Motivation for and use of social networking sites: Comparisons Among College Students With and Without Histories of Non-Suicidal Self-Injury

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Motivation for and use of social networking sites: Comparisons among college students with and without histories of non-suicidal self-injury.
Abstract

Objective: This research examines potential differences in social network use and motivation for social network use by non-suicidal self-injury (NSSI) status. Participants: 367 (73% female; \(M_{\text{age}} = 20.60\)) college students were recruited in November-December 2011. Methods: A random sample of 2,500 students was accessed through a university registrar to recruit students interested in an online survey assessing NSSI and various health-related behaviors.

Results: Social network use and motivations for social networks did not differ by NSSI status.

Conclusions: Results suggest that it is not patterns of use or motivation to use social networks that could lead to concern about online behavior (i.e., behavior increasing risk of future NSSI) among those with NSSI history. Rather, future preventative and intervention efforts should address the NSSI-related content that is available online, since this is unregulated, often explicit, and commonly includes “pro-NSSI” content that may be problematic and increase risk among vulnerable individuals.

Key Words: Non-suicidal self-injury, NSSI, social network, Internet, online, college students.
Introduction

Emerging adulthood (e.g., 18-25)\(^1\) is a developmental period during which young adults increasingly engage in a number of health risk behaviors.\(^2\) Non-suicidal self-injury (NSSI) is a particular mental health concern among this age group.\(^3\) NSSI involves the direct, deliberate destruction of one’s own body tissue in the absence of suicidal intent.\(^4, 5\) Notably, prevalence rates of NSSI among college students in particular are high, with approximately 7–38% of college students endorsing lifetime NSSI\(^6-9\) and 2–14% of college students endorsing past year NSSI.\(^9, 11\) Research also indicates that almost half of American college-aged individuals have dealt with a mental health issue in the past year, including mood, anxiety, personality, and alcohol use disorders.\(^12-13\) These disorders have been identified as common psychiatric correlates of NSSI.\(^14-18\) NSSI may also occur outside of the context of any specific mental health issue.\(^19\) That is, in addition to being a behavior associated with a number of psychiatric issues, NSSI also appears to serve as a coping mechanism for a portion of individuals in the general population (i.e., college students).\(^20, 21\) NSSI may be particularly salient to those who lack the skills and coping strategies to manage emotional distress in more adaptive ways.\(^22, 23\)

Attention to the amount of NSSI-related content available online has grown considerably within the past 10 years.\(^8, 24-29\) NSSI is strongly represented among websites, chat groups, social networking sites, and YouTube (e.g., large group memberships and video view counts).\(^8, 24, 26\) NSSI-related content is typically accessible to everyone (i.e., uncensored, not preceded by content warnings) and often includes explicit NSSI imagery (e.g., images of cut and bleeding skin).\(^25, 30\) Broad content areas are discussed on NSSI-related websites, including motivation for NSSI, discussion of mental health conditions associated with NSSI, and informal support and exchange.\(^8\) Further, NSSI websites reportedly range from ambivalent to positive in regards to
attitudes towards NSSI, with the behavior often depicted as an effective coping mechanism that is both difficult to stop and addictive.\textsuperscript{25}

There are recognized positive effects of increased access to online NSSI content (e.g., sources of support, psychoeducation, increasing awareness).\textsuperscript{24, 26, 28} In one study of self-harm discussion groups, most participants involved in NSSI-related websites found them helpful due to their “uncensored” and “nonjudgmental” nature, with 73% reporting a decrease in self-harming behaviors following participation on these sites.\textsuperscript{29} Evidence also suggests that some individuals with current and/or past NSSI are active in online forums about the behavior: reading postings, viewing images, participating in message board discussions and/or chat rooms,\textsuperscript{31} offering or seeking support,\textsuperscript{32} discussing first aid tips,\textsuperscript{33} and seeking validation and asking questions about NSSI (e.g., how to conceal scars).\textsuperscript{34}

Although some positive effects have been noted for NSSI-related discussion online, the majority of research investigating online NSSI content has focused on aspects or mechanisms that may increase risk, such as reinforcing effects,\textsuperscript{8} exposure to material that increases urges to engage in NSSI,\textsuperscript{24, 27, 28, 30} and sharing of strategies among persons who self-injure.\textsuperscript{25, 26, 35} Further, some evidence suggests the large NSSI presence among social network sites and YouTube\textsuperscript{24} may facilitate the social transmission (i.e., social contagion) of NSSI.\textsuperscript{8, 36} Determination of the potentially harmful effects of NSSI social contagion via online interaction requires future exploration.

Despite concerns that the online experiences of self-injuring individuals may differ from non-injurers,\textsuperscript{24} we were able to identify only one published study that assessed how individuals with a history of self-injury use the Internet more generally. Mitchell and Ybarra\textsuperscript{37} investigated general Internet usage and online social interactions among a sample of 1,500 adolescent Internet
users (aged 10–17 years) who participated in the Second Youth Internet Safety Study. Compared to non-injurers, adolescents with a recent (i.e., past 6 month) history of deliberate self-harm (i.e., nonfatal self-injurious behavior regardless of intent) spent more time online and rated the Internet as more important to themselves, were more likely to participate in online chatrooms, to have a close online relationship with someone they met in a chat room, to engage in sexual behavior online, and to send personal information about themselves online. At the same time, in this study self-injurers and non-injurers did not differ in their online aggressive behavior, online social interactions with persons known offline (e.g., peers, family members), use of blogging or instant messaging, or posting of personal information online. These findings mirror the results of similar research from this laboratory that investigated general Internet usage among adolescents endorsing depressive symptoms.

One implication from this set of findings is that self-injuring individuals may be reliant on the Internet and online relationships for social interaction and support. However, this conclusion is tentative as the research assessed general online activities but not self-identified motivations for Internet use. Also, whether these findings generalize to older populations is unknown.

The Current Study

In the current study, we aim to contribute to the growing scientific literature on NSSI and social networking through exploration of college students’ motivation for and use of social networking sites in general. We focus on online social networking sites specifically given the mixed results reported by Mitchell and Ybarra and given growing evidence of links between online social network site use and mental health. First, we tested the hypothesis that self-reported motivation and use of social networking sites will differ between college students...
with and without a history of NSSI. Second, we tested the hypothesis that self-reported motivation and use of social networking sites will differ among participants who have engaged in NSSI according to severity of NSSI behavior (e.g., hair pulling is considered a minor form of NSSI, while cutting is considered a moderate/severe method). This work has important clinical implications for potential online prevention and intervention models for NSSI.

Methods

Procedure

All study procedures were approved by the Institutional Review Board where the data was collected. A random sample of 2,500 students was accessed through the registrar of a public state university in a Midwestern state in the U.S. An email invite was sent to all 2,500 students with a link to the study survey. Two reminder emails were sent at two-week intervals to increase response rates; following the third attempt, no additional contacts were made. Participants who clicked “agree” to enter the survey were directed to an informed consent screen and provided electronic consent. To assess NSSI, participants responded to questions about history of engaging in NSSI behaviors and perceptions of why others may engage in NSSI. All measures described below were in self-report format and were completed online using Qualtrics software.

Participants

All participants contacted through the registrar were eligible for the study. A total of 439 students provided consent. Of these, 367 (84%) had complete data and were retained for analyses ($M_{age} = 20.60, SD = 3.14$); participants with incomplete data regarding history of NSSI were excluded as this information was necessary for between-group comparisons regarding social network motivation and use (i.e., history of NSSI vs. no NSSI history).

Measures
Demographics questionnaire. Demographic items were created by the investigators and included general questions such as gender, age, race/ethnicity, sexual orientation, sexual attraction, relationship status, education, employment, and post-graduation aspirations.

Inventory of Statements About Self-Injury: Section I (ISAS: Section I). The original measure includes the stem “Please only endorse a behavior if you have done it intentionally (i.e., on purpose) and without suicidal intent (i.e., not for suicidal reasons)” which is followed by 11 specific behavioral options (e.g., cutting, biting) as well as an open-ended “other” response. Participants were asked to respond “Yes” or “No” to each option; a response of “yes” indicates a history of engaging in that specific form of NSSI. The behavioral section of the ISAS has demonstrated good reliability and stability over a one-year period among young adults. For this research, the option “embedding/inserting objects under your skin” was also included. For each specific behavioral option, responses were used to classify participants as “positive” (e.g., endorsed cutting) or “negative” (e.g., denied cutting). Responses across the 13 behaviors were used to identify participants with a history of one or more NSSI behaviors (i.e., self-injuring group) and participants with no history of NSSI (i.e., non-injuring group). In the current sample, the Cronbach alpha coefficient was .80, indicating good internal consistency.

Social Network Sites Uses & Motivations. This measure consists of 14 items that assess past week social network use (e.g., “Browse friends’ pages/walls;” “Update status”) and 12 items assessing motivations for social network use (e.g., “To make plans with friends I see often;” “To share my favorite music/video clips”). Responses were scored using a “Yes/No format”. No particular social network site is specified, allowing participants to consider usage across sites (e.g., Facebook, Instagram). In the current sample, Cronbach’s alpha for the social network
use scale was .79, and .75 for the motivations for social network use scale, indicating acceptable to good internal consistency for both scales.

Results

Descriptive Characteristics

Participants were primarily female ($n = 268; 73\%$), European American ($n = 349; 95\%$), and self-identified as “definitely straight/heterosexual” ($n = 327; 89\%$). Seventy two of the 439 participants who provided consent did not complete the entire survey. Completers (i.e., those retained for analyses; $n = 367$) were significantly younger ($M_{age} = 20.60$) than non-completers ($M_{age} = 22.00$), $t = 2.19, p = .03$. However, Chi-square tests for independence (with Yates Continuity Correction) indicated no significant differences for completers compared to non-completers according to race, $\chi^2 (1, n = 437) = 1.96, p = .16$, or gender, $\chi^2 (1, n = 433) = .57, p = .46$. Thus, missing data due to some participants failing to complete the assessment battery is unlikely to affect the generalizability of the present findings.

Self-injury was highly prevalent in this sample; 207 participants (56\%) endorsed at least one NSSI method. Interfering with wound healing (e.g., picking scabs) was the most common form of NSSI endorsed ($n = 136$), followed by cutting ($n = 73$), banging or hitting self ($n = 67$), pinching ($n = 50$), hair-pulling ($n = 49$), severe scratching ($n = 36$), biting ($n = 32$), rubbing skin against rough surfaces ($n = 27$), burning ($n = 25$), carving ($n = 16$), sticking self with needles ($n = 16$), swallowing dangerous substances ($n = 16$), embedding/inserting objects under skin ($n = 13$), and “other” (e.g., whipping; $n = 7$). One hundred and twenty nine participants (62\%) endorsed two or more methods of NSSI ($M = 2.69, SD = 2.05$). In addition, we examined NSSI by severity: 1) minor NSSI (e.g., hair pulling), or 2) moderate/severe NSSI (e.g., cutting).
the full sample \( (N = 367) \), 107 participants (29%) endorsed minor NSSI and 98 participants (27%) endorsed moderate/severe NSSI.

**Use and Motivation by NSSI Status**

Chi-square analyses were conducted to examine differences between self-injuring and non-injuring participants for both use of and motivation for social network sites. Analyses revealed that self-injurers did not differ from non-injurers for any of the 14 social network site use items (Chi-square < 2.08, all \( p > .15 \), see Table 1), or any of the 12 social network motivation items (Chi-square < 2.39, all \( p > .12 \), see Table 2).

Follow-up analyses were conducted to assess whether the use or motivation scales were able to differentiate subgroups within the current sample by gender. Results indicated that males and females differed for eight of the 14 use items and six of the 12 motivations items. These gender differences suggest that the lack of differences observed between those with and without a history of NSSI are both significant and meaningful. Further, NSSI status X use of social network sites X gender analyses revealed no gender differences according to NSSI status (\( p > .13 \)). Additionally, NSSI status X motivation to use social network sites X gender analyses revealed no gender differences according to NSSI status (\( p > .15 \)). In sum, females in the sample differed from males in the sample for use and motivation items, but not according to lifetime NSSI status.

**Use and Motivation by NSSI Severity**

To further understand the potential differences in social network use among those with a history of NSSI, we examined use and motivation scales by NSSI severity: 1) minor NSSI (e.g., hair pulling), 2) moderate/severe NSSI (e.g., cutting). A chi-square goodness-of-fit test indicates there were no significant differences for either use or (Chi Squares < 3.72; \( ps > 0.17 \)) or
motivation to use (Chi Squares < 5.47; ps > 0.07) social network sites for participants who endorsed forms of minor NSSI versus those who endorsed engaging in moderate/severe NSSI. In sum, participants with and without histories of NSSI, regardless of the severity of the NSSI behavior, do not differ on their self-report use of or motivation to use social network sites.

**Discussion**

Social network sites (SNS) dominate online interaction and communication. Emerging adults in particular use SNS with increasing frequency (i.e., daily or every other day) for substantial periods of time. Many SNS are not closely monitored or regulated for explicit content or discussion of high-risk behaviors like NSSI. A small but growing body of research suggests that NSSI content is readily available and accessible. Some prior research suggests that online discussion of NSSI may increase risk for future engagement in NSSI and maintenance of NSSI over time (e.g., online social transmission of NSSI). However, this research has limitations (e.g., qualitative examination of NSSI-related content and sharing online, small samples limiting generalizability), has produced mixed results (e.g., positive and negative effects of discussing NSSI online have been found), and has not specifically examined patterns of online behavior among individuals with a history of NSSI. Thus, the current study examined patterns in SNS use and motivation to explore potential between-group differences among college students with versus without a lifetime history of NSSI.

Study results revealed no group differences for SNS use or motivation items. That is, participants with a lifetime history of NSSI did not differ in their use of SNS or motivations to use SNS. Gender differences emerged for some items for both use and motivation to use SNS suggesting that the lack of differences between groups according to NSSI status is both significant and clinically meaningful. Notably, gender differences did not emerge by NSSI status,
offering further support for the claim that participants with a history of NSSI do not use SNS for different purposes than those without. Collectively, results suggest that problematic (i.e., risky) online SNS use and motivation do not seem to be person-centered. This is significant for intervention efforts in that focus should shift to aim to modify/regulate/oversee content rather than focusing on individual patterns of online behavior.

Limitations

Several limitations in the present study warrant mention. First, the study design implemented here is cross-sectional and data was collected in self-report format. Secondly, the study was conducted with college students from one university in a specific part of the U.S., which may limit generalizability of findings to other college student populations (e.g., study results may reflect a specific culture at this university that does not translate to other locations/settings) and non-college populations. Third, we did not assess frequency of SNS use or specificity of SNS use (e.g., use of SNS for NSSI-related communication) when asking participants about their online behavior. Finally, we did not ask participants any questions about NSSI-related content and whether they had ever used SNS to post, learn, or communicate about NSSI.

Conclusions

Regardless of these limitations, the current study adds valuable information to the existing literature in the area of NSSI-related SNS behavior patterns. Although the field currently lacks specific evidence-based or evidence-informed treatments specifically targeting clinically-significant levels of NSSI, study results have important implications for intervention efforts that aim to address concerns about the social transmission of NSSI online. For example, college counseling centers may consider focusing on assessing the type of
NSSI content students are exposed to online, and assist in redirecting students to fact-based websites that do not promote or glorify NSSI. Counselors could compile a list of online resources for students who would like more information about NSSI to ensure that students have access to legitimate websites that do not promote or glorify NSSI.

In addition to addressing the abovementioned limitations, future research in this area may consider exploring SNS use in “real-time” through the use of methods that increase reliability estimates of use, such as ecological momentary assessment (EMA). EMA has been shown to effectively address other risk behaviors among college students through the implementation of online interventions (e.g., heavy drinking). EMA methodologies could be used to both better understand SNS use and to explicitly test assumptions that exposure to online NSSI-related content precedes NSSI behavior. If this pattern emerges, it will be important to know for whom, when, and why (e.g., to individuals who are at risk of learning about NSSI online and beginning to engage in the behavior for the first time vs. individuals who will continue to self-injure in more harmful, dangerous ways should they learn about new methods online). Thus, future research should aim to further understand how to address explicit NSSI-related online content, how best to reduce accessibility to this type of content, and/or how best to help vulnerable individuals understand the NSSI-related content available online.
References


SOCIAL NETWORKS AND NSSI

Table 1

*Crosstabulation for social network use items by NSSI status*

<table>
<thead>
<tr>
<th>SNS item</th>
<th>Full Sample</th>
<th>NSSI+</th>
<th>NSSI-</th>
<th>(\chi^2)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created/joined groups</td>
<td>93 (27)</td>
<td>48 (25)</td>
<td>45 (29)</td>
<td>.71</td>
<td>.40</td>
</tr>
<tr>
<td>Changed profile picture</td>
<td>103 (29)</td>
<td>64 (33)</td>
<td>39 (25)</td>
<td>2.08</td>
<td>.15</td>
</tr>
<tr>
<td>Uploaded/commented on photos</td>
<td>240 (69)</td>
<td>131 (67)</td>
<td>109 (71)</td>
<td>.37</td>
<td>.55</td>
</tr>
<tr>
<td>Changed Top 8</td>
<td>6 (2)</td>
<td>2 (1)</td>
<td>4 (3)</td>
<td>.49</td>
<td>.48</td>
</tr>
<tr>
<td>Looked for music/bands</td>
<td>79 (23)</td>
<td>40 (21)</td>
<td>39 (25)</td>
<td>.82</td>
<td>.37</td>
</tr>
<tr>
<td>Poked/winked/gift</td>
<td>103 (30)</td>
<td>59 (30)</td>
<td>44 (29)</td>
<td>.05</td>
<td>.82</td>
</tr>
<tr>
<td>Updated status</td>
<td>244 (70)</td>
<td>142 (73)</td>
<td>102 (66)</td>
<td>1.48</td>
<td>.22</td>
</tr>
<tr>
<td>Play games</td>
<td>84 (24)</td>
<td>46 (24)</td>
<td>38 (25)</td>
<td>.01</td>
<td>.91</td>
</tr>
<tr>
<td>Looked for profiles</td>
<td>224 (64)</td>
<td>125 (64)</td>
<td>99 (64)</td>
<td>.000</td>
<td>1.0</td>
</tr>
<tr>
<td>Made friend request/added friend</td>
<td>233 (67)</td>
<td>133 (69)</td>
<td>100 (65)</td>
<td>.36</td>
<td>.55</td>
</tr>
<tr>
<td>Wrote comments</td>
<td>302 (87)</td>
<td>168 (87)</td>
<td>134 (87)</td>
<td>.000</td>
<td>1.0</td>
</tr>
<tr>
<td>Browsed friends’ pages/walls</td>
<td>315 (90)</td>
<td>175 (90)</td>
<td>140 (91)</td>
<td>.03</td>
<td>.86</td>
</tr>
<tr>
<td>Read comments/posts on profile</td>
<td>309 (89)</td>
<td>172 (88)</td>
<td>137 (90)</td>
<td>.05</td>
<td>.83</td>
</tr>
<tr>
<td>Read/respond to notes/messages</td>
<td>314 (91)</td>
<td>181 (93)</td>
<td>133 (88)</td>
<td>1.74</td>
<td>.19</td>
</tr>
</tbody>
</table>

*Note.* NSSI+ = Participants with a history of NSSI, NSSI- = Participants without a history NSSI, SNS = Social Network Use.
### Table 2

Crosstabulation for social network motivation items by NSSI status

<table>
<thead>
<tr>
<th>SNS item</th>
<th>Full Sample</th>
<th>NSSI+</th>
<th>NSSI-</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice my opinions</td>
<td>135 (39)</td>
<td>83 (43)</td>
<td>52 (34)</td>
<td>2.15</td>
<td>.14</td>
</tr>
<tr>
<td>Share favorite music/videos</td>
<td>168 (49)</td>
<td>98 (51)</td>
<td>70 (46)</td>
<td>.43</td>
<td>.51</td>
</tr>
<tr>
<td>Friend(s) made it for me</td>
<td>45 (13)</td>
<td>28 (14)</td>
<td>17 (11)</td>
<td>.50</td>
<td>.48</td>
</tr>
<tr>
<td>To flirt</td>
<td>65 (19)</td>
<td>39 (20)</td>
<td>26 (17)</td>
<td>.29</td>
<td>.59</td>
</tr>
<tr>
<td>Explore interests (e.g., TV)</td>
<td>111 (32)</td>
<td>57 (29)</td>
<td>54 (36)</td>
<td>1.41</td>
<td>.24</td>
</tr>
<tr>
<td>Read private entries or comment on profiles</td>
<td>200 (58)</td>
<td>120 (62)</td>
<td>80 (53)</td>
<td>2.39</td>
<td>.12</td>
</tr>
<tr>
<td>Meet new people/friends</td>
<td>103 (30)</td>
<td>58 (30)</td>
<td>45 (30)</td>
<td>.000</td>
<td>1.0</td>
</tr>
<tr>
<td>Make plans with friends</td>
<td>215 (62)</td>
<td>124 (64)</td>
<td>91 (60)</td>
<td>.52</td>
<td>.47</td>
</tr>
<tr>
<td>Stay in touch with family</td>
<td>292 (85)</td>
<td>163 (84)</td>
<td>129 (85)</td>
<td>.04</td>
<td>.83</td>
</tr>
<tr>
<td>Fill up free time</td>
<td>236 (68)</td>
<td>137 (71)</td>
<td>99 (66)</td>
<td>.78</td>
<td>.38</td>
</tr>
<tr>
<td>My friends have accounts</td>
<td>296 (86)</td>
<td>166 (86)</td>
<td>130 (86)</td>
<td>.000</td>
<td>1.0</td>
</tr>
<tr>
<td>Stay in touch with friends</td>
<td>323 (93)</td>
<td>181 (93)</td>
<td>142 (93)</td>
<td>.000</td>
<td>1.0</td>
</tr>
</tbody>
</table>

*Note.* NSSI+ = Participants with a history of NSSI, NSSI- = Participants without a history NSSI, SNS = Social Network Use.