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Investigating the Relationship Between Nonsuicidal Self-Injury and Risky Behaviors in College Students

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Abstract

Being able to effectively manage one's emotions in a healthy manner is an important life skill. However, there are many maladaptive techniques that people use to manage unwanted and unpleasant emotions. One maladaptive technique that has caught the attention of researchers in the field of emotion regulation is non suicidal self-injury. The current study asks the question: are individuals who engage in non suicidal self-injury (NSSI) more likely to report high levels of impulsivity and, additionally, partake in impetuous, higher-risk activities? The authors of the current study build upon previous theoretical and empirical work on emotion regulation, in particular, self-harmful behaviors and impulsivity, including a study conducted last year on the prevalence of NSSI in college students.

1. Introduction

All individuals experience emotions in their life, not least of which are negative emotions. Though all people experience emotions, individual differences influence how people deal with their emotions. Some reach out to social supports or engage in exercise, while others may turn to alcohol or nicotine.. Whatever they choose, what is clear is the process they are engaging in is known as affect regulation. Even though inhaling nicotine is harmful to the body, it is not considered NSSI because one does not engage in smoking to intentionally produce harm to oneself, rather the harm is a byproduct.[1] Affect regulation is the larger process of an individual choosing to calm herself down or control unwanted emotions in order to reach an emotional goal.[2] Furthermore, underneath the umbrella of affect regulation is the more specific process of emotion regulation. Emotion regulation is the actual mechanism used by an individual to reach her desired emotional state.[3] The emotion regulation technique employed depends on individual differences, and some individuals choose to regulate their emotions through non suicidal self-injury as opposed to other, healthier techniques.

Non suicidal self-injury (NSSI) is the purposeful destruction or harming performed on the body of the person committing the act, i.e., cutting oneself.[4] To be clear, NSSI is intentional harm directed at one's own body without suicidal intent.[5] In fact, semi-recent research conducted by the authors of the present study found alarmingly high prevalence rates of NSSI in an undergraduate sample, close to 60%[6], while other larger studies have found rates closer to 13-29% in adolescents and 4-6% in adults, and 17-38% in college students in non clinical samples.[7,8] Interestingly, though some researchers have found females to engage in more self harm in adolescence, with others finding no gender differences, much of the research has not found any gender, race, SES, or age differences in adults in regards to likelihood of engaging in NSSI or suicidal behavior.[7] Despite the large discrepancy between prevalence rates and conflicting research over gender differences, a commonality is apparent: the widespread use of NSSI as an affect regulation technique.

Though current literature shows widespread use, for many years NSSI was primarily seen as a clinical issue; some of the earliest research on NSSI comes from the late 60s, with much of its focus on clinical populations: "[non-suicidal] wrist slashers have become the new chronic patients in mental hospitals, replacing the schizophrenics.[9]" Research on NSSI became more prevalent in the 70s and 80s, yet continued to mainly focus on developmentally disabled clinical populations.[8] For many years, NSSI was mostly seen as a symptom of Borderline Personality Disorder and therefore a clinical issue.[10]

However, in recent years there has been a shift in focus from clinical populations to adolescents and young adults.[9] Many prominent researchers have begun to view NSSI as not just a symptom of pervasive psychopathology, but rather as a responsive behavior to adverse events.[11] With such a framework in mind, there has been an increasing amount of research to uncover the functions of self-injury. Recent research from the Center for Disease Control, along with the contributions of psychological research, has shown an upward trend in the prevalence of NSSI over the past twenty years.[5,12,13] As NSSI is continually documented in a range of populations, there have been other frameworks developed to explain its function and prevalence. Such notable frameworks include the automatic negative-reinforcement (ANR) model of self-harm and the CUSP catastrophe model.[8,14] The ANR model is largely conceptualized on the ANR function of NSSI, in which one decreases negative cognitions and emotions by engaging in NSSI.[8] Rumination is a major factor in the cusp-catastrophe model of self harm, in which a small change in "negative internal states" can lead to either the presence or absence of NSSI, and when researchers investigate the functions and events of self-harmful behaviors, are we not asking the participants to ruminate on their past self-harmful behaviors?[14] These sort of considerations are of the utmost importance when investigating self-injurious behaviors. Researchers do not have the same rapport with participants as clinicians have with their clients, nor the same ongoing relationships; thus, opening up the possibility for unintended, negative consequences as a result of asking participants to ruminate on past and current self-injurious behaviors.

This acknowledgement leads to a second challenge in investigating NSSI; when participants are asked about their self-harm past and future intent, researchers have to disclose that any indication of intent to harm oneself could result in a breaking of confidentiality, and it's probable that this revelation could lead to higher levels of underreporting.[8] As Prinstein has additionally noted, underreporting can also be attributed to past problems in the terminology of describing the phenomenon of self-injurious behaviors.[8]

To avoid confusion surrounding self-harm and NSSI, the present research has followed the lead of other studies and made the intentional differentiation between non suicidal self-injury and self-harm;[8] the usage of the terms self-harm, or in general, self-injurious behaviors in some literature can signify harmful acts performed on the self with or without suicidal intent; NSSI is specifically classified as self-injurious behavior(s) without any truly lethal intent.[5,8,9] The distinction is made in hopes of preventing ambiguity between self harm that is intended to lethally injure oneself, self harm that is ambivalent in regards to lethality, and self harm that is without suicidal intent. By reducing ambiguity, it is hoped that clearer relationships and distinctions can be made regarding NSSI, including greater clarity in comparisons across the present literature.[8]

As the popularity of this body of research has grown and the growing prevalence of NSSI has been documented, there was consideration of the inclusion of a NSSI disorder in the DSM-V.[15] Despite initial consideration, an NSSI disorder was not included in the fifth edition of the DSM.[16] However, it has been set aside for further study, meaning there is a possibility for later inclusion.[16]

Though more research is necessary to establish NSSI as a disorder, if warranted, and a clear prevalence rate of NSSI in general populations beyond college student samples and clinical populations, one thing is clear: more knowledge in this area can contribute to better education on emotion regulation and prevention techniques among general populations. Such education is crucial during adolescence because that is often when NSSI behaviors begin.[7] Thus, education on healthy emotion regulation techniques needs to begin then as well, at the very least, or it could be beneficial even earlier in the developmental process before the behaviors begin.

A vital need for education on healthy emotion regulation techniques stems from a crucial reason for studying NSSI: its relationship to suicidal thoughts and behaviors. NSSI is a better predictor of suicidal behavior (i.e. suicide attempts, self-injurious behavior with lethal intent) than either depression or other disorders commonly linked with suicidal behaviors; additionally, those who engage in NSSI are more likely to engage in suicidal ideation and behaviors.[7] Previous research has demonstrated a strong positive relationship between difficulties in emotion regulation and impulsivity in those who engaged in NSSI, though it focused on how impulsivity affects the outcome of NSSI as an affect regulation technique.[3] Impulsivity has been noted as a risk factor for both NSSI and suicidality.[7] Noting this relationship brings forth other questions: Is NSSI a calculated reaction to volatile emotions built up over time, reinforced by its efficacy at decreasing unwanted emotions? Or is it solely an impulsive reaction, and how does this impulsivity affect other behaviors?

Furthermore, as NSSI and its relation to impulsivity have begun to be more heavily investigated by researchers, several studies have characterized NSSI as related to a lack of impulse control and as a function of negative affect regulation.[9,17] When impulsive individuals with a history of NSSI begin to experience negative emotions, many of them seek to decrease their negative affect, with some choosing to do so by engaging in NSSI as opposed to other healthier techniques, like exercise or engaging with social support systems. The effectiveness of this strategy has been demonstrated by empirical laboratory studies, in which participants engaged in a self-injury proxy after becoming negatively aroused, resulting in a marked decrease in negative affect and arousal.[9]

In measuring impulsivity, the current study, following the lead of previous researchers, employs the UPPS scale, a self-report measure. The UPPS focuses on four major facets of impulsive behavior: negative urgency, lack of premeditation, lack of perseverance, and sensation seeking.[17] Specifically, the dimensions the current study is most interested in are negative urgency and lack of premeditation. Negative urgency is characterized by researchers as "the tendency to act rashly in response to negative affect.[17]" This focus on negative urgency is based on Peterson and Fischer's conception, in regards to NSSI and eating disorders, that individuals high in negative urgency "may associate negative affect reduction with immediately accessible behaviors, such as binge eating or cutting, thus increasing the likelihood of maladaptive behaviors via negative reinforcement pathways.[17]" Lack of premeditation is characterized by a decreased ability to evaluate the consequences of one's behaviors.[17] If individuals choose to repeatedly engage in maladaptive behaviors to reduce negative affect, then it is likely that other behaviors, not necessarily related to emotion regulation (i.e., risky behaviors), will be influenced by individual levels of impulsivity as well.

Research has shown that impulsivity and NSSI are strongly related, but the extent to which particular facets of impulsivity are related to other risky behaviors in individuals who engage in NSSI begs to be examined in more depth.[3] By identifying the relationship between these factors, greater awareness will be gained on how NSSI and impulsivity contribute to an individual's behaviors; additionally, clinicians and researchers can develop more accurate education on how to safely and effectively regulate one's emotions and the behavioral decisions that may be affected by individual differences in impulsivity.

The current study aims to build upon the existing literature by reevaluating prevalence rates in a college sample and by validating links between NSSI and other risky behaviors. Thus, it is posited that those who engage in NSSI are more likely to be impulsive in both emotion regulation techniques and in other behaviors as well.

2. Methodology

2.1 Participants and procedures

After gaining approval from the institutional review board at UNCA in the fall of 2013, participants began to be recruited by advertisement in UNCA psychology courses and flyers throughout Carmichael Hall. Advertisement in courses was uniform; researchers read off a prewritten script that had been decided upon by the entire research team. The same script was altered to be read when participants actually came to take the surveys.

Once participants signed up for the study and a particular time, they met one or both of the researchers in a sitting room outside of two professors' offices. They were provided with informed consent paperwork as researchers explained the nature of the study once more before participants signed consent.

To be clear: the mental health resources provided included the contact information for UNCA's health and counseling center and DBT materials on emotion regulation.[18] Participants were also asked to fill out a short survey before leaving, inquiring if they felt themselves to be in danger of harming themselves or others. It was explained that endorsing suicidal or other-directed harmful thoughts would result in breaking confidentiality and the participant would be directed to the health and counseling center by the researchers. Only one participant endorsed feeling suicidal and protocol was followed to ensure his safety and well-being. The final sample comprised 40 undergraduate research participants; ages 18-30, with mean age: 21.5; 37.5% of sample were men. The race breakdown of the sample (92.5% white) was unsurprising given the racial breakdown of UNCA as an institution (83.4% white).[19]

2.2 Measures

A battery of self-report surveys was given to conduct measures on prevalence of NSSI and impulsive behaviors. In addition, affective instability, emotion regulation were also examined. Surveys chosen for the battery were based on theoretical findings of past research, including a previous study conducted at this institution on emotion regulation and self-injury.[6,10] Surveys administered were the UPPS Impulsive Behavior Scale, the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II), Difficulties in Emotion Regulation Scale (DERS), Inventory to Assess Statements about Self-Injury (ISAS), and the Emotion Control Questionnaire 2 (ECQ2). As mentioned above, the UPPS was used to measure participants' levels of impulsivity. The SCID-II, a sub scale for Borderline Personality Disorder, was used to gauge participants' levels of affective instability.[20] The DERS assesses emotion dysregulation.[21] The ISAS evaluates the occurrence of twelve distinct self-injurious behaviors, including items on the prevalence and frequency of each behavior, in addition to functions of the behaviors.[22] Importantly, to avoid any possible confusion the ISAS explicitly states that the behaviors being investigated are those that are done "intentionally…and without suicidal intent.[22]" The ECQ2 is 38 true or false questions regarding how people respond to different emotional situations.[23] As mentioned above, other studies investigating NSSI have employed empirical techniques other than self-report measures. However, due to the current study being conducted at a small undergraduate institution without the aid of grants or graduate students to conduct clinical interviews, like the Self-Injurious Thoughts and Behaviors Interview developed by Nock, Holmberg, Photos, and Michel, self-reports were deemed the best option.[24]

3. Results

Seventy percent (n=28) of participants endorsed ever having engaged in NSSI. Of these 28 participants, the mean number of instances of self-harm was 116.65 times with a standard deviation of 278. Cutting was the most endorsed form of self harm (n=12). Pinching came in second (n=8), in addition to other forms not listed (n=8) which included things like bulimia and drug use. It's important to note that though recreational drug use is not typically considered NSSI, it was made clear in the ISAS that drug use, or any other self-harmful behavior, should only be endorsed if someone engaged in it with the intent of harming oneself. The rest of the behaviors endorsed by participants, and the subsequent number of endorsements are shown in Figure 1 below.

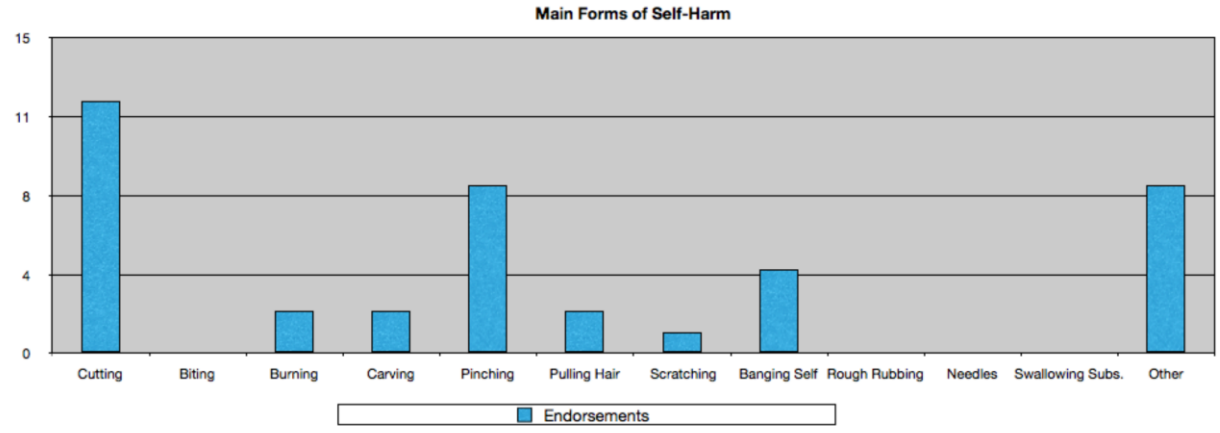

Figure 1. Comparison between main forms of self-harm.

An ANOVA test was run on the data using SPSS to determine correlations between those who endorsed self-harming and their levels of impulsivity, difficulties in emotion regulation. Greater self-harming is related to a lack of perseverance *(r=.402, p<.05)*. Greater self-harming is associated with more premeditation of actions *(r=-.331, p<.05)*. More self-harming is associated with a lack of emotional reappraisal *(r=-.359, p<.05)*. Higher levels of self-

harming are related to greater affective instability compared to those who did not report engaging in NSSI *(r=.67, p<.01).* Additionally, more self-harm is related to greater problems in emotion regulation *(r=.449, p<.01).*

4. Discussion

4.1 Discussion of Results Found

Based on these results, we observed that participants who engaged in NSSI are impulsive in terms of emotional reappraisal but not in urgency or premeditation. In other words, instead of cognitively analyzing emotions, self-injurers regulate their affect in a calculated, maladaptive manner. It seems that after they learn this is an effective behavior, in terms of decreasing unwanted negative emotions, NSSI becomes a thorough, thought-out regimen.

The results of the current study differ from other findings on NSSI and impulsivity.[10,25] Other research has found that self-injury posed a significant relationship with Urgency and lack of Premeditation on the UPPS,[10,25] whereas the current study found no significant correlation with Urgency, and a significant negative relationship with lack of Premeditation.

Furthermore, finding a significant negative correlation with lack of Premeditation rejects part of the current study's initial hypothesis. Rather, these findings suggest that self-injurers are thinking through their actions, and therefore are not acting "on the fly." Such a postulation is in line with the thinking of a recent study that examined how the specific dimension lack of Premeditation on the UPPS mediates the effectiveness of NSSI as an affect regulation strategy; the results showed "when negative high-arousal affect states before NSSI increased, less impulsive self-injurers experienced more relief than participants with high impulsivity."[17] A direction for future research may be to further examine why impulsivity affects the outcome of NSSI.

Possible reasons for the discrepancies in results between the current study and other, larger studies may include number and selection of surveys, presentation of surveys (i.e. format and order presented in), lack of clinical interviews and laboratory assessments, and number and selection of participants. Small sample sizes can make it difficult to find statistical significance.[17]

4.2 Future Directions

Though some of the current study's results differ from other research findings, the trend of cutting being the main form of self harm endorsed is parallel with that of other research.[9,13] Following the design of other researchers,[7] in future research the current authors would like to differentiate between moderate (i.e. hair pulling) and severe (i.e. cutting) forms of self harm in order to investigate their differences, if any, in their relationship to impulsivity and suicidality. Additionally, future research should continue to employ self-report surveys like, the ISAS and UPPS in conjunction with empirical laboratory assessments and structured clinical interviews. A graduate institution will probably be a better context for such emotionally sensitive research by providing greater access and funding to employ laboratory methods and structured clinical interviews.

Additionally, the relationship between the emotion regulation techniques one uses, the functions behind said decisions, and the affective outcomes of specific techniques begs to be investigated. Comparisons between NSSI and other emotion regulation techniques, and their associated affective outcomes, are beyond the scope of this study.

It is our hope that future contributions to research on NSSI, and related personality dimensions and behaviors, will seek to inform both educational and clinical interventions for those who engage in NSSI. In particular, the finding of NSSI as a deliberate, thought-out action warrants more investigation into the development and function of this behavior. Investigating and understanding the development of this behavior will be vital to creating comprehensive emotion regulation education for children, adolescents, and adults.

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