



School Psychology Forum:

R E S E A R C H I N P R A C T I C E

VOLUME 7 · ISSUE 4 · PAGES 1–18 · Winter 2013

Understanding Nonsuicidal Self-Injury in Youth

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ABSTRACT: In this article we summarize what is known about nonsuicidal self-injury (NSSI) in youth. First, we describe basic demographic trends, prevalence, and function. Then we turn our attention to the implications of NSSI for schools, school-related policies, and school guidelines. Having provided an overview of the field, we conclude that even in the absence of academic and clinical consensus of the definition, measurement, and NSSI function, schools are uniquely poised to raise awareness about NSSI and about mental health issues in general among their students and their staff. By taking proactive approaches to building awareness and skills, schools are well positioned to assist in equipping young people with the skills they need to better cope with the inevitable vicissitudes of life including but not limited to NSSI.

Despite its contemporary ubiquity, understanding of nonsuicidal self-injury (NSSI) is nascent. Its seemingly sudden appearance on the map of youth risk behavior just over a decade ago gave rise to a flurry of research on its epidemiological composition. And, as the case examples below portray, NSSI is both common among youth who otherwise function normally and is found in schools, colleges, youth serving organizations, and families of every type. In many ways, however, practical approaches for detecting, responding to, and intervening with NSSI in the everyday settings where youth are found, like schools, lag even further behind than our basic understanding of what it is and why people do it.

In light of the instinctive confusion it seems to generate for onlookers, it is easy to understand why NSSI is not only hard to talk about but is a topic easier to avoid than to engage. Its very nature defies deep instinctual human drives for self-preservation as well strong social taboos related to self-inflicted injury. It is, after all, quite puzzling. Why would someone choose to cut or otherwise hurt his or her body? Why would someone do this in way that looks like a suicide attempt but then insists that it actually has nothing to do with suicide at all? How do we understand this, let alone effectively respond to it? Those of us who study NSSI are very familiar with the instinctive avoidance reaction to this topic, and some of us have had to overcome it in ourselves and all of us have encountered it in others.

Such avoidance is natural, but it is also something schools and other youth-serving professionals will need to actively counter to help the high numbers of today's youth who use NSSI as a path to

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expressing themselves and/or to managing emotion. In fact, both case examples below represent pretty typical NSSI scenarios. Although frequently thought to be associated with attention seeking, a history of sexual abuse or other trauma, or with certain subgroup cultures (e.g emo, punk, or Goth), NSSI is both widespread and common among all kinds of youth: high achievers, shy youth, boys and girls, popular kids, athletes. Nor does it appear that NSSI will stop anytime soon.

In this review we will briefly summarize what is known about NSSI epidemiology in youth, particularly with regard to prevalence, basic demographic trends, forms and functions, relationship to suicide, and international comparisons. We will end with a brief discussion of implications for school related practice and policy.

CASE EXAMPLES

Sara is one of the most academically advanced students in her class. She is a quiet and excellent high schooler and began self-injuring to cope with feelings she believed that she needed to control lest they affect her life and her image. At first, these feelings largely had to do with confusion she felt around her sexual identity. She felt like she could not share her worries and feelings and desires with anyone, particularly not her parents, so she started to self-injure to let them out another way. Not long after starting, self-injury became yet another secret to manage, compounding her original confusion and shame and adding even more reasons to self-injure. No one knew, not her friends, her teachers, her parents. She told a “silent” self-injury case, one of the “good” kids who seemed to have it altogether. Now, several years later at a leading U.S. university, she continues to manage her feelings by cutting her body. She did settle more comfortably into a bisexual sexual orientation, but the self-injury persists. She says it is like an old friend, a companion who has been with her through it all. She has no plans to give it up anytime soon.

Jeremy started to self-injure at about 15. He was introduced to it through a “courage” game played by a bunch of boys to see who could hold a flame under his arm the longest. His story is similar to the way many boys start and continue injuring. In Jeremy’s case, engagement in this game led him to notice that self-injury felt “good” in an odd way, that it soothed the anxious feelings he often experienced. He sought these games out more frequently after this and, eventually, began to self-injure on his own privately. He injured largely by burning his skin and then, later, by punching things to feel the pain sear his knuckles and up his arm. Like social drinking is sometimes a stepping-stone to private drinking to relieve stress, Jeremy’s self-injury took the same course. He confided only in his therapist and, later, a few friends. If anyone else noticed, he or she never asked, not even his parents. He sometimes wondered why his teachers never said anything about the more noticeable marks on his hands. He was a guy, he figured, and there were many easily explainable reasons that he could have wounds and scars on his hands and arms. He did not even begin to think about stopping for over a decade and only after a suicide attempt in which it became clear that he needed to find other ways to deal with his emotions.

OVERVIEW

Although largely associated with clinical populations in the public and professional arenas, NSSI is now recognized as an all too common phenomenon among community, nonclinical populations of adolescents and young adults with important clinical, public health, and policy implications. For example, although the specific behaviors employed as part of NSSI are often confused with suicide, NSSI is, by definition, largely devoid of suicidal intent and, paradoxically, most often signals a strong desire to live. In cases where policy responses to NSSI and suicide are the same, as in many school settings, individuals who use NSSI to cope with negative affect but who are not suicidal are likely to experience NSSI/suicide protocols as potentially iatrogenic. For this and other reasons, “[a]n understanding of the epidemiology and

phenomenology of [NSSI] is vital for researchers, clinicians and policy makers interested in this problem” (Rodham & Hawton, 2009, p. 37).

Perhaps the most salient theme to emerge from existing literature is that there is no one profile for an individual who self-injures. Difficulty identifying a profile may be due partly to the widely varied motivations reported for initiating and repeating NSSI. Within clinical populations, those who self-injure tend to report high levels of depression and anxiety and comparatively few coping mechanisms (Haines & Williams, 2003). However, as Strong (1998) notes and as the case studies above detail, those who self-injure are also found in “the best neighborhoods and private schools, in colleges and in the workplace” and are “often bright, talented and creative achievers—perfectionists who push themselves beyond all human bounds, people-pleasers who cover their pain with a happy face” (p. 18). Indeed, studies suggest that NSSI is far more common among nontraumatized, high functioning individuals than assumed, and that these cases are those most likely to go undetected by the service system.

HOW COMMON NSSI IS AMONG YOUTH

The process of establishing the prevalence of NSSI is complicated by variation in how NSSI is conceptualized and in measures used. For example, whereas in the United States the term *deliberate self-harm* is used to refer to self-injury without suicidal intent, in the U.K. the same term refers to any purposeful *nonlethal* self-injurious act performed *with or without* suicidal intent. Therefore, the U.K. term includes the act of taking an overdose (something not included in the NSSI definition), as well as acts of attempted suicide, neither of which are included in the U.S. definition (Claes & Vandereycken, 2007). Such variation has led to large differences in measurement and, by extension, the ability to generalize and compare across countries.

Despite this variation, however, there is growing consensus in some areas, particularly with regard to frequency and form. For example, most studies show an average age of onset between 11 and 15 years (Jacobson & Gould, 2007; Klonsky & Muehlenkamp, 2007; Kumar, Pepe, & Steer, 2004; Muehlenkamp & Gutierrez, 2004; Nixon, Cloutier, & Aggarwal, 2002; Nock & Prinstein, 2004) and the majority of point prevalence studies in the past 4 years find lifetime rates between 12 and 25% (Baetens, Claes, Onghena, Muehlenkamp, & Grietens, 2011; Hasking et al., 2010; Ross, Heath, & Toste, 2009; Whitlock et al., 2011; You, Leung, Fu, & Lai, 2011). Studies of NSSI recency consistently find that about 6–7% of adolescents and young adults report current NSSI (6 months) (Cwik et al., 2011; Gollust, Eisenberg, Golberstein, 2008; Jacobson & Gould, 2007; Whitlock, Eckenrode, & Silverman, 2006).

Studies also suggest that of all youth reporting any NSSI, more than three quarters report repeat NSSI (>1 episode), about half report between 2 and 10 lifetime incidents, and 20–25% report more than 10 lifetime incidents. Overall, about a quarter of all adolescents and young adults with NSSI history report engaging in NSSI only once in their lives (Heath, Toste, Nedecheva, & Charlebois, 2008; Whitlock et al., 2006). Duration of NSSI is understudied, but where it has been studied tends to vary by population and age of onset (Whitlock & Selekman, in press). Although NSSI is, for many youth, a phase that does not endure well into adulthood, for some youth (about 20%) NSSI is the beginning of just that, a behavioral habit that becomes increasingly more intractable and difficult to stop. And, for all youth who self-injure, it is a clear warning sign that new skills are needed for acknowledging and managing emotion. Indeed, even among those who may not carry NSSI well into adulthood, more than one in five report injuring themselves more severely than they had expected to, some while under the influence of drugs and alcohol. Moreover, more than one third of those who reported injuring themselves more severely than expected felt that they should have sought medical care but did not do so (Whitlock et al., 2011).

HOW YOUNG PEOPLE SELF-INJURE

The most common NSSI forms reported by adolescents and young adults include scratching, cutting, punching or banging objects with the conscious intention of NSSI, punching or banging oneself, biting, ripping or tearing the skin, carving on oneself, and burning oneself (Briere & Gil, 1998; Heath et al., 2008; Klonsky, 2007a, 2007b; Laye-Gindu & Schonert-Reichl, 2005; Whitlock et al., 2011). The majority of young people reporting repeat NSSI also report using multiple methods to injure. In one study involving young adults who reported repeat NSSI, 70% reported using multiple methods with about half reporting using two to four methods. Furthermore, those reporting repeat NSSI also were more likely to report injuring multiple body locations (Whitlock et al., 2006).

Because of the variation in how young people injure themselves, the extent of body damage incurred as a result of NSSI also varies widely. In one study, more than a third (35.3%) of those with NSSI experience indicated that they should have been seen by a medical professional for one or more of their injuries but only 6.5% reported actually seeking medical attention (Whitlock, Eckenrode, & Silverman, 2006). Similar findings have been reported in a large study examining self-harm among secondary school students in the U.K., in which 12.6% of adolescents reporting any self-harming behavior reported seeking medical attention (Hawton, Rodham, Evans, & Weatherall, 2002). Gender differences in NSSI severity have been documented in several studies as well, with females most often presenting with more severe NSSI forms (Andover, Primack, Gibb, & Pepper, 2010; Sornberger, Heath, Toste, & McLouth, 2012; Whitlock et al., 2011; You et al., 2011), but not always (Muehlenkamp, Williams, Gutierrez, & Claes, 2009).

WHY YOUNG PEOPLE ENGAGE IN NSSI

Answering this question is not as simple as it may appear. In truth, this question encompasses three distinct questions: (a) What distal life factors help to explain why young people initiate NSSI? (b) What proximal factors help to explain why young people initiate NSSI? (c) What contingencies motivate continued NSSI engagement over time?

The first of these, explaining the etiology of NSSI, typically leads to consideration of factors and pathways that might explain NSSI adoption at all and which might also explain why NSSI is selected over other methods of coping (e.g., drug or alcohol use, disordered eating, risky sex). Although general factors contributing to NSSI onset have been explored, understanding the particular appeal of NSSI amid so many other possibilities remains a nascent endeavor. Factors such as the role of childhood trauma or abuse (Lang & Sharma-Patel, 2011; Maniglio, 2011), family dynamics and changes (Bureau et al., 2010), physiological sensitivities/proclivities (Franklin et al., 2010; Sher & Stanley, 2008), peer dynamics (Adrian, Zeman, Erdley, Lisa, & Sim, 2011; Jarvi, Jackson, Swenson, & Crawford, 2013; Prinstein et al., 2010), emotion regulation capacity (Chapman, Gratz, & Brown, 2006; Najmi, Wegner, & Nock, 2007), developmental asynchronicities and changes (Barrocas et al., 2011), negative cognition (Klonsky & Muehlenkamp, 2007), and comorbidity with other mental health disorders (Esposito-Smythers et al., 2010) are the most commonly identified as likely candidates for explaining NSSI (see Klonsky, 2007a, for a review). Few of these, however, help to explain why NSSI may be used as a method of coping above and beyond other possibilities. Some scholars have suggested that NSSI became an in vogue behavior as body modification and expression became increasingly acceptable (Lader, 2006) and as NSSI began appearing in popular culture media (Whitlock, Purington, & Gershkovich, 2009). This question, however, remains a ripe area for exploration.

Perhaps reflecting difficulties individuals have in consciously linking external and distal causes (e.g., through media or general knowledge that NSSI is practiced by peer groups) to personal motivations for adopting a practice, studies of initial motivation find a diverse array of reported causes for NSSI initiation. Social motivations (e.g., to communicate distress to others, or to identify with a group of others) have been identified as the most common initial motivation in several studies (Heath, Ross, Toste, Charlebois,

& Nedecheva, 2009; Rutledge, Rimer, & Scott, 2008; Young, Sweeting, & West, 2006) while other studies find accidental discovery or an impulsive response to overwhelming negative affect as the primary reason for initiating NSSI (Heath et al., 2009; Whitlock, Eckenrode, & Silverman, 2006; Whitlock et al., 2011). It is important to note that although some adults will dismiss NSSI as attention-seeking behavior, in cases where students initiate NSSI in order to seek attention, treatment specialists would argue that attention is warranted, though the nature of this attention need not be pity nor constant caretaking.

Regardless of why individuals start, however, it is clear that reasons for continuing to self-injure may have little to do with how it was discovered in the first place. From a research perspective, understanding the second and third questions above—the proximal causes for initiating and contingencies required for maintaining an on-going practice of NSSI—constitute the most examined areas of why people self-injure. Answers to this generally fall into three basic categories: psychological, social, and biological. Each of these are considered briefly below and can be found in much greater detail in Darosh and Lloyd-Richardson (this issue).

Psychological

Psychological models are most simply described using the four function model first identified by Nock and Prinstein (2004): automatic positive reinforcement (e.g., NSSI is motivated by the desire to feel something in the wake of dissociation), automatic negative reinforcement (e.g., NSSI is motivated by the desire to escape negative affect such as anger, anxiety, or distress), social positive reinforcement (i.e., NSSI is motivated by the desire to gain attention or access to resources), and social negative reinforcement (i.e., NSSI is motivated by the desire to avoid punishment from others). Not all researchers conceptualize or describe psychological function using these four categories (see Klonsky 2007a, for a review), but most agree that one of the primary functions of NSSI is to avoid psychological pain, to express psychological distress, and to refocus one's attention away from negative stimulus (Chapman et al., 2006; Walsh, 2007). Some studies show variation in function by gender (Andover, Pepper, & Gibb, 2007; Whitlock et al., 2011), but these are largely modest variations and still report regulation of negative affect to be the dominant function identified by both sexes.

Social Models

Social function models point to the importance of viewing NSSI as a behavior undertaken to seek social connection or attention in some way. For example, in a study of Canadian college students, Heath et al. (2009) found that social motivations were common in NSSI initiation and maintenance. Similarly, a U.K.-based study of adolescent self-harm in school-based populations found that being associated with the Goth subgroup was significantly associated with adoption of self-injurious behavior in the study population (Rutledge et al., 2008; Young et al., 2006). Although there appears to be an elevated association of NSSI with this population, it is important that the NSSI behavior among young people who belong to these groups is not stereotyped as being something all individuals in these groups do. Similarly, although self-injury can be used to communicate with others or to signify group membership, it is rarely undertaken for merely theatrical or group membership purposes. The fact that NSSI can be contagious among students also suggest an interpersonal component to the behavior, one in which NSSI communicates status, group affiliation, or a form of communicating distress or desire for connection. Dismissing NSSI as attention seeking or simply a way to belong negates the need for proactive messages and skills and dismisses very real possibilities for unintentional injury of high lethality.

Biological Models

Biological models of function tend to focus primarily on the role of NSSI in the regulation of endogenous opioids. The homeostasis model of NSSI, for example, suggests that people who self-injure may have chronically low levels of endogenous opioids. In this model, NSSI is fundamentally remedial; that is, it represents an attempt to restore opioids to normal levels (e.g., to get a rush or surge of energy). Low

levels of opioids may result from a history of abuse, trauma, or neglect or may be biologically endowed through other processes (Sher & Stanley, 2008). These models are helpful in deepening understanding about how and why those who engage in NSSI report experiencing it as addictive (Nixon et al., 2002; Winchel & Stanley, 1991). In a study of the role of serotonin in NSSI, a system closely linked to that which governs the endogenous opioid system, Fikke, Melinder, and Landrø (2013) found that those engaging in NSSI possessed a sensitivity to deregulations in the serotonin system, and were thus vulnerable to impaired cognitive control and especially responsive to affective cues of the moment. Similarly, in a functional MRI study of individuals with and without NSSI history, Plener, Bubalo, Fladung, Ludolph, and Lulé (2012) found that individuals with a history of NSSI showed an excited neural pattern for emotional and NSSI visual stimuli, suggesting that the emotion-regulation deficits noted among those who self-injure may be neurologically based.

GENDER DIFFERENCES IN NSSI

Although most research finds adolescent and young adult females to be somewhat more likely to self-injure than their male peers (Bakken & Gunter, 2012; Cwik et al., 2011; Muelenkamp et al., 2009; Whitlock, Eckenrode, & Silverman, 2006; Wilcox et al., 2012), other empirical research suggests that the gender gap may be narrower than assumed (Briere & Gil, 1998; Deiter, Nicholls, & Pearlman, 2000; Dulit, Fyer, Leon, Brodsky, & Frances, 1994; Galley, 2003; Heath et al., 2008; Klonsky, 2011; Martin, Rozanes, Pearce, & Allison, 1995; Sornberger et al., 2012). The difficulty in accurately assessing the gender distribution of NSSI may arise from the variation in the forms and contexts associated with males and females engaging in NSSI. For example, Andover et al. (2010) found differences by gender in terms of age of onset, degree of injury, and methods of NSSI in young adult population such that females tended to engage in more severe and longer term NSSI enactment when compared to males. Likewise, Whitlock et al. (2011) found similar trends and also documented significant differences in routines and practices. Males were more likely than females to report a social dimension to NSSI (e.g., injuring in the presence of others). Males were also more likely than females to report injuring while intoxicated. In a study of presentations to general hospital following deliberate self-harm over a 23 year period, Hawton, Harriss, Simkin, Bale, and Bond (2004) reported that while similar proportions of males (83.3%) and females (89.1%) presented following self-poisoning, a greater proportion of male participants presented following self-harm (12.9% versus 7.9%). Similar findings are reported elsewhere in the U.K. (Cooper et al., 2006; Horrocks, Price, House, & Owens, 2003).

Studies of NSSI predictors also find some interesting variations by gender. For example, Bureau et al., (2010) found that fear and alienation in parent–child relationships predicted NSSI in young adult females but not males. Similarly, in a longitudinal study of peer socialization effects, Prinstein et al. (2010) found that friend NSSI affected respondent NSSI behavior for girls but not for boys, even after controlling for depressive symptoms. Hintikka et al. (2009) found that *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994) Axis I mental disorders (e.g. depression, eating disorders, bipolar disorder, and anxiety and conduct disorders) were significantly more common among females with NSSI history than among their male peers.

With regard to seeking help, Health, Baxter, Toste, and McLouth (2010) found few gender differences in reported willingness to seek school-based help among high school students who engage in NSSI although Whitlock et al. (2011) found that, while males and females were equally likely to disclose NSSI in therapy, females were twice as likely to report having been in therapy for any reason when compared to males. In keeping with this, latent class analyses of NSSI characteristics find gender to cluster with other NSSI traits in distinct and meaningful ways (Klonsky & Olino, 2008; Whitlock, Muehlenkamp, & Eckenrode, 2008).

Taken together, extant literature suggests that even when differences in NSSI prevalence are not evident, there may be important differences in NSSI etiology, trajectories, and contexts by gender. Understanding of these variations is nascent but is likely to affect detection, intervention, and prevention efforts.

ETHNICITY AND CULTURE IN NSSI

The association between NSSI and ethnicity in adolescents and young adults is inconclusive. Although a small number of studies comparing Caucasian to non-Caucasian youth show significantly higher rates among the former (Muehlenkamp & Gutierrez, 2004, 2007), other studies show similarly high rates in minority samples (Favazza, 1999; Laye-Gindhu & Schonert-Reichl, 2005; Whitlock & Knox, 2007). Kuentzel, Arble, Boutros, Chugani, and Barnett (2012) found that Caucasians and individuals self-identifying as multiracial were at especially high risk for NSSI, whereas Arab Americans and African Americans had particularly low rates. Whitlock et al. (2011) found slightly higher rates among Caucasian students but only modest differences between Caucasians and Asian students. Similarly, studies in the U.K. have suggested that rates of self-harm (including NSSI) among young South Asian women are higher than in the Caucasian population (Bhugra, Baldwin, Desai, & Jacob, 1999; Cooper et al., 2006; Merrill & Owens, 1986). However, significant differences only tend to be reported in studies with relatively large sample sizes, suggesting that nonsignificant findings may be the result of inadequate power (i.e., insufficient numbers to detect a difference), but also that differences are not large.

Some research also suggests a relation between NSSI and religion and spirituality. Favazza (1987) first raised this association in some of the earliest writings on NSSI and culture, though little research has since been dedicated to exploring the link between NSSI and spiritual or religious orientations. Only two studies (Kress, Newgent, Whitlock, & Mease, in press; Kuentzel et al., 2012) have explored this relationship and both found self-reported religious or spiritual orientations to be a protective factor for NSSI. In the Kuentzel et al. (2012) study of midwestern college students, participants who self-described as atheist, agnostic, or nonbeliever were several times more likely to have engaged in NSSI (31.3%), while Muslims (7.4%) and Baptists (6.3%) had relatively low rates. Multivariate analyses revealed that ethnic differences in NSSI could not be accounted for by religious differences. Similarly, in another study of NSSI protective factors among college students, Kress et al. (in press), found that spirituality/religiosity (specifically importance of spirituality and belief in an afterlife) were significant protective factors for NSSI onset.

INTERNATIONAL DIFFERENCES

There have been few attempts to conduct multicenter studies of NSSI. Schmidtke et al. (1996) reported high parasuicide rates in northern European regions and low rates in Mediterranean regions. Parasuicide is a term used to refer to suicide attempts/gestures that include self-harm where there is no result in death (World Health Organization, 1992), and this term therefore also includes behavior classified as NSSI. More recently, the Child and Adolescent Self-Harm in Europe study (a collaboration of centers in the U.K., Ireland, the Netherlands, Belgium, Norway, Hungary, and Australia) shows strikingly similar rates of self-harm (including NSSI) among males and females in the U.K., Ireland, Belgium, Norway, and Australia (e.g., DeLeo & Heller, 2003; Fekete, Temesváry, & Osvath, 2004; Ystgaard, Reinholdt, Husby, & Mehlum, 2003). Far lower rates of self-harm (including NSSI) were found in the Netherlands (Madge et al., 2008) and Hungary (Fekete et al., 2004). Interestingly, adolescents from the Netherlands had the lowest reported rates of thoughts of self-harm while thoughts of self-harm among adolescents from Hungary were the highest of all the seven countries involved in the multicenter study. This may suggest that in Hungary there are greater barriers to translation of thoughts of self-harm into actual acts than in certain other European countries, which may reflect cultural differences in both social attitudes to self-harm as well as in terms of availability of methods.

ADOLESCENCE AS A RISK FACTOR

In many ways, the stage of life we identify as adolescence is, in and of itself, a risk factor for NSSI. This period of life is also the most common period of onset for most major mental disorders (Kessler et al.,

2005). Much of this stems from the rapidity and complexity of development occurring at that time. Indeed, adolescence is the only period to rival early childhood in the complexity and rapidity of change. Unlike early childhood, however, in which the extent of growth is obvious, much of the development occurring in the adolescent years occurs within the seemingly invisible domains associated with psychological, social, moral, cognitive, sexual, and spiritual maturity. There are also very significant neurological changes occurring at that time. Not only does full maturity mandate robust development in each of these areas, it requires integration between them. Because the neurological development occurring in adolescence enhances the role of salience cognition and behavior (Chein, Albert, O'Brien, Uckert, & Steinberg, 2011; Depue & Morrone-Strupinsky, 2005; Steinberg, 2010), adolescents show high physiological and neurological sensitivity to external emotional cues, particularly social rejection and acceptance (Gardner & Steinberg, 2005; Steinberg, 2010). They also tend to feel all emotions, but particularly negative emotions, more acutely than children or adults (Gilbert, 2012). Maladaptive behaviors, such as NSSI, may arise during this time as individuals use a variety of strategies for reaching and maintaining emotional equilibrium. When these conditions are accompanied by psychosocial factors that frustrate or delay healthy developmental processes, such as early childhood trauma, biological imbalances, and/or overly demanding or challenging environments, there are likely to be detrimental and persistent consequences (Lerner & Steinberg, 2004).

NSSI may have symbolic and expressive value as well. As Conterio and Lader (1998) aptly point out, NSSI may serve as an outlet for the growing pains of adolescence. NSSI's symbolic use is a way to express fear or discomfort with inherent conflicts in key developmental areas such as those related to autonomy and connection, physical changes and sexual impulses, and individual mastery and social belonging and image. NSSI may also be, as Favazza (1996, 2009) suggested, a physical and metaphorical attempt to integrate spirit, body, and psyche. An NSSI episode may be thus experienced by some as a transcendental act, one capable of conferring authenticity and—even if fleetingly—physical, mental, emotional, and spiritual equilibrium. Its particular attractiveness to adolescents, then, may lie in its capacity to serve as a vehicle for simultaneous expression of pain and a striving toward wholeness, both of which are abundant during the adolescent period.

IS SELF-INJURY SPREADING?

It is generally assumed that incidence of NSSI has increased over the 15 or so years, although lack of empirical evidence limits our capacity to assess this assumption. Although baseline data on NSSI prevalence and incidence is scant prior to the early part of the contemporary millennia, studies of veteran youth-service provider perceptions of NSSI prevalence, changes in the occurrence and nature of NSSI in media and virtual forums, evidence of short-term peer influences on NSSI initiation, and hospital and clinical panel data all suggest that widespread NSSI may be relatively unique to current generations of youth (see Jarvi, Jackson, Swenson, & Crawford, 2013, for a review).

That NSSI would spread once introduced is consistent with social epidemiology showing that ideas and behaviors spread similar to germs and in ways that are socially patterned and clustered (Beettam, 2013; Fowler & Christakis, 2009). Consistent with this and with social learning theory (Bandura, 1977), exposure to actual NSSI behavior among others does seem to induce adoption of the behavior. Such spread has been documented among adolescents in clinical and institutionalized settings (Matthews, 1968; Taiminen, Kallio-Soukainen, Nokso-Koivisto, Kaljonen, & Helenius, 1998; Walsh & Doerfler, 2009). A similar trend was documented in a longitudinal study of middle school students where a friend's NSSI behavior was found to influence respondent's later NSSI behavior, but only for girls (Prinstein et al., 2010).

Spread of NSSI does not only occur among those who know each other. Widespread introduction and spread of NSSI in mainstream media (Whitlock, Purington, & Gershkovich, 2009) as well as in virtual venues (Lewis, Heath, St. Denis, & Noble, 2011; Whitlock, Powers, & Eckenrode, 2006) corresponds perfectly with increased self-harm reports by U.K. hospitals (Hawton, Fagg, Simkin, Bale, & Bond, 1997),

by service and clinical professionals (Heath, Toste, & Beetam, 2006; Whitlock, Purington, Eells, & Cummings, 2009), as well as researchers (see Rodham & Hawton, 2009, and Jacobson & Gould, 2007, for reviews).

IMPLICATIONS FOR SCHOOLS

Researchers have noted that although the school psychologist is in the front line for providing assistance, very few students indicate turning to their school psychologist or other trained professionals for help with emotional problems (e.g., Esters, Cooker, & Ittenback, 1998; Evans, Hawton, Rodham, & Deeks, 2005; Heath et al., 2010). Instead, most turn to friends and family first. Indeed, Evans, Smith, Hill, Albers, and Neufeld (1996) found that adolescents rated having close friends as one of the most important sources of help when feeling suicidal or in a crisis. In addition, Hennig, Craig, and Crabtree (1998) found that 50% of adolescents said that when they were in a crisis they were more likely to turn to a friend than a parent or school psychologist. The responses of adolescents in Evans et al.'s (2005) study indicated that many had found seeking help difficult and that they were often poorly informed about voluntary agencies and the kind of help that they can provide.

Similarly, we know that a large proportion of those who engage in NSSI do so impulsively. For example, Hawton et al. (2002) reported that 50% of those who cut themselves said that they had thought about harming themselves for less than an hour beforehand. We also know that the vast majority of NSSI does not come to the attention of the medical profession (Whitlock et al., 2011). Thus, the combination of the impulsive nature of self-injurious behavior and the reluctance of adolescents to seek help (other than from their friends) means that there is often little time for intervention prior to the act taking place once an adolescent has begun thinking about it.

In sum, schools are poised to play a very important role in effective NSSI detection, intervention, and prevention. A fully engaged school will:

- Raise awareness about the sources of help available to young people who are engaging in NSSI
- Support, prepare, and equip peers who may be the first person a friend turns to when he or she is thinking of or has already carried out an act of NSSI
- Promote resilience and thriving among all youth

Raising Awareness About Sources of Help

In order to effectively respond to NSSI and to reduce risk of contagion as well as to enhance prevention, school staff needs (a) current and accurate information about NSSI, (b) a willingness to directly address NSSI cases, and (c) protocols or other guidelines for assuring the first two above. For school staff, there are a variety of Web-based resources available for assuring accurate and up to date information:

- SAFE Alternatives: <http://www.selfinjury.com/>
- Cornell Research Program on Self-Injury and Recovery: <http://selfinjury.bctr.cornell.edu>
- Self-Injury Outreach and Support: <http://sioutreach.org/>
- Harmless: <http://www.harmless.org.uk/>
- Link to a video about youth NSSI: <http://www.cornell.edu/video/janis-whitlock-why-studying-teen-self-injury-is-so-important>
- Link to *Understanding Self-Injury*: http://www.human.cornell.edu/hd/outreach-extension/upload/CHE_HD_Self_Injury-final.pdf

Each of these websites includes current basic information about NSSI as well as specific resources for schools and educators, such as school protocol guidelines, kits, and handouts. Most of these sites also include resources available for parents, individuals who self-injure, peers, clinicians, and others who care about or treat individuals who engage in self-injury. Education can also happen by inviting in local experts or by tuning into webinars or other national/international education forums for learning. At the very least, school personnel need to know some of the basic fictions and facts. (See the Appendix for a list of fiction and facts.)

Support, Prepare, and Equip Peers to Effectively Respond to a Friend

Although friends are clearly key gatekeepers, friends are often ill-equipped to recognize when friends are having difficulties and to provide help, either directly or indirectly through involving other people. Friends also often struggle with knowing when and how to break a friend's confidence in order to solicit assistance from an adult or someone else well positioned to assist a distressed friend. School prevention programs aimed at helping friends help friends may play a vital role in preparing friends to respond in effective ways to self-injury signs and symptoms. All of the websites noted above contain resources for peers, which can be used to assist peers in proactively and productively responding to a self-injurious friend or a friend in distress.

Provision of education and skills training can take many forms. At the universal level, it can include all student educational assemblies related to signs and symptoms of peer distress, signs and symptoms of self-distress, telling the difference between stress and distress, and strength-based skills for coping with all of these. It is really important for schools to know that while it is strongly encouraged that school staff be very aware of the specific signs and symptoms of NSSI (e.g. specific forms, signs and symptoms, prevalence), detailed education on NSSI, particularly related to NSSI forms, is not advisable for students. While it is ideal to provide students with basic education on how to recognize and respond to a friend in distress as well as how to deal with common mental and emotional health challenges in themselves (e.g., feeling depressed, anxious, or otherwise overly taxed), providing detailed information on how people self-injure and its prevalence is not advisable.

Other, more specialized peer-focused programs can be modeled after programs like the Sources of Strength program (Wyman et al., 2008) or the variety of peer notice and respond programs that have emerged in the wake of growing mental health challenges on school campuses. The Signs of Self-Injury Prevention Program (<http://www.mentalhealthscreening.org/programs/youth-prevention-programs/sosi/>) is a video program developed specifically for peers with friends who self-injure and is a valuable tool for schools. In most cases, it is ideal to engage in a targeted selection of students to whom to provide specialized education (in this case, more detailed NSSI information may be provided as deemed appropriate to the goals of the program). Students with broad reach or connection to youth at higher than average risk of self-injury and who possess leadership capacity are ideal candidates for such programs. These types of efforts, however, typically entail dedicated staff resources to train and support students to carry out the aims of the program.

Promote Resilience and Thriving Among All Youth

The best prevention approach to NSSI is to address the underlying issues that engender it in the first place. Schools cannot do much, of course, about the antecedents that occur outside of school, but there are several underlying skills implicated in all self-harming behaviors (and a variety of other risk behaviors) with which schools can assist students. Chief among these and strongly related to development and maintenance of NSSI are (a) difficulties in identifying, accepting and managing emotion, (b) negative thinking styles (e.g. pessimism, learned helplessness and/or rumination), and (c) coping alternatives. School-wide efforts to provide both basic education to students in these areas can be quite basic and still be very helpful. Most students, for example, would benefit immensely from simply hearing adults emphasize the importance of these three areas and from becoming acquainted with the concepts

associated with these areas. Basic language and skills, for example, related to identifying emotions and then accepting these emotions in themselves and others (rather than rejecting or pushing them down) is a critical and very undeveloped ability of many adolescents (and a surprising number of adults).

Basic education can occur as part of special assemblies but can also be innovatively woven into existing curricula and classes in ways that normalize the language and ideas. Providing opportunities to view and practice emotion and cognitive and coping management skills is also very useful and need not require new resources, just creative thinking. Hawton, Rodham, and Evans (2006) explain that these kinds of programs aim to help young people acquire alternative methods of problem solving, coping and cognitive skills, as well as teach young people how to recognize (and access) existing sources of help. Indeed, teaching young people problem-solving skills can help them learn better how to deal with stress, which may in turn prevent them from turning to NSSI as a coping strategy. A systemic review of the effects of school-based mental health promotion programs was conducted by Wells, Barlow, and Stewart-Brown (2003) and showed that those programs that were provided continuously over extensive periods of time and involved pupils, staff, and families and therefore becoming embedded in the school ethos were most successful.

Other strategies include more targeted efforts that focus on identifying adolescents most at risk for suicide and other adverse mental health conditions. Proactive approaches (e.g., screening programs) are commonly recommended for identifying at-risk youth and a variety of approaches using direct assessment have been proposed for identifying adolescents at risk (Miller & DuPaul, 1996). One approach involves a comprehensive class-wide or school-wide screening focusing on pupils' global behaviors and overall well-being. This may include responses to questionnaires by pupils, their teachers, their parents, and their peers. This is costly in terms of the time and effort required from many individuals. An alternative method is to focus on a narrower range of behaviors more closely associated with suicidal behavior, such as the well-known screening program Columbia Teen Screen (Shaffer et al., 2004). Targeted approaches such as this often involve multiple stages of screening that include initial assessment typically followed by face-to-face interviews with a clinician who will determine the need for referral or further evaluation. The limitations of this approach include resource intensiveness, lack of specificity, and stigmatization, both by the individuals themselves and by peers. Schools are also faced with the difficult decision of whether, when, and how often to screen their pupils. Indeed, some have argued that screening instruments in schools may result in unintended negative consequences (iatrogenic effects) and recommend, instead, that all school staff, particularly teachers, receive risk detection and response training (Beautrais, Joyce, & Mulder, 1996).

CONCLUSION

We have provided an overview of the information currently available concerning the epidemiology and phenomenology of NSSI. We have demonstrated that while links have been identified between NSSI and age, gender, and ethnicity there is room for further exploration and study, particularly with regard to the relationship between NSSI and sexual orientation. If the field is to move forward and begin to consider more complex questions, then there is a need for the research and clinical communities to take stock and reach consensus concerning the meaning, definition, and measurement of NSSI, together with the terminology used to describe it, in order to be able to confidently compare and interpret findings across studies. Schools are particularly well placed to provide intervention and prevention programs and suggest that rather than focusing on suicidal behavior alone, a more appropriate approach would be to raise awareness about mental health issues in general. Attention should be paid to addressing and managing the difficulties faced by young people and then equipping them with the skills to cope. This must include how to recognize when peers are experiencing problems and how best to help them. Furthermore, such a program should also involve the school staff to ensure that it has an awareness of the nature of psychiatric disorders and the pressures and problems that young people face, as well as the potential resources and sources of help, both for the adolescents and themselves.

APPENDIX: FICTION AND FACT

Fiction: Only females self-injure.

Fact: Studies show that 30–40% of people who self-injure are male.

Fiction: Self-injury is a suicide attempt or failed suicide attempt.

Fact: Most studies find that self-injury is often undertaken as a means of *avoiding* suicide. It is most often undertaken as a means of self-soothing.

Fiction: Only teenagers self-injure.

Fact: While it is true that the majority of those who self-injure do so during their adolescent years, people of all ages practice self-injury. Cases of self-injury have been documented in children 7 years or younger and well into adulthood.

Fiction: Self-injury is just attention seeking.

Fact: For some, self-injury is clearly an attention-seeking act. In this case, it is very important to honor the intent. That is, a person is injuring himself or herself for attention, then that person clearly needs attention and is asking for help. The majority of people who engage in self-injury, however, go to great extremes to hide their cuts, scars, or burns. Although not overtly attention seeking, hidden self-injury is still a symptom of underlying distress and it merits attention from others who are in a position to help. As one individual who self-injured advised, “A lot of the time, the people [who] do this do it for attention, so just give it to them.... Instead of scolding or looking down on someone for doing this, just let him or her know that one day it’ll be okay.”

Fiction: People who self-injure are manipulative.

Fact: Self-injury is more about relieving tension and distress than it is about manipulating others. Although some individuals report starting the practice as a means of getting attention from someone, very few report this as a primary reason for continuing the practice.

Fiction: People who self-injure only cut themselves.

Fact: Although a common method of self-injury is cutting, there are many methods of self-injury. Studies also show that individuals who report repeat self-injury often report using multiple methods. Examples of other methods include burning, scratching the skin, and hair pulling.

Fiction: Anyone who self-injures is part of the Goth or emo subgroup or are simply wanting adult attention.

Fact: Self-injury excludes no one. People who self-injure come from all types of groups, ethnicities, and economic backgrounds. People who self-injure may be male or female, rich or poor, gay, straight, bisexual or questioning, be very well or less well educated, and live in any part of the world. Some people who self-injure manage to function effectively in demanding jobs. They can be teachers, therapists, medical professionals, lawyers, professors, or engineers. It is impossible to classify someone as a person who self-injures (or not) based on what he or she looks like, the type of music he or she listens to, or who the friends are.

Fiction: Someone who self-injures can stop if he or she really wants to.

Fact: This is true for some people but for others self-injury can be an addiction. There is emerging evidence that self-injury releases endorphins in the brain, a process that increases the possibility of becoming addicted to self-injury.

Fiction: There is nothing anybody can do to help.

Fact: There are many ways to help. For instance, in school, the easiest way to help is by being honest with the student about concerns and by being supportive and understanding. Most important, just do not give up.

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