

The Scope of Nonsuicidal Self-Injury on YouTube



WHAT'S KNOWN ON THIS SUBJECT: Given its high rates (14–24%) and co-occurrence with psychiatric difficulties, nonsuicidal self-injury among youth is worrisome. With more youth using video-sharing Web sites, such as YouTube, nonsuicidal self-injury–themed videos may be normalized and reinforced among youth who self-injure.



WHAT THIS STUDY ADDS: Examination of nonsuicidal self-injury material on YouTube revealed favorably and frequently viewed videos that were accessible and graphic and that often were creative, with an informational, melancholic, or hopeless message. The possible impact of this material on viewers is worrisome.

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KEY WORDS

self-injury, self-harm, internet, YouTube, adolescent

ABBREVIATION

NSSI—nonsuicidal self-injury

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abstract

FREE

OBJECTIVE: Nonsuicidal self-injury, the deliberate destruction of one's body tissue (eg, self-cutting, burning) without suicidal intent, has consistent rates ranging from 14% to 24% among youth and young adults. With more youth using video-sharing Web sites (eg, YouTube), this study examined the accessibility and scope of nonsuicidal self-injury videos online.

METHODS: Using YouTube's search engine (and the following key words: "self-injury" and "self-harm"), the 50 most viewed character (ie, with a live individual) and noncharacter videos (100 total) were selected and examined across key quantitative and qualitative variables.

RESULTS: The top 100 videos analyzed were viewed over 2 million times, and most (80%) were accessible to a general audience. Viewers rated the videos positively ($M = 4.61$; $SD: 0.61$ out of 5.0) and selected videos as a favorite over 12 000 times. The videos' tones were largely factual or educational (53%) or melancholic (51%). Explicit imagery of self-injury was common. Specifically, 90% of noncharacter videos had nonsuicidal self-injury photographs, whereas 28% of character videos had in-action nonsuicidal self-injury. For both, cutting was the most common method. Many videos (58%) do not warn about this content.

CONCLUSIONS: The nature of nonsuicidal self-injury videos on YouTube may foster normalization of nonsuicidal self-injury and may reinforce the behavior through regular viewing of nonsuicidal self-injury–themed videos. Graphic videos showing nonsuicidal self-injury are frequently accessed and received positively by viewers. These videos largely provide nonsuicidal self-injury information and/or express a hopeless or melancholic message. Professionals working with youth and young adults who enact nonsuicidal self-injury need to be aware of the scope and nature of nonsuicidal self-injury on YouTube. *Pediatrics* 2011;127:e552–e557

Nonsuicidal self-injury (NSSI) refers to the deliberate destruction of one's body tissue in the absence of conscious suicidal intent.¹ A few common forms of NSSI include cutting, burning, and hitting oneself. Youth NSSI has emerged as a significant health service issue given its pervasiveness and the saliency of its risks. Among adolescent and young-adult populations, NSSI rates consistently range from ~14% to 21%.²⁻⁴ Moreover, youth who enact NSSI are at risk for repeated NSSI, interpersonal difficulties, elevated psychiatric symptoms, and, in some cases, attempted suicide and death by suicide.^{5,6} Exposure to NSSI activities online may be harmful.⁷⁻⁹ Previous works^{7,8} have examined NSSI on the Internet, but no studies have examined NSSI imagery. We examined the scope of NSSI in videos uploaded on YouTube and accessed by youth. This is the first study to formally examine this new phenomenon, which has implications for risk, prevention, and management.

Most youth and young adults have regular Internet access¹⁰⁻¹³ and engage in online social interaction,¹¹⁻¹⁶ including online video sharing,¹³⁻¹⁶ more than any other age group. The manner by which this transpires has become of interest because these activities may impact youth behavior and well-being.^{7-9,17,18} Recently, online communication about NSSI has been recognized by researchers⁷⁻⁹ and NSSI-based organizations¹⁹ as a primary issue given its frequency and risks. Notwithstanding the benefit of bringing isolated young people together and offering a way for youth who are reticent to discuss their NSSI to connect with others, online communication about NSSI may have consequences. Online communication about NSSI by youth who enact it may reinforce the behavior through normalization, provoke NSSI, and/or foster the development of new methods to self-injure as well

as ways to conceal NSSI from others.⁷⁻⁹ Research in this area has been limited to interactive, text-based Web sites; however, one of the fastest growing online activities among youth is the use of video-sharing Web sites, such as YouTube.¹³⁻¹⁶

Since its inception in 2005, YouTube has not only been recognized as the largest and fastest-growing video-sharing Web site, but it currently receives the third most traffic of all Web sites on the Internet.^{15,16} Because youth and young adults use the Internet,¹⁰⁻¹⁶ including YouTube,¹³⁻¹⁶ more than other age groups and represent those at highest risk for NSSI,² the nature of NSSI on YouTube merits exploration. With more youth communicating about NSSI online^{7-9,18} and the increasing popularity of YouTube,¹³⁻¹⁶ NSSI videos may not just be high in volume but also may be far reaching in terms of viewership. Researchers have suggested that virtual communication about NSSI may lead to NSSI becoming normalized.⁷⁻⁹ This may exacerbate the risk for NSSI repetition via a social-contagion effect (ie, NSSI increasing by virtue of seeing, knowing, or hearing about others self-injuring).⁸ This is additionally accentuated by research indicating that the Internet may elevate the risk for maladaptive acts, including disordered eating behavior,^{20,21} suicidality,²²⁻²⁴ and, possibly, NSSI.^{7-9,18} Thus, health professionals working with youth engaging in NSSI need to be aware of the content of these videos. The purpose of this study was to describe the nature of NSSI in videos on YouTube.

METHODS

Video Selection

A search for the key words "self-injury" and "self-harm" was conducted using YouTube's search option in December 2009. Results were sorted by the number of views using YouTube's sort func-

tion (ie, from most to least viewed). The videos were categorized as character and noncharacter videos, with the former containing 1 or more live individual(s). In total, 100 videos were used; that is, the 50 most viewed videos for both character and noncharacter videos were examined across a number of key quantitative and qualitative descriptive variables.

Data Collection and Coding Procedures

Before data collection, all coders were trained on a selection of videos with very low view counts that would not be included in the final sample. Training consisted of initially reviewing videos with respect to each variable and discussing coding guidelines. When consensus was consistently reached for at least 3 videos, training was complete. Next, interrater reliability was calculated across 5 videos. Interrater reliability was more than 80% on all variables, except for tone at the beginning of the video and the attractiveness of in-video characters, which were subsequently dropped from all analyses.

Descriptive data were collected by a research assistant for the selected videos and compiled in a Microsoft Excel sheet. Pursuant to identifying 100 videos (50 character and 50 noncharacter videos), videos were assigned to 2 coders who independently coded videos on 24 variables over a 3-week period (ie, 2 coders for each of character and noncharacter videos). Because the reliability between coders was sufficiently high (>0.80), 1 set of data were used for each video.

RESULTS

Video Statistics

Uploaders of NSSI videos reported a mean age of 25.39 years (SD: 8.25) and were mostly female (95%). However, the actual mean age is likely lower because several individuals indicated on

their profile page that they were younger (eg, age 14 years) yet adopted an older identity to access more YouTube content. In addition, many individuals ($n = 66$) did not provide demographic information but had pictures of young people in their videos, frequently suggesting that this was the uploader (eg, personalizing statements).

Most videos studied had no viewer restrictions and were accessible by a general audience ($n = 80$), with the remaining viewable by a mature audience for which a YouTube account is required (wherein the viewer verifies that he or she is aged ≥ 18 years). Several statistics were computed to examine the overall viewership of NSSI videos. At the time of data collection, NSSI videos were viewed 2 375 059 times ($M = 23\,750.49$; $SD: 38\,015.82$) and received a total of 22 311 comments ($M = 232.41$; $SD: 659.82$). NSSI videos were rated highly ($M = 4.61$; $SD: 0.61$ out of 5.0) and had 12 321 votes for being a favorite ($M = 186.68$; $SD: 377.58$); this rating system allows individuals to quickly link to the video from their profile for subsequent viewings.

NSSI-Related Variables (Table 1)

NSSI Trigger Warnings

NSSI videos on YouTube sometimes have a trigger warning, which indicates to viewers that the video content might be upsetting and may evoke NSSI thoughts and behavior. In our study, over half of the videos did not provide the audience with a trigger warning.

Video Purpose and Tone

Most videos were neutral in purpose (ie, neither promoting or discouraging NSSI). This was followed by those coded as against NSSI (eg, discouraging viewers from NSSI), those that provided a mixed message (ie, statements that are for and against NSSI engagement), and then those that were pro-

TABLE 1 Types and Quantity of NSSI-Related Variables

Variable	Proportion of Videos Present
Trigger warning	
Warning	42
No warning	57
Tone	
Factual or educational	53
Melancholic	51
Encouraging	23
Hopeful	16
Angry	13
Humorous	4
Other	25
Purpose of video	
Neutral	42
Against NSSI	26
Mixed message	23
Pro-NSSI	7

Many videos had more than 1 tone. The proportions above for video tones refer to the total count across all videos collected ($n = 100$). Note: 1 video was taken down by the user and could not be retrieved when coding.

NSSI (eg, encouraging NSSI enactment). Beyond coding for video purposes, video tones also were examined. Results indicated that NSSI videos predominantly had factual or educational (eg, providing NSSI statistics) or melancholic tones (eg, hopeless statements, depictions of sadness or crying). Other tones included those that were encouraging (eg, to seek help for NSSI), hopeful (eg, indicating that one can overcome NSSI), angry (eg, expressing self-hatred or outward anger), or humorous (eg, making witty remarks about NSSI). Tones occurring even less frequently were grouped as other (eg, competitive, thankful or grateful).

NSSI Depictions and Features (Table 2)

Many videos discussed or showed images of NSSI. Specifically, 64% of videos had visual depictions (eg, photographs) of NSSI. Overall, cutting was the most commonly depicted NSSI method, followed by self-embedding, burning, and then, less frequently, acts including hitting, biting, skin picking, and wound interference. Of the videos

TABLE 2 NSSI Depictions and Features

Variable	Proportion of Videos Present
Method	
Cutting	64
Burning	10
Hitting	7
Biting	3
Skin picking	1
Wound interference	3
Embedding	10
Location	
Wrists and arms	68
Legs	24
Torso	18
Other	19
Severity	
Low	22
Moderate	27
High	13

Many videos had more than 1 NSSI method depicted; many also had more than 1 body location. The proportions above for methods and body location (of NSSI) refer to the total count across all videos collected ($n = 100$). The severity ratings refer to the overall NSSI depicted in each video. Note: 1 video was taken down by the user and could not be retrieved when coding.

depicting NSSI, injuries occurred on the wrists or arms, followed by the legs and then the torso; a smaller number of injuries occurred in other locations (eg, face, neck). All injuries were coded for their severity using the following rubric: mild (eg, superficial cuts with minimal or pearly blood), moderate (eg, cuts with obvious blood flowing from the wound), or severe (eg, showing gushing blood or a gaping wound). Most NSSI was coded as moderate, followed by mild and severe.

Character and Noncharacter Videos

Several differences emerged between videos with and without a live character. Noncharacter videos generally were more popular, with a greater number of views ($M = 32\,105.44$; $SD: 44\,742.13$) than character videos ($M = 15\,395.54$; $SD: 27\,849.18$) ($t[98] = 2.24$, $P < .05$), and noncharacter videos had more frequent endorsements as a favorite ($M = 296.28$; $SD: 253.68$) than character videos ($M = 100.78$; $SD:$

1.31) ($t[64] = 2.42, P < .05$). Finally, noncharacter videos ($M = 2.29$; $SD: 1.31$) had more NSSI images ($t[97] = 6.83, P < .05$) than character videos ($M = 0.72$; $SD: 0.91$).

Unique Aspects of Noncharacter Videos

Noncharacter videos depicted more graphic NSSI imagery and multiple NSSI methods (eg, cutting, burning); however, less than half (42%) provided a trigger warning.

Unique Aspects of Character Videos

Most character videos were posted by females who were coded as articulate. Of the character videos, 28% depicted a live act of NSSI in the form of cutting; of these videos, more than one-third (37.5%) provided no trigger warning. Some video uploaders posted more than 1 video. In particular, one uploader, a 25-year-old female uploader, had posted more than 100 videos (as of July 2010) that had been viewed over 1 million times.

DISCUSSION

Overall Findings

NSSI videos on YouTube are typically posted by young adult female posters, although many younger posters may actually be posting NSSI videos. These videos receive frequent viewership and often are discussed and rated favorably, suggesting that they may be identified with and accepted by viewers. Overall, NSSI videos tend to be neutral in purpose and carry educational or factual or melancholic tones; few actively discourage NSSI. A majority of videos visually depict NSSI in the form of photographs or live enactments that typically show cutting on the arms or wrists that is moderate in severity. Although more severe wounds are less often depicted, the nature of moderate injuries is nonetheless graphic. Consistent with clinical assumption, some

researchers caution that this material can be triggering for youth who self-injure.⁷⁻⁹ Recent research examining personal Web sites about NSSI and online forums in which NSSI pictures are posted indicates that some youth who self-injure find this material upsetting and triggering (Lewis SP, Baker TG, unpublished data). This may therefore have triggering-like consequences for those who have enacted NSSI repetitively and for youth who have just started to self-injure and who may come across these videos when searching for NSSI material and information online.

Interestingly, just under half of all videos warned viewers that the video content might be triggering. This may be problematic given that 80% of videos are accessible to a general audience; in other words, videos (often graphically depicting NSSI) are uploaded without warnings and may be accessible to young people who self-injure and who seek out NSSI content on YouTube. Furthermore, research indicates that youth who enact NSSI engage in more social networking than youth who do not self-injure,¹⁸ (Heath NL, Toste JR, McLouth R, unpublished data), which increases the likelihood that they would be exposed to these videos.

Compared with character videos, noncharacter videos receive more views and get more comments and votes as favorite videos. They also contain significantly more graphic NSSI depictions. This suggests that viewers who self-injure may be attracted to, or identify with, noncharacter videos. It may be that viewers are attracted to or identify with the NSSI imagery itself (ie, photographs of wounds). Alternatively, viewers may identify with the video tones in noncharacter videos, which tend to be melancholic.

Noncharacter videos are rich in their use of artistic expression (eg, text, photography, music), which may make

NSSI more attractive and even normalize or glamorize NSSI for youth who self-injure. This phenomenon may be similar to the proliferation of pro-anorexia Web sites in the late 1990s and early 2000s, which sensationalized an anorexia lifestyle, particularly among young female viewers.^{20,21} In light of the present study's documentation of NSSI videos on YouTube having frequent views, graphic content, questionable messages, and positive responses by youth (ie, receiving 'favorite' votes), it is essential that research investigate the impact of these videos on youth. Specifically, future work is needed to explore not just how youth are affected but to identify the factors (eg, music, images) and mechanisms (eg, behavior or peer modeling) involved in this process.

NSSI videos with a live individual also may be uniquely influential. Some uploaders may gain a sense of identity as well as a large following, as evidenced by these videos receiving views, comments, and corresponding ratings. The protagonists in the character videos collected in this study tended to be articulate, which may translate into their messages being more influential and appealing. Moreover, these videos tended to be melancholic, and several depicted in vivo NSSI. Vulnerable viewers may identify with the tone or the character and may thus be at greater NSSI risk. If the latter occurs, it would be congruent with research suggesting that the risk of suicidality in youth increases pursuant to reports of celebrities dying by suicide.²⁵ That is, favorably viewed protagonists may increase the risk for maladaptive actions in youth.

Limitations and Future Research

We did not examine every NSSI video and rather attenuated our search to the 50 most-viewed character and 50 most-viewed noncharacter videos. As

of July 2010, there are over 5000 total NSSI videos on YouTube, and our findings may not generalize to all videos; however, our videos are among the most viewed and may represent those most likely to reach and impact youth. We conducted preliminary descriptive analyses of NSSI videos on YouTube but did not examine videos prospectively. Future work should explore trends in these videos (eg, increases in viewership) and determine how nonstatic variables (eg, viewership, ratings) change as a function of time and what features of each video (eg, tones, NSSI imagery) associate with these changes. Finally, we did not examine the uptake of NSSI videos (ie, how viewers are influenced and react to NSSI videos) apart from examining who uploads the videos. Future research is needed to examine how viewers are influenced and to extend this line of investigation to other online forums.

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Implications

Health and mental professionals working with youth who enact NSSI should inquire about their Internet use—a sentiment endorsed by others.^{7–9} Parents and teachers can benefit from knowledge about these videos, which may lead to more open and informed discussions about NSSI with young people. From a policy perspective, electronic searches for NSSI videos should provide the person conducting the search with helpful resources, similar to how Google now provides suicide crisis numbers for specific searchers (eg, “suicidal thoughts”). Future work is needed to understand how to best reach youth who self-injure via the Internet because youth prefer obtaining health information online^{26,27} and, when asked, prefer receiving NSSI help online.²⁸

CONCLUSIONS

The depiction of NSSI on YouTube represents an alarming new trend

among youth and young adults and a significant issue for researchers and mental health workers. These videos may foster communities of youth in which NSSI is encouraged, normalized, and sensationalized, which may reinforce and exacerbate the risk for NSSI. Future research is needed to better understand how these videos impact youth directly. Awareness about NSSI videos on YouTube is warranted, and health professionals working with youth who self-injure may need to inquire about a young person's Internet use in their clinical practice. Although the content of NSSI videos on YouTube may be problematic because of its graphic nature and mixed messages, the Internet in general, and YouTube in particular, offer novel ways to reach a greater number of youth who may otherwise not openly discuss their NSSI with others.

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