Deur, & Fenton, 2005; Heath, Toste, & Beettam, 2006; Roberts-Dobie & Donatelle, 2007). Studies also show that although they tend to underestimate prevalence (Beld, 2007; Best, 2006; Heath et al., 2006), school professionals evidence a high degree of familiarity with and accurate estimation of a variety of key NSSI characteristics, including age of onset (Carlson et al., 2005; Heath et al., 2006), NSSI forms (Beld, 2007, Best 2006, Heath et al., 2006), and function (Heath et al., 2006). Because of this,

school-based professionals constitute a potentially valuable source of information about other school-based NSSI trends and characteristics as well.

The current descriptive study makes use of the unique perspective offered by secondary school nurses, counselors, social workers, and psychologists by analyzing their reported experiences and perceptions of student NSSI practices and trends over time. It also seeks to describe secondary school efforts with regard to NSSI prevention and intervention.

Hypotheses and study questions

The current study utilizes data from secondary school nurses, counselors, social workers, and psychologists across New York State. Although the study is largely exploratory in nature, we began with several hypotheses. First, we hypothesized that respondents would estimate current NSSI prevalence to be between 2.5% and 12.5%. Although previous research has found that similar respondents often underestimate NSSI prevalence (Beld, 2007; Best, 2006; Heath et al., 2006) we anticipated that when asked to estimate *current* NSSI prevalence in the personally relevant student population of the schools in which they work, participants would be more consistent with other prevalence findings. Second, we expected respondents to report earliest grade in which NSSI was detected (a proxy for age of onset) to be between sixth and ninth grades, when most students are between ages 12 and 15. Third, we hypothesized respondents would report common forms used to self-injure to include scratching, cutting, and banging objects or the self. We also expected that secondary school professionals would report that NSSI prevalence appears to be increasing over time, an increase that has been suggested in other studies (Hawton et al., 2000; Muehlenkamp & Gutierrez, 2004, 2007; Walsh, 2006; Whitlock, Powers et al., 2006). Furthermore, we expected few respondents would report having school-wide protocols in place, although we also anticipated that many survey participants would

perceive a need for them (Beld, 2007; Lieberman, 2004; Onacki, 2005; Roberts-Dobie & Donatelle, 2007).

In addition to these hypotheses, we anticipated that respondents would shed light on adolescent NSSI trends, characteristics, and practices about which little is currently known. In particular, we expected that they would augment existing knowledge related to a) population-level characteristics of students engaging in NSSI, such as prevalence of individual versus group-related NSSI and similarities and differences between these categories; b) variation in NSSI prevalence and characteristics across school settings (rural, suburban, urban) and school size (less than 500, 501-1500, greater than 1500 students); and c) existence of and trends in school prevention or intervention protocols, including characteristics of those currently employed and their perceived effectiveness. We anticipated that all findings would contain important implications for NSSI prevention and intervention efforts in secondary school settings.

Methods

Participants

New York State (NYS) secondary school nurses, counselors, social workers, and psychologists were invited to participate in a web-based survey entitled “Survey of Student Mental Health” in the spring and early summer of 2006. Respondents were recruited through electronic listservs provided by the NYS School Counselor Association, the NY Statewide School Health Services Center, NYS regional student support services coordinators, NYS Center for School Safety Newsletter, and the Pupil Services Advisory Committee which consists of the heads of the professional organizations for nurses, counselors, social workers, and psychologists. Potential respondents were also recruited through educational events, such as workshops on the topic of self-injury and adolescent mental health and well-being.

A total of 268 secondary school professionals from across New York State responded to the survey; 21 cases were eliminated due to incomplete responses, with 247 cases retained for analyses. As Table 1 indicates, over half (60.7%) of participants were nurses, 17.0% were guidance counselors, 14.2% were social workers, and 1.6% were school psychologists. The remaining participants (6.5%) were school administrators, teachers, or in another role. Professionals surveyed reported a mean of 10.8 [$SD=7.6$] years of experience with a range of less than 1 to 40 years of experience. Just under one third (29.6%) reported less than 1 year to 5 years of experience, a similar proportion (28.3%) reported 6 to 10 years of experience, another 30.8% reported 11-20 years of experience, and 11.8% reported more than 20 years experience in their current role(s).

Insert Table 1 About Here

Respondents primarily represented public schools (92.3%), with a small percentage representing private religious (2.0%) or private non-religious (1.6%) schools in New York State. Greater variation was evident in the size of the schools represented, with 27.1% of respondents working in schools with 500 or fewer students, 61.1% in schools with 501 to 1500 students, and 11.3% in schools with over 1500 students. Respondents were somewhat more evenly split by the type of school setting, with 21.9% representing urban schools, 39.7% from suburban schools, and 37.3% from rural areas.

Instrument

The survey was marketed as a “student mental health” survey in order to ensure that secondary school professionals beyond those with a specific interest in NSSI would participate in

the survey. Questions were primarily single- or multiple-choice closed-ended items with several opportunities to provide open-ended descriptions. Using a web-based format allowed some customization of survey questions to elicit more detailed information. Survey skips were employed to ask in-depth, follow-up questions of those reporting particular experiences with self-injurious students. For example, those who have worked with students who self-injure primarily as part of group membership were asked to further describe characteristics of this group, such as proportion male/female, ways in which the respondent became aware of the NSSI, how easy or difficult it is for students engaging in this category of NSSI to stop the behavior, and any other patterns or characteristics evident in this category of NSSI. A paper-and-pencil version of the survey was available upon request.

Respondents were asked demographic questions about the schools in which they worked as well as about the role(s) they held in the schools and the extent of their experience in the role. Following a definition of self-injury (“For the purposes of this survey, self-injury is defined as not socially sanctioned, mutilating behaviors performed with the intention of inflicting harm on one’s body, but without the obvious intention of committing suicide”) and the population of interest for this study (“Please do not report on self-injurious behavior that is happening ONLY as a result of development delays or disability in this survey”), respondents were asked a variety of questions regarding NSSI in their student populations. Questions included perceptions of prevalence (i.e., “Approximately what percentage of the students in your school currently engages in self-injurious behaviors?”), changes over time in prevalence (i.e., “How would you characterize the prevalence of students engaging in self-injurious behaviors in the school(s) for which you have worked over the past 5 years?: Decreased substantially/Decreased a little/No change/Increased a little/Increased substantially”), and attributions for these changes.

Respondents were also asked a variety of questions regarding specific categories and characteristics of NSSI. Group-related and individual NSSI were assessed by asking which of the following are true for their school: “we have groups of students who self-injure together as part of their group membership/identity”; “we have groups of self-injurious students who do not self-injure together but who know of each others’ self-inflicted injuries as part of their group membership/identity”; “we have students who self-injure and purposefully show/tell their peers, but this is not a part of group membership/identity”; and “we have students who self-injure and rarely or never show or talk about their injuries with others”). Respondents were asked to identify common characteristics or patterns noted among self-injurious students (e.g., “In your professional experience, how difficult is it for self-injurious students to stop this behavior?”) and issues of contagion (i.e., “In your professional opinion, how ‘contagious’ is self-injurious behavior in school settings?”). Finally, respondents were asked to describe any protocols currently employed by their schools to deal with NSSI and if they perceived a need to modify their school’s approach with their student population.

Analyses

Univariate analyses were used to describe respondent and school characteristics; perceptions of NSSI prevalence and changes in prevalence of adolescent well-being, NSSI, and eating disorders over a five year period; degree of respondent experience working with self-injuring students; details of NSSI characteristics in subpopulations; and prevention or intervention steps being taken by schools. Given variations in length of respondent experience, school setting, and student population size, ordinal regressions were used to detect significant differences in NSSI characteristics by respondent or school characteristic. All analyses were conducted using SPSS (SPSS Inc., Chicago, Illinois).

Results

Respondents' encounters with NSSI and perceptions of prevalence

The majority of respondents (71.3%) estimated the percentage of their schools' student population currently engaging in self-injury to be 10% or less. A very small minority (2.4%) of respondents estimated that no one in their school *currently* engages in NSSI. Overall, respondents indicated they are seeing a decline in student well-being, with over three-quarters (81.0%) reporting an increase in the number of adolescents they see with mental health disorders and nearly the same proportion (74.5%) indicating an increase in self-injury in their student populations over the past five years. While one quarter of respondents were uncertain, a slightly greater proportion (28.7%) reported self-injury has been increasing even more than eating disorders within their student populations over the last five years. Table 2 presents these and related findings in greater detail.

Insert Table 2 About Here

Only one respondent (0.4%) clearly indicated he or she had *never* encountered a self-injurious student. Six participants appear to have had no personal experience with self-injuring students (as they estimate no one was engaging in NSSI in their school and provided no additional information regarding personal encounters with NSSI) and an additional eight did not provide enough information to determine their level of personal experience working with self-injurious students, though they indicated NSSI occurred in their schools. Over one third of respondents (39.2%) first encountered self-injury in a student population between 4 and 10 years ago and an additional 13.0% over 10 years ago. The following results regarding NSSI are

derived from those respondents who indicated personally encountering NSSI in a secondary school setting (n=232). Of this group, 3.4% had worked with just one self-injuring student, while nearly half (42.7%) had worked with 2-10 self-injuring students, another 22.4% had worked with 11-20 self-injuring students, and nearly one third (30.6%) had worked with over 20 self-injuring students. Of those respondents who had ever encountered a self-injurious student, almost 70% had come into contact with 2-10 self-injuring students in the last year alone.

Perceived NSSI characteristics

When presented with a list of 18 self-injurious behaviors (and an additional “other” choice), respondents indicated they had observed the full spectrum of behaviors in their student populations. From superficial scratching to breaking bones, every single NSSI behavior presented had been encountered by at least one respondent. The most common NSSI behaviors encountered (indicated by more than half of respondents who have dealt with student NSSI) are cutting (93.5%), scratching or pinching to the point that bleeding occurs or marks remain on the skin (83.2%), carving words or symbols into the skin (78.9%), punching or banging objects to the point of bruising or bleeding with the intention of hurting the self (56.0%), and burning (54.7%).

Asked to identify the youngest grade at which a student engaging in NSSI was discovered, respondents most frequently named sixth (16.3%), seventh (26.1%), eighth (6.5%), or ninth (18.5%) grade. A few respondents indicated having observed NSSI even in kindergarten students (n=8).

In answer to the multiple-response question about whether NSSI tends to occur in isolation or in group contexts, respondents who had encountered NSSI acknowledged four categories in their student populations:

1. “lone”: engages in the behavior but never or rarely shows or talks about injuries with others (reported by 81.5% of respondents);
2. “lone/tell”: engages in self-injury in private and sometimes purposefully shows or tells peers about injuries, but not as a part of group membership (reported by 69.4% of respondents);
3. “group/know”: still engages in the behavior privately, but is a member of a social group of others who also self-injure, and this shared behavior is part of their group membership or identity (reported by 25.9% of respondents); and
4. “group”: engages in self-injurious behaviors *with* others as part of group membership or identity (reported by 17.2% of respondents).

Though all four categories represent different patterns of NSSI, the four can meaningfully be grouped into two larger categories. The first, “Lone NSSI,” consists of those who self-injure exclusively for their own purposes (i.e., the lone or lone/tell categories). The second category, “Group NSSI,” consists of those who self-injure to establish or reinforce social group membership (i.e., the group/know or group categories). While nearly one third (30.2%, n=70) of respondents indicated encountering both Lone and Group NSSI, over half the sample (61.2%, n=142) reported encountering Lone NSSI only. A small proportion (3.0%, n=7) indicated encountering Group NSSI exclusively. Responses to subquestions illuminated trends of both similarities and differences in characteristics of Lone NSSI and Group NSSI.

Similarities between Lone and Group categories of NSSI included trends regarding gender, with respondents indicating that the majority of those engaging in NSSI were “mostly female” (72.2% for Lone NSSI and 49.4% for Group NSSI) or “equally split by gender” (22.2% for Lone NSSI and 23.4% for Group NSSI). Those who first discovered the student’s NSSI are

also consistent across NSSI category. Respondents indicated that teachers or other staff and students most frequently alerted them of student NSSI, regardless of category. Additionally, across both Lone and Group categories, the greatest proportion of respondents perceived NSSI to be “very hard” for the student to stop (38.2% for Lone NSSI and 33.8% for Group NSSI). Finally, the majority of respondents agreed that students engaging in both categories of NSSI were “more difficult to treat” than those dealing with other mental health and well-being issues (62.7% for Lone NSSI and 55.8% for Group NSSI).

Respondents also noted disparate trends between student categories of NSSI. When asked if patterns were evident in the characteristics of self-injuring students (e.g., demographic characteristics, peer group affiliation), respondents indicated no clear patterns among students engaging in Lone NSSI, but did note patterns for those engaging in Group NSSI. For example, respondents indicated that students engaging in Group NSSI were often in “Goth” or “Emo” social groups and frequently had strained relationships with their parents. Finally, when asked if NSSI is “contagious” in the secondary school environment, respondents indicated Lone NSSI to be “somewhat” or “rarely” contagious (81.1%) whereas Group NSSI was reported to be “somewhat” or “very” contagious (68.9%).

Respondents in the sample and the schools they represent varied by amount of respondent experience, school setting, and student population size. Analyses were conducted to examine whether these factors were related to: a) perceived prevalence of NSSI, b) perceived changes in prevalence over the last five years, c) earliest grade at which NSSI was detected (as a proxy for age of onset), and d) awareness of Lone or Group NSSI. The dependent measures were based on Likert scales with the number of response options varying depending on the specific measure.

Given the nature of the dependent variables, ordinal regression models were computed for each dependent measure using the following three predictor variables: a) respondent experience (high, above the mean of 10.8 years, vs. low, below the mean of 10.8 years); b) type of school setting (rural vs. suburban vs. urban); and c) student population size (small, less than 500 students, vs. medium, 500 to 1500 students, vs. large, greater than 1500 students).

Results indicated significant relationships between student population size and perceived prevalence of NSSI and perceived changes in prevalence over the last five years. Respondents from schools with larger student populations were more likely to perceive that a greater proportion of their students were engaging in NSSI than were respondents from schools with small or medium-sized student populations. One quarter of respondents from large schools estimated that greater than 20% of their student populations was currently engaging in NSSI, compared to only 9.7% of respondents from medium schools and 8.6% from small schools. The ordered log odds for small schools were 1.16 lower than for large schools (95% CI = -2.00, -0.32). Similarly, the ordered log odds for medium schools were 0.94 lower than for large schools (95% CI = -1.70, -0.18). In the analysis of perceived changes in prevalence over the last five years, respondents from large schools were more likely to report an increase in NSSI prevalence compared to small schools; 87.5% of respondents from large schools indicated an increase compared to 62.7% from small schools. The ordered log odds for small schools were 1.66 lower than for large schools (95% CI = -2.96, -0.36).

School size was also significantly related to respondents' awareness of NSSI alone or within a group. Respondents from large schools were more likely to report awareness of Group NSSI than respondents from small schools. Half the respondents from large schools indicated seeing some Group NSSI compared to just under a quarter (24.1%) of respondents from small

schools. The ordered log odds for small schools were 1.19 lower than for large schools (95% CI = -2.19,-0.19).

Prevention and intervention approaches

Nearly half the total sample (46.2%) indicated their school has taken steps to prevent or intervene in NSSI among the student population. All of those who responded positively to this question had personally encountered NSSI in the school. As Table 3 indicates, after restricting the sample to those reporting their school had taken prevention or intervention steps (n=114), the four most commonly used (i.e., greater than 50% of the sample) intervention approaches included a) talking individually to each student engaging in NSSI (92.1%), b) parental notification (82.5%), c) issuing referrals to therapists or counselors *within* the school system (78.9%), and d) issuing referrals to therapists or counselors *outside* the school system (78.9%). A majority of respondents (83.3%) indicated their schools were using between 3 and 5 of the approaches listed. Amongst the group reporting the use of multiple approaches (n=95), the same four strategies were indicated as the most popular. Of all intervention approaches used, issuing referrals to therapists or counselors *within* the school system was seen as one of the most successful strategies for individual students (50.0%) while the infrequently used all-school assembly had lowest levels of perceived success, with 100% of respondents who indicated their school had used this approach saying they “do not know” the level of success for this approach.

Insert Table 3 About Here

To better understand variation in prevention and intervention strategies, ordinal regressions were calculated to detect if variations in a) respondent length of experience (high, or

above the mean of 10.8 years, vs. low, or below the mean of 10.8 years), b) school setting (rural vs. suburban vs. urban), and/or c) school population size (small, less than 500 students, vs. medium, 500 to 1500 students, vs. large, greater than 1500 students) predict a) whether or not a school has taken steps to prevent or intervene in student NSSI and b) the use of the most commonly used intervention approaches. Results indicate suburban schools are significantly more likely than rural schools to notify parents about student NSSI. The ordered log odds for suburban schools are 2.12 higher than for rural schools (95% CI = .55, 3.69). No other results were significant. An ordinal regression was also calculated to assess if perceived NSSI prevalence predicts whether or not a school has taken steps to prevent or intervene in student NSSI and no significant results were found.

When asked about a school-wide response to NSSI in the student population, nearly one quarter of respondents indicated the school staff have talked about the need for better detection, intervention, treatment, and prevention, and are taking action (22.3%). Steps taken include raising faculty and staff awareness of NSSI, holding team meetings to provide opportunities to discuss detection and referral, and assessing individual NSSI and providing appropriate referrals. Nearly as many respondents indicated they were not sure of their school's response (20.2%). Just over one third (35.6%) of the entire sample felt their school was doing a good job of dealing with NSSI while one quarter (25.5%) felt their school had a serious problem with NSSI that needed to be addressed. A smaller proportion (17.4%) indicated their school did not have much of a problem with NSSI.

Discussion

This study was intended to confirm and expand existing knowledge regarding NSSI in secondary school adolescent populations by assessing perceived NSSI prevalence, prevalence

change, NSSI characteristics, and variation in these by school and respondent characteristic. It was also intended to document and describe trends in NSSI prevention and intervention strategies. Findings were based on responses from secondary school professionals (nurses, guidance counselors, social workers, and psychologists) since these are the individuals in schools deemed most qualified to provide detailed information on school-based trends, policies, and procedures. With an average of 10.8 years in school-based service and direct experience working with self-injuring students, this sample of respondents is uniquely positioned to comment on school-wide prevalence of NSSI, changes in prevalence over time, characteristics of NSSI in the school, and to surface patterns that reveal different categories of NSSI. This approach has also been used in a study of college and university mental health providers (Whitlock, Eells, Cummings, & Purington, 2009).

Findings suggest that NSSI in secondary school settings is prevalent: all but six (2.4%) survey respondents indicated that some proportion of their schools' student population was currently engaging in NSSI. Respondents confirmed hypotheses and corroborated previous research findings regarding adolescent NSSI, with the majority estimating its current prevalence to be 10% or less in their student populations and common forms to include cutting, scratching or pinching to the point that bleeding occurs or marks remain on the skin, carving words or symbols into the skin, punching or banging objects to the point of bruising or bleeding with the intention of hurting the self, and burning (Beld, 2007, Best 2006, Heath et al., 2006). Also consistent with previous research and validating our hypothesis, respondents reported sixth to ninth grades as the earliest in which NSSI had been encountered, suggesting this range as the age of NSSI onset, (Muehlenkamp & Gutierrez, 2004; Nixon et al., 2008; Whitlock, Eckenrode et al., 2006; Yates 2004). Perceptions of NSSI trends over time also parallel those of other studies and

confirmed our hypothesis, with just over three-quarters of respondents indicating a worsening mental health picture for their student populations and a similar proportion reporting an increase in the prevalence of NSSI in the past five years (Muehlenkamp & Gutierrez, 2004, 2007; Whitlock, Eells et al., 2009).

Analyses aimed at assessing whether perceptions of NSSI in secondary schools vary by respondent and/or school characteristics found that perceptions of NSSI vary significantly depending on school student population size. Analyses revealed that respondents from large schools (>1500 students) are a) significantly more likely than medium-sized (500-1500 students) and small schools (<500 students) to perceive a greater percentage of their student body (i.e., greater than 20%) to be engaging in NSSI, b) significantly more likely than small schools to report that this prevalence had increased in the last five years, and c) significantly more likely than small schools to report encountering Group NSSI (i.e., NSSI used to establish or reinforce social group membership). Together, these findings suggest that the practice of NSSI and NSSI contagion may be more of a concern in schools with large student populations than in smaller schools, although whether this is due to increased school professional awareness and surveillance or to actual differences in prevalence is unknown and worthy of investigation.

In addition to confirming extant knowledge, study findings shed light on previously undocumented trends as well. The first of these includes finding evidence that while most respondents had encountered Lone NSSI (i.e., used only for internal purposes), some respondents reported Group NSSI (i.e., used to establish or reinforce group membership) as well. One third of the sample had encountered at least some Group NSSI. Although these descriptive data do not yield significant differences between Group and Lone NSSI, some trends did emerge. For example, students engaging in Group NSSI were described as often being part of specific social

groups (i.e., “Goth” or “Emo”) whereas those engaging in Lone NSSI evidenced no clear patterns. While gender patterns are not deeply investigated here, other research suggests males may be more likely than females to engage in Group NSSI (Whitlock, Muehlenkamp et al., 2009). It is also possible that the function and categories of NSSI may vary in meaningful ways with Lone NSSI conforming to intrinsically-reinforced emotional coping functions while Group NSSI conforms more to the social NSSI functions noted by NSSI function scholars (Nock & Prinstein, 2004, 2005). These categories of NSSI clearly warrant further investigation.

Defining distinct Group and Lone NSSI categories carries important implications for the daily work of secondary school professionals. For example, respondents indicated Group NSSI is more contagious than Lone NSSI, suggesting that effective prevention and intervention strategies for Group and Lone NSSI will likely differ. Similarly, treatment approaches may also be more effective when these categories of NSSI are taken into consideration, particularly if NSSI function and reinforcement are found to differ significantly between these groups.

In describing prevention and intervention efforts, a substantial proportion of respondents (46.2%) indicated that their schools were taking steps towards preventing and/or intervening in student NSSI, though the most common approaches are more accurately described as intervention and not prevention efforts. Common strategies included engaging the individual student, parental notification, referring to therapists or counselors within in the school system, and referrals outside of the school system. Of these, referring to therapists or counselors within the school system was deemed to be most successful, though respondents indicated that students engaging in NSSI are typically more difficult to treat than other students. Few strategies appear to represent school-wide protocols regarding NSSI, reflecting instead strategies selected on a case-by-case basis. Analyses aimed at assessing whether NSSI prevention and intervention

strategies vary significantly by respondent and/or school characteristics found only that suburban schools were more likely than rural schools to notify parents about student NSSI, though reasons for this are unclear.

Nearly half of all respondents (47.8%) indicated their schools have a serious problem with NSSI that needs to be addressed or reported a need for better NSSI prevention, detection, intervention, and treatment. One in five respondents is unsure of their school's response to NSSI. Supporting our hypothesis, these findings echo previous research that concludes secondary school professionals typically feel they need more training and knowledge regarding NSSI and that their schools would benefit from the establishment of a school-wide protocol or response to NSSI (Beld, 2007; Carlson et al., 2005; Heath et al., 2006; Roberts-Dobie & Donatelle, 2007).

Although providing valuable insight into an understudied area of NSSI, this study has limitations. While the participants, secondary school professionals, provide a unique perspective on NSSI in school settings, their perspective is limited by what is – or is not – brought to their attention. They can only report on the NSSI of which they are aware. Research in college samples indicates a large number of students engaging in NSSI tell no one about their self-injury, though others may suspect they are engaging in NSSI (Whitlock, Eckenrode et al., 2006; Whitlock, Muehlenkamp et al., 2009); it is likely this is also true in secondary school settings. Findings from studies such as the current one should be taken as one source of information about adolescent NSSI and considered in conjunction with other findings to form a more complete picture. In addition, this study is limited in that it utilized a convenience, rather than random, sample of secondary school professionals from across New York State. While primarily marketing the survey as one about student mental health (rather than as one solely about NSSI) potentially reduced the bias that a “self-injury survey” may have introduced while still targeting

the respondents we sought, the final set of respondents may have participated because of a particularly elevated interest in the topic as some respondents were recruited via educational workshops about NSSI. Finally, as respondents themselves indicated, NSSI in secondary schools seems to be changing rapidly. As such, these data may already be outdated; future study should seek to replicate and further expand these findings.

In sum, this study illuminates a series of potentially important findings regarding NSSI from a unique perspective, that of adult professionals working in secondary school settings. Several findings of the current study confirm those reported in previous research related to NSSI prevalence, increases in NSSI prevalence over time, common forms used, and age of onset. Novel contributions of the current study include empirical assessment of differences in perceptions of NSSI prevalence and characteristics by school characteristic, evidence of Lone and Group NSSI behavior, and details of common prevention and intervention strategies, including differences in strategies used by school characteristic.

Future research is needed to confirm and expand the descriptions and characterizations of the Lone and Group categories and to examine the points at which boundaries between these categories blur. For example, it is yet unknown whether a single person engaging in NSSI may move from one category to another or if movement between categories is atypical. Research might also examine whether a single person can concurrently engage in Lone and Group NSSI, depending on the characteristics of and purposes behind particular self-injurious episode. These questions likely have important implications for prevention, intervention, and treatment approaches. Another area for future research is to further explore the impact of school characteristics such as student population size on NSSI, with special attention paid to implications for prevention, intervention, and treatment.

References

- Beld, A. (2007). Self-injury in the schools: A survey of school psychologists. *Unpublished specialist thesis*, Western Kentucky University, Bowling Green.
- Best, R. (2006). Deliberate self-harm in adolescence: A challenge for schools. *British Journal of Guidance and Counselling*, *34*, 161-175.
- Carlson, L., DeGreer, S. M., Deur, C., & Fenton, K. (2005). Teachers' awareness of self-cutting behavior among the adolescent population. *Praxis*, *5*, 22-29.
- De Leo, D., & Heller, T. S. (2004) Who are the kids who self-harm? An Australian self-report school survey. *Medical Journal of Australia*, *181*, 140-144.
- Derouin, A., & Bravender, T. (2004). Living on the edge: The current phenomenon of self-mutilation in adolescents. *MCN: The American Journal of Maternal/Child Nursing*, *29*, 12-18.
- Favazza, A. (1998). The coming of age of self-mutilation. *The Journal of Nervous and Mental Disease*, *186*, 259-268.
- Galley, M. (2003). Student self-harm: Silent school crisis. *Education Week*, *23*, 1-15.
- Hawton, K., Fagg, J., Simkin, S., Bale, E., & Bond, A. (2000). Deliberate self-harm in adolescents in Oxford, 1985-1995. *Journal of Adolescence*, *23*, 47-55.
- Hawton K., Rodham K., Evans E., & Weatherall, R. (2002). Deliberate self harm in adolescents: self report survey in schools in England. *British Medical Journal*. *325*, 1207-1211.
- Heath, N., Toste, J., & Beettam, E. (2006). "I am not well-equipped": High school teachers' perceptions of self-injury. *Canadian Journal of School Psychology*, *21*, 73-92.

- Jacobson, C. M., & Gould, M. (2007). The epidemiology and phenomenology of non-suicidal self-injurious behavior among adolescents: A critical review of the literature. *Archives of Suicide Research, 11*, 129-147.
- Laye-Gindhu, A., & Schonert-Reichl, K. A. (2005). Nonsuicidal self-harm among community adolescents: Understanding the "whats" and "whys" of self-harm. *Journal of Youth and Adolescence, 34*, 447-457.
- Lieberman, R. (2004). Understanding and responding to students who self-mutilate. *Principal Leadership, 4*, 10-13.
- Machoian, L. (2001). Cutting voices: Self-injury in three adolescent girls. *Journal of Psychosocial Nursing and Mental Health Services, 39*, 22-29.
- Muehlenkamp, J. J., & Gutierrez, P. M. (2004). An investigation of differences between self-injurious behavior and suicide attempts in a sample of adolescents. *Suicide and Life-Threatening Behavior, 34*, 12-23.
- Muehlenkamp, J. J., & Gutierrez, P. M. (2007). Risk for suicide attempts among adolescents who engage in non-suicidal self-injury. *Archives of Suicide Research, 11*, 69-82.
- Nixon, M. K., Cloutier, P., & Jansson, M. (2008) Nonsuicidal self-harm in youth: A population-based survey. *Canadian Medical Association Journal, 178*, 306-312.
- Nock, M. K., & Prinstein, M. J. (2004). A functional approach to the assessment of self-mutilative behavior. *Journal of Consulting and Clinical Psychology, 72*, 885-890.
- Nock, M. K., & Prinstein, M. J. (2005). Contextual factors and behavioral functions of self-mutilation among adolescents. *Journal of Abnormal Psychology, 114*, 140-146.
- Onacki, M. (2005). Kids who cut: A protocol for public schools. *Journal of School Health, 75*, 400-401.

- Roberts-Dobie, S., & Donatelle, R. J. (2007). School counselors and student self-injury. *The Journal of School Health, 77*, 257-264.
- Ross, S., & Heath, N. (2002). A study of the frequency of self-mutilation in a community sample of adolescents. *Journal of Youth and Adolescence, 31*, 67-77.
- Shapiro, S. (2008). Addressing self-injury in the school setting. *The Journal of School Nursing, 24*, 124-130.
- Walsh, B. W. (2006). *Treating Self-Injury: A Practical Guide*. New York: The Guilford Press.
- Whitlock, J. L., Eckenrode, J. E., & Silverman, D. (2006). Self-injurious behavior in a college population. *Pediatrics, 117*, 1939-1948.
- Whitlock, J.L., Eells, G., Cummings, N., Purington, A. (2009). Non-suicidal self-injury on college campuses: Mental health provider assessment of prevalence and need. *Journal of College Student Psychotherapy*.
- Whitlock, J., Muehlenkamp, J., Purington, A., Eckenrode, J., Barreira, J., Baral-Abrahms, G., et al. (2009). *Primary and secondary non-suicidal self-injury characteristics in a college population: General trends and gender differences*. Manuscript submitted for publication.
- Whitlock, J. L., Powers, J. L., & Eckenrode, J. (2006). The virtual cutting edge: The internet and adolescent self-injury. *Developmental Psychology, 42*, 1-12.
- Yates, T. M. (2004). The developmental psychopathology of self-injurious behavior: Compensatory regulation in posttraumatic adaptation. *Clinical Psychology Review, 24*, 35-74.

Table 1

Respondent and School Characteristics (n=247)

Respondent characteristic	N (%)
Role in school	
Nurse	150 (60.7)
Guidance counselor	42 (17.0)
Social worker	35 (14.2)
Psychologist	4 (1.6)
Administrator	3 (1.2)
Teacher	2 (0.8)
Other	11 (4.5)
Years of experience	
<1 – 5	73 (29.6)
6 – 10	70 (28.3)
11 – 15	42 (17.0)
16 – 20	33 (13.4)
20 or more	29 (11.7)
School characteristic	N (%)
School type	
Public, traditional	215 (87.0)
Public, alternative	13 (5.3)
Private, religious	5 (2.0)

Table 1 (con't)

School characteristic	N (%)
Private, non-religious	4 (1.6)
Other	14 (5.7)
Student population	
<200	17 (6.9)
201 – 500	50 (20.2)
501 – 1000	103 (41.7)
1001 – 1500	48 (19.4)
1501 – 2000	20 (8.1)
>2000	8 (3.2)
School setting	
Rural	93 (37.7)
Suburban	98 (39.7)
Urban	54 (21.9)
Other	2 (0.8)

Table 2
Respondent Encounters with NSSI and Perceptions of Prevalence.

Perceived prevalence and prevalence changes over time	N (%)
Perceived proportion of student body currently engaging in NSSI	
None	6 (2.4)
<5%	100 (40.5)
5-10%	76 (30.8)
11-20%	29 (11.7)
21-30%	19 (7.7)
31-40%	3 (1.2)
41-60%	2 (0.8)
61-80%	1 (0.4)
81-100%	0 (0)
Perceived prevalence changes in student NSSI in the past 5 years	
Decreased substantially	2 (0.8)
Decreased a little	11 (4.5)
No change	48 (19.4)
Increased a little	107 (43.3)
Increased substantially	77 (31.2)
Comparison of NSSI and eating disorder prevalence changes in the past 5 years	
NSSI has increased more than eating disorders	71 (28.7)
Both have increased at the same rate	37 (15.0)

Table 2 (con't)

Perceived prevalence and prevalence changes over time	N (%)
Eating disorders have increased more than NSSI	26 (10.5)
Neither have increased very much	17 (6.9)
I do not know	63 (25.5)
Other	3 (1.2)
Respondent encounters with NSSI	N (%)
First NSSI encounter	
Within the last year	32 (13.0)
1-2 years ago	27 (10.9)
2-3 years ago	37 (15.0)
4-5 years ago	50 (20.2)
6-10 years ago	47 (19.0)
Over 10 years ago	32 (13.0)
I have never encountered a self-injurious student	1 (0.4)
Of those who have encountered NSSI (n=232), number of self-injuring students worked with	
1	8 (3.4)
2 – 5	41 (17.7)
6 – 10	58 (25.0)
11 – 20	52 (22.4)
More than 20	71 (30.6)

Table 2 (con't)

Respondent encounters with NSSI	N (%)
Of those who have encountered NSSI (n=232), number of self-injuring students encountered in the last year	
None	13 (5.6)
1	21 (9.1)
2 – 5	107 (46.1)
6 – 10	54 (23.3)
11 – 20	23 (9.9%)
More than 20	12 (5.2)

Table 3

Secondary School Prevention and Intervention Approaches and School-Wide Response to NSSI

Intervention approach used, of those who have taken steps (n=114)	N (%)
Talking individually to each student engaging in NSSI	105 (92.1)
Parental notification	94 (82.5)
Issue referrals to therapists/counselors <i>within</i> the school system	90 (78.9)
Issue referrals to therapists/counselors <i>outside</i> the school system	81 (71.1)
All school assembly to increase knowledge	3 (2.6)
School-wide response to student NSSI (n=247)	N (%)
Staff has discussed need for better detection, intervention, treatment, & prevention and are taking action	55 (22.3)
Staff has discussed need for better detection, intervention, treatment, & prevention and are unsure what to do	42 (17.0)
NSSI is a small problem that does not require specific school policies	40 (16.2)
NSSI is a problem that no one wants to deal with	14 (5.7)
School is not aware of any NSSI problem	13 (5.3)
Not sure	50 (20.2)
Other	26 (10.5)