

The Nature of Self-Injurious Behaviours Prevalent Among the Youth.

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Research article

Keywords: self-injurious thoughts and behaviours, non-suicidal self-injury, suicidal ideation, DSM-5, young adults

Posted Date: August 19th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-58717/v1>

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Abstract

Background

Self-injurious thoughts and behaviours (SITBs) include a spectrum of self-harming behaviours that an individual may choose to engage in - one such behaviour is labelled as Non-Suicidal Self-Injury (NSSI). The current study was carried out to assess the epidemiological factors associated with NSSI, regarded as a clinical disorder included under the *Conditions for Further Study* in the *DSM-5*, and to explore its association with borderline personality traits. Additionally, it also aimed at assessing the reasons why individuals indulge in SITBs.

Methods

Inclusion criteria for the participants were age 18–24 (in years) and provision of written informed consent to participate in the research. The Alexian Brothers Assessment of Self-Injury, McLean Screening Instrument for Borderline Personality Disorder, and Self-Injurious Thoughts Behaviours Interview were used as the clinical assessment tools. The data was analysed using descriptive statistics (mean and SD), along with a qualitative measure to explore the themes associated with SITBs.

Results

Participants included 123 (female – 72.35%) young adults (age in years: $M = 21.26$, $SD = 3.67$), selected with purposive sampling. 51.21% (female $n = 51$; age in years: $M = 21.03$, $SD = 1.55$) of the total participants endorsed NSSI behaviour, and among them, 39.68% reported having suicidal ideation at least once in their lifetime. Further, the study revealed that participants who endorsed SITBs scored high on MSI-BPD, suggesting an association between the two. 22.22% met the diagnostic criteria of NSSI Disorder under DSM-5. Engagement in SITBs was found to be motivated by automatic negative and positive reinforcement, social negative reinforcement, and self-punishment. Lastly, cognitive appraisal of circumstances acts as a primary precipitant to SITBs. This study draws attention on the alarming ubiquity of SITBs and the similar factors associated with it in many countries of the world.

Conclusions

The study reiterates emphasis on the notion that adolescents are incredibly vulnerable to adapting harmful mechanisms to cope with their struggles. The research indicates high prevalence rates of different forms of SITBs in the general population and the risk at which self-harming individuals operate.

Background

A broad class of self-inflicting behaviours that cause direct harm to an individual after deliberate engagement falls under the category of self-injurious thoughts and behaviours (SITBs) (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). SITBs include Non-Suicidal Self-Injury (NSSI), which refers to the intentional destruction of one's body tissue without an actual intent to kill oneself; suicidal ideation, wherein one engages in thoughts about killing oneself; suicide attempt refers to the direct efforts one may put in the idea of killing oneself; suicide plan throws light on the planning of how one wants to kill oneself; and suicidal gesture refers to the lethal attempts one can make to communicate with someone or get attention however without an actual intent to kill oneself through that specific gesture (Nock, Holmberg, Photos, & Michel, 2007).

India recorded the highest number of suicides in South-East Asia and was labelled as "Suicide Capital of South-East Asia" by the World Health Organisation (WHO). The incidence rate of suicide in India has increased by 17.3% from 2005 to 2015, with the highest in 2010, i.e., 11.4% (National Crime Records Bureau, Government of India, 2015; Ponnudurai, 2015) The age group of suicide victims is 21 to 30 years, with males and females as almost equal sufferers (Mohanty, Sahu, Mohanty, Patnaik, 2007).

Prevalence rates and factors associated with SITBs in India are rather varying - a study conducted on 1571 South Indian students found out that 33.8% of the sample engaged in minor forms of SITBs, and 6.8% reported engagement in self-injurious behaviour in association with suicidal intent. This study also suggested that female self – injurers, self- injurers with internalising problems in the clinical population, increased number of self-injuring methods, and increased levels of pain associated with self-injury are a few factors that increase the odds of suicidal ideation with SITBs (Bhola, Manjula, Rajappa, & Phillip, 2017). Another Indian study found that preoccupation with relationships and difficulties in controlling impulses are predictive of engagement in SITBs. This study also suggested that individuals who endorse SITBs are likely to have an anxious attachment style (Kharsati & Bhola, 2016). A study carried out on Bangalore's college students (N = 473) by Kharsati and Bhola (2014) to assess the rate of NSSI in general population indicated that 31.2% engaged in NSSI in the past year – primarily motivated by negative reinforcement. Bhagat, Janghel, Ajagallay (2019) conducted a study on psychiatric patients who engaged in self-harm. The results of their research indicated that NSSI is associated with dissociative symptoms, anxiety, substance abuse, headaches (tension-type), and alexithymia.

For a country that is home to the greatest number of adolescents worldwide, we have minimal research on SITBs. And with respect to the studies that exist, the focus on NSSI, in particular, is majorly lacking (Aggrawal & Berk, 2014). Qualitative and phenomenological studies are essential to explore the understanding of individuals about NSSI. Moreover, once we have identified a context-specific nature of NSSI, we would be successful in treating it and preventing it (Aggarwal & Berk, 2015). Perhaps we are behind in the field of NSSI because of the difference in our terminology - Indian researchers are likely to replace NSSI with Deliberate Self-Harm (DSH). In 2006, when an attempt was made to understand self-harm concerning the difference in intentionality, the researchers interviewed individuals who engaged in self-harm regarding their respective intentions. For individuals who engaged in self-harm with an intent to die, the behaviour was labelled as "failed suicide", and for the acts that were absent of suicidal intent, the

label was “DSH” (Sarkar, Sattar, Gode, & Basannar, 2006). Other Indian studies (Sreelatha, Shailaja, Sushma, & Gopalakrishnan, 2014; Bhattacharya, Bhattacharjee, Chattopadhyay, Roy, Kanji, & Singh, 2011) have aimed at examining the nature of DSH in India, but the viewpoint towards DSH even in these studies differs, with no mention of NSSI.

Considering the gaps in current literature with respect to the uniformity in the description of the disorder, it is imperative to conduct studies that attempt to fill the same. Even though NSSI is increasingly prevalent today worldwide, there is minimal literature available on the destructive nature of the disorder in India (Singh, 2018). Based on the findings of a literature review of studies on NSSI in India, large-scale studies in this field are required to assess epidemiological nature of the disorder (Gandhi, Luyckx, Maitra, & Claes, 2016). Hence, the primary objective of the current study was to assess the same. Secondly, the study aimed at exploring the susceptibility of SITBs endorsing sample towards borderline personality traits. Moreover, the study also explores other behaviours associated with SITBs to extrapolate the similarities that might exist between different forms of SITBs and their consequences. It is essential to tap onto these specific experiences in depth so that we can understand the nature of SITBs in the Indian context, and juxtapose it with the global nature of the phenomenon. Therefore, to explore the condition of SITBs by amalgamating these subjective experiences of people and create an empirical understanding of these behaviours, the current study was carried out among the young adults.

Methods

Participants

A total of 123 (female $n = 89$; male $n = 34$) young adults (age in years: $M = 21.26$, $SD = 3.67$, range 18–24) were included in the present study using the purposive sampling. 57.72% educationally qualified as undergraduates, and 42.27% as postgraduates. Out of the total number of participants, 51.21% (female $n = 51$; male $n = 12$, age in years: $M = 21.03$, $SD = 1.55$) endorsed Self-injurious thoughts and behaviours (SITBs), and 48.78% (female $n = 38$; male $n = 22$, age in years: $M = 21.5$, $SD = 5.02$) did not endorse SITBs. Amongst the group that endorsed SITBs, 22.22% met the diagnostic criteria of Non-Suicidal Self-Injury Disorder (NSSI) under DSM-5, and 39.68% reported having suicidal ideation at least once in their lifetime. 12.69% of SITBs endorsing sample fulfilled the NSSI disorder criteria and endorsed suicidal ideation. A more detailed description of the sociodemographic variables of the participants is presented in Table I & II.

Inclusion and exclusion criteria

Age 18–24 (in years) and provision of written informed consent to participate in the research were the inclusion criteria. Individuals for whom engagement in self-harm was under a culturally sanctioned norm, and those who had any history of other psychiatric illness(s) were excluded from the study.

A total of 23 forms were submitted by individuals who did not meet the inclusion or exclusion criteria. Hence, data from these forms was not used in the study.

Assessment

Alexia Brothers Assessment of Self-Injury (ABASI) (Washburn et al., 2014). The ABASI is a self-report clinical assessment for NSSI disorder which is under “Conditions for Further Study” in the DSM-5. This tool of the clinical evaluation was used in the study after taking consent from Jason J. Washburn, who is one of the authors of the assessment tool. ABASI is specifically designed to identify NSSI disorder in the individuals who are already identified to be engaging in NSSI behaviour; assessing clinical severity rather than NSSI per se. However, for the current study, the ABASI was used as a tool to identify the sample that met the DSM-5 criteria of NSSI, and the characteristics of NSSI endorsed by young adults. The participants were first asked if they have ever engaged/desired to engage in NSSI behaviour, and the participants who gave an affirmative response were further instructed to fill in the ABASI.

Along with assessing the diagnosis for NSSI disorder, the ABASI also provided information on certain characteristics of NSSI that are similar to the literature that already exists in this field to identify cases that perhaps could be severe - such as versatility in the number of NSSI behaviours endorsed, age of onset of NSSI behaviour, duration of NSSI behaviour, body parts that are harmed, abuse (physical and/or sexual and/or emotional and verbal), suicidal ideation, and the kind of treatment the respondent may have received for the NSSI behaviour.

McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD) (Zanarini, et al., 2003). MSI-BPD is a brief 10-item scale developed to screen for BPD. The scores on the scale range from 0 to 10 - scoring 7 or above suggests high susceptibility towards BPD. This study did not aim at diagnosing any participant with BPD as we did not obtain any other information to corroborate for the same, and relying solely on MSI-BPD might have led to overdiagnosis. The reason why this tool was employed was to screen the participants who endorsed SITBs for amenability to borderline traits.

Self-injurious thoughts and behaviours Interview (SITBI) (Nock et al., 2007). In the second phase of data collection, SITBI (Long Form) was administered on the participants who endorsed NSSI (n = 63). SITBI was used in the present study after taking consent from Mathew K. Nock for its usage. SITBI is a structured interview, consisting of 169 items, assessing the presence, characteristics, and frequency of five types of SITBs– (a) Suicidal Ideation; (b) Suicide Plan; (c) Suicide Gestures; (d) Suicide Attempts; and (e) Non-Suicidal Self-Injury (NSSI).

The SITBI included five modules that correlate with the five types of SITBs. The first question of each module pertained to a screening question that asked whether the respondent has had a lifetime presence of thought or behaviour particular to the module. If the response was affirmative to the screening question, only then were the problems related to that specific module were included in the interview. Hence, if the respondent endorsed suicidal ideation, the interviewer-administered the entire module correlating with suicidal ideation. But in cases where the screening question was denied, all the items in that particular module beyond the first question were skipped.

Furthermore, SITBI was used to inquire about the functions of engagement in SITBs (e.g., negative and positive reinforcement); an item also explicitly aimed at gauging the qualitative reasons for the same. The responses to this item were thematically analysed in the present study, for each of the modules.

Procedure

Data Collection

The sample for the study was selected using the purposive sampling. An online form was constructed to elicit data for the first half of the study. The first section of the google form included the consent form on which the individuals were briefed about the purpose of the study. Only once they chose to give consent for being a participant of the study, they were directed to the next section that inquired the sociodemographic details of the participants. Next, the participants were required to respond to a screening question – “Have you ever engaged/ thought about engaging in self-injurious behaviour?” (lifetime prevalence of SITBs). The respondents who answered with an affirmative were automatically directed to the next section of the form – the ABASI, and the respondents who denied the screening question were automatically directed to submission of the form. The online data collection to carry out the first half of the study took approximately a month. Amongst the 123 participants who filled the online form, 63 participants endorsed SITBs and 60 participants denied thoughts about engaging/engagement in SITBs. The sample that endorsed SITBs were directed to the next section of the form which included MSI-BPD.

The second half of the study involved the conduction of SITBI on the SITBs endorsing respondents on ABASI. SITBI was administered on 20 participants either on a face-to-face basis or telephonically, depending on their availability.

The process of data collection was spread over a period of three months (from May 10, 2019 to August 10, 2019).

Data Analyses

The data was analysed using descriptive statistics (mean and SD), along with a qualitative measure to explore the themes associated with self-harm. The approach was influenced by the parent publications of ABASI and SITBI (Washburn, Potthoff, Juzwin, & Styer, 2015; Nock, Holmberg, Photos, & Michel, 2007).

Results

Sociodemographic Details

Table I illustrates the sociodemographic details of the sample. 51.21% (female n = 51; male n = 12, age in years: M = 21.03, SD = 1.55) of the total participants endorsed NSSI behaviour. There was no consistent difference between participants who endorsed SITBs and the ones who do not endorse SITBs. However, demographics suggest that females have a larger rate of endorsement as compared to males. In terms of sexual orientation, the results indicate a higher percentage of bisexually oriented participants among the group endorsing SITBs. As suggested in Table II, 22.22% of the sample met the diagnostic criteria of NSSI Disorder under DSM-5. It is paramount to state that all of the participants who met the criteria were women, out of which a little over 50% identified as heterosexuals.

Table I. *Sociodemographic Data*

Variables	Total Sample (N = 123)	Endorsing SITBs (N = 63)	Not Endorsing SITBs (N = 60)
Mean Age	21.26	21.03	21.5
SD	3.67	1.55	5.02
Gender	Female (72.35%) Male (27.64%)	Female (80.95%) Male (19.04%)	Female (63.33%) Male (36.66%)
Sexual Orientation	Heterosexual (71.3%) Bisexual (11.38%) Pansexual (2.43%) Prefer Not to Say (2.43%) Not Sure (1.60%) Fluid (0.81%)	Heterosexual (74.6%) Bisexual (15.87%) Pansexual (3.17%) Prefer Not to Say (1.58%) Not Sure (3.17%) Fluid (1.58%)	Heterosexual (88.33%) Bisexual (6.66%) Pansexual (1.66%) Prefer Not to Say (3.33%)
<i>Note.</i> SITBs = Self-injurious thoughts and behaviours.			

Table II. *Sociodemographic Data of the Participants (n = 14) who fulfil the Criteria of NSSI Disorder as described in DSM-5*

Variables	Description of the Participants (<i>n</i> = 14)
Mean Age	21.35
SD	1.33
Gender	Female (100%)
Sexual Orientation	Heterosexual (57.14%) Bisexual (35.71%) Not Sure (7.14%)
<i>Note.</i> NSSI = Non-Suicidal Self-Injury.	

Descriptive Statistics for ABASI

ABASI as a psycho-diagnostic tool gave us the provision to explore the multifaceted arena of NSSI. Table III evinces that scratching, rubbing, pinching the skin to the point of bleeding, hitting, banging head or limb(s) against something, cutting, pulling out hair, preventing injuries from healing, not following medical advice, and restricting dietary habits fall under the NSSI behaviours that are practised in the majority, among the sample. Behaviours like burning, drawing blood, carving into the skin, inserting/embedding objects into the skin, are in the minority, yet have been performed to fulfil the desire to engage in NSSI. Furthermore, ABASI elicits the number of days, times per day, and the age of onset for each of the NSSI behaviours. As it can be seen, drawing blood dominates other behaviours in terms of the number of days engaged in, in the past year; and next in line is scratching/rubbing/pinching of the skin. For “times per day” banging head/limb(s) against something takes over other behaviours, and close to that is hitting.

Table III. *Characteristics of NSSI assessed by ABASI*

NSSI Behaviours			No. of Days		Times Per Day		Age of Onset	
	n	%	Mean	SD	Mean	SD	Mean	SD
Cut yourself enough to tear the skin and/or bleed	63	25.63%	8.5	13.13	1.25	0.577	16.25	1.91
Scratched, rubbed, or pinched at your skin to the point of bruising or bleeding	63	28.57%	57.88	120.71	2.55	3.48	16.83	2.57
Burned or branded yourself	63	4.76%	1.66	1.15	1	0	19	2.64
Tattooed or pierced yourself to injure yourself and/or cause pain	63	9.52%	2.66	1.96	1.33	0.51	19.66	1.50
Choked yourself or constricted your own airway	63	6.34%	92	1.82	6	8.66	17.5	3.53
Pulled out hair, eyelashes, or eyebrows to injure yourself and/or cause pain	63	15.87%	21.6	25.04	5.2	7.45	17.55	2.58
Drawn blood from yourself	63	6.34%	100.5	176.49	1.75	0.5	15	2.94
Inserted or embedded objects into or under your skin	63	1.58%	2	0	2	0	20	0
Hit yourself	63	28.57%	53.22	114.87	2.88	5.60	17.44	2.77
Banged your head or any of your limbs against something	63	28.57%	56.05	26.71	2.94	4.85	17.58	2.78
Prevented injuries or wounds from healing	63	15.87%	45.9	112.43	2.6	2.36	15.9	4.09
Fallen down stairs to injure yourself and/or cause pain	63	0	0	0	0	0	0	0
Carved into your skin (words, shapes, designs, etc...) to injure yourself and/or cause pain	63	6.34%	2	1.41	1	0	19.75	1.5
Broken your own limbs	63	3.17%	1	0	0.5	0.70	20	2.82
Gouged at your eyes, ears or other bodily parts	63	1.58%	5	0	1	0	19	0
Got into a fight to injure yourself or cause pain	63	4.76%	11.33	8.08	1.33	0.57	17.66	1.52

Note. NSSI = Non-Suicidal Self-Injury; and ABASI = Alexian Brothers Assessment of Self-Injury.

NSSI Behaviours			No. of Days		Times Per Day		Age of Onset	
Ingested/swallowed items to injure yourself or cause pain	63	4.76%	4.33	4.93	1.33	0.57	17.66	2.51
Over-exercised to injure yourself or cause pain	63	11.11	32.5	68.29	1.25	0.46	19.5	1.51
Restricted your eating, purged (threw up), or used laxatives to injure yourself or cause pain	63	14.28%	19.75	20.73	1.62	0.91	18	2.13
Acted out sexually to injure yourself or cause pain	63	9.52%	15.66	17.87	1.5	0.83	19.16	2.13
Not followed medical advice or made medical conditions worse to injure yourself or cause pain	63	15.87%	42.7	78.81	1.7	0.94	17.2	3.58
<i>Note.</i> NSSI = Non-Suicidal Self-Injury; and ABASI = Alexian Brothers Assessment of Self-Injury.								

Table IV. *Endorsement of a specific NSSI Disorder Criterion by the NSSI Disorder Status*

NSSI Disorder Criteria	No. of Participants (%)
Criteria A	49.2%
Criteria B	42.85%
Criteria C	74.60%
Criteria D	100%
Criteria E	53.96%
Criteria F	100%
No. of Participants (%) who met the Diagnostic Criteria of NSSI in DSM-5	22.22%
<i>Note.</i> NSSI = Non-Suicidal Self-Injury.	

Since ABASI can be used to study the epidemiological nature of NSSI as a clinically significant disorder, the present study classifies participants on the degree to which they collectively filled each of the NSSI DSM-5 criteria. Criterion C covers the association of NSSI with the occurrence of negative thoughts immediately before the engagement, lack of control over behaviour, and recurrent thoughts about self-injury – is fulfilled by a significant majority of the sample. This sheds light on the consensus over the

plausible functions of NSSI. Over half of the participants also suggest considerable distress associated with NSSI or interference of NSSI in the essential areas of functioning – which essentially indicates clear insight about the negative consequences of NSSI within the endorsers. 22.22% of the sample met the criteria of NSSI in DSM-5 based on ABASI’s administration (Table IV).

Table V. *Characteristics of Age of Onset, Versatility, and Duration of NSSI in the sample*

	Age of Onset (of NSSI behaviour)	Versatility (in the types of NSSI behaviours)	Duration (in years)
Mean	15.14	3.92	6.06
SD	2.68	2.69	3.22
<i>Note.</i> NSSI = Non-Suicidal Self-Injury.			

NSSI acts - indicating versatility in the prevalence of the same. Moreover, the average duration associated with engagement in NSSI is six (Table V). Furthermore, ABASI also questioned participants on the body parts that are targeted, and it was found that arms and hands are two of the most vulnerable body parts when it comes to being harmed by any such acts. Participants have also endorsed seemingly unconventional body parts such as – face, breasts, and genitals (Table VI).

Table VI. *Body Parts*

Body Part	No. of Participants (%)
Arm	39.68%
Hand	28.57%
Legs	11.11%
Face	6.34%
Stomach or Abdomen	6.34%
Breasts	4.76%
Feet	4.76%
Genitals	1.58%
Muscles	1.58%
Thighs	1.58%
Knuckles	1.58%
Chest	1.58%
Wrists	1.58%

A noteworthy finding of the study was that each and every participant checked on at least one of the above-mentioned types of abuses; and more than 20% of the sample had experienced all of the three types (Table VII).

Table VII. *Abuse*

Type of Abuse	No. of Participants
Physical Abused	30.15%
Sexual Abused	39.63%
Emotionally or Verbally Abused	69.84%
All of the above	20.63%

Descriptive Statistics for MSI-BPD

The mean score of the sample ($n = 63$) on MSI-BPD was calculated to be 7.33 ($SD = 2.43$). This finding, in particular, showcases the high susceptibility of SITBs endorsing sample towards borderline personality traits.

Descriptive Statistics for SITBI

The second phase of the study involved administering SITBI on the consenting participants. SITBI was administered on 20 participants (55% female, 45% male; age in years: $M = 21.05$, $SD = 1.7$). 85% of the participants identified as heterosexuals. Table VIII shows the frequencies, means, and standard deviations of each of the types of SITBs subsumed within self-harm, according to the responses of the participants. Almost all of the participants gave an affirmative response to the lifetime prevalence of suicidal ideation.

Additionally, more than 50% revealed concise planning of suicide – regardless of whether or not it was implemented. Further, one-fourth of the sample suggested engagement in suicidal gestures. And lastly, three-fourth of the sample responded positively about NSSI ideation and/or attempt. Out of which, 7–8% exhibited the same in the past month. Further, SITBI requires the participants to report self-perception on various factors associated with the nature of one's own practice of self-destructive behaviours. In addition to that, every module of the questionnaire included a qualitative item inquiring for the self-reported reason for self-destructive engagement. When asked for self-reported function for every type of SITBs, responders showed a general inclination towards 'automatic negative reinforcement' and 'social negative

reinforcement' being the reasons behind engagement, specifically for suicide attempts – the common themes included 'getting away from negative feelings/feelings of emptiness, and social environment.'

Upon drawing common themes from the subjective answers elicited in the same module, it was connoted that frustration/anger, society, and disappointment/failure are some of the significant reasons around attempts. Another noteworthy finding was the significance of “automatic negative reinforcement” and “automatic positive reinforcement” in NSSI thoughts/attempts. Over half of the participants reported reasons like an impulse, masochistic tendencies/self-loathing/regrets associated with choices, disappointment/failure, and society behind engagement in NSSI.

Moreover, focusing on the precipitants of both suicidal ideation and NSSI, the most weighted variable is relationships. Such results corroborate the point made that there perhaps is a tantamount chain of reasoning behind suicidal ideation/attempts, and NSSI – again suggesting an alleged overlap between the two. Suicidal gestures are performed to get attention from someone. The results of the study validate this notion as “social positive reinforcement” was chosen as the primary reason for suicidal gestures (communicate with someone/get attention) by the participants. This is further corroborated by common themes reported by them for the same – help-seeking, attention, and desire to elicit guilt in others.

Also, the characteristics of self-destructive behaviours concluded from SITBI include - there is a substantial difference noticed in the responses of the participants on “number of peers before and after engagement in the behaviour for the first time”, with there being an increase in the “number of peers after” – one’s engagement may influence other vulnerable individuals around one, and based on the study’s sample, substance and/or peers do not play a significantly influential role when it comes to thinking or engaging in any form of SITBs. Furthermore, suicidal ideation and NSSI share the most degree of future engagement likelihood.

Table VIII. *Frequencies, Means, and SD of responses on SITBI*

	<u>Suicidal</u> <u>Ideation</u>	<u>Suicide</u> <u>Plan</u>	<u>Suicide</u> <u>Gesture</u>		<u>Suicide</u> <u>Attempt</u>		<u>NSSI</u> <u>Ideation</u>		<u>NSSI</u> <u>Attempt</u>	
	n %	n %	n	%	n	%	n	%	n	%
Presence										
Lifetime	18 90	13 65	5	25	6 30		15 75		15 75	
Past Year	14 70	4 20	1 20		0 0		13 65		12 60	
Past Month	11 55	1 5	0	0	0 0		8 40		7 35	

	Suicidal Ideation	Suicide Plan	Suicide Gesture	Suicide Attempt	NSSI Ideation	NSSI Attempt
	M SD	M SD	M SD	M SD	M SD	M SD
Frequency						
Lifetime	40.89 57.05	7.84 11.67	5 3.08	1.16 0.40	312.2 726.74	146.93 287.19
Past Year	7.05 10.54	0.61 1.19	0.4 0.89	0 0	67.53 156.75	47.86 130.6
Past Month	1.36 1.53	0.07 0.27	0 0	0 0	2.13 3.88	1.26 1.7
Past Week	0.42 0.60	0.30 1.1	0 0	0 0	0.33 0.81	0.26 0.59
Age of Onset	15.47 2.26	15.69 2.01	15.4 1.84	15.66 0.81	15.06 2.01	16.4 2.26
Last Time Engagement Age	19.94 2.41	18.76 2.74	19.2 1.78	16 0	20.53 1.84	20.86 1.92
Severity (worst point; 0–4 scale)	3.21 0.76	3.06 0.84	--	--	3.26 0.7	--
Severity (average; 0–4 scale)	2.17 0.61	3.23 3.03	--	--	2.43 0.9	--
Reported Function (0–4 scale)						
I. Automatic Negative Reinforcement	2.7 1.29	3.07 1.16	2.8 1.09	3.41 0.49	2.76 1.14	2.9 1.22
II. Automatic Positive Reinforcement	1.97 1.67	2.11 1.38	2 1.58	1.5 1.37	2.6 1.36	2.36 1.6
III. Social Negative Reinforcement	2.6 1.4	2.67 1.66	2.1 0.74	3 1.59	1.76 1.47	1.83 1.66
IV. Social Positive Reinforcement	1.7 1.28	1.57 1.35	3.3 1.56	0.83 1.32	1.6 1.36	1.23 1.32
Precipitants (0–4 scale)						
I. Family	2.22 1.16	1.65 1.23	1.9 1.43	1.83 1.16	1.93 1.54	1.83 1.29
II. Friends	1.65 1.45	1.71 1.47	1.2 1.64	1.75 1.66	1.54 1.46	1.5 1.13

Note. M = Mean; SD = Standard Deviation; and SITBI = Self-injurious thoughts and behaviours Interview.

	Suicidal Ideation	Suicide Plan	Suicide Gesture	Suicide Attempt	NSSI Ideation	NSSI Attempt
III. Relationships	2.28 1.42	2.53 1.18	2 0.7	2.16 1.47	2.23 1.6	2.43 1.69
IV. Peers	1.05 1.27	0.80 1.25	0.6 1.34	1.58 1.62	1.26 1.38	0.83 1.19
V. Work/School	1.86 1.45	1.53 1.49	0.9 0.84	0.16 0.4	0.96 1.36	1.3 1.27
VI. Mental State	3.28 0.76	3.3 1.1	3.4 0.54	3.16 0.75	3.5 0.67	3.6 0.5
Characteristics of SITBs						
I. Physical Pain Induced	--	--	--	2.91 1.11	--	--
II. Alcohol/Drug Use (% of time)	0.16 0.26	0.1 0.21	0.06 0.13	0.23 0.36	0.03 0.09	0.03 0.09
III. No. peers with behaviour before 1st time	0.47 0.84	0.53 1.12	1.4 1.51	0.66 1.21	0.93 1.09	1 1.03
IV. No. peers with behaviour after 1st time	3.68 5.51	2.07 2.84	2.2 2.77	2 0.81	2.4 2.16	3.5 4.05
V. Peer influence before 1st time (0–4 scale)	0.34 0.81	0.38 0.76	0.4 0.89	0.33 0.81	0.6 1.13	0.43 1.01
VI. Peer influence after 1st time (0–4 scale)	0.77 1.81	0.32 0.87	0.2 0.44	0.33 0.81	0.4 0.73	0.4 0.82
Future Likelihood of this Behaviour	2.26 1.48	1.69 1.05	1.1 0.89	1.08 0.8	2.26 1.22	2.44 1.18
<i>Note.</i> M = Mean; SD = Standard Deviation; and SITBI = Self-injurious thoughts and behaviours Interview.						

Table IX. Method and duration of thoughts on the SITBI

	Suicidal Ideation	Suicide Plan	Suicide Gesture	Suicide Attempt	NSSI Ideation	NSSI Attempt
Most Endorsed Method	Hanging (55.5%)	Jump from height (53.84%)	Cutting oneself (80%)	Poison (33.33%)	-	Hitting oneself (73.33%)
Most Reported Time Span of Thoughts	1–2 days	2–15 minutes	2–15 minutes	1–60 seconds	Less than a day (33.33%)	1–60 seconds
	(33.33%)	(30.76%)	(40%)	(33.33%)		(46.66%)
<i>Note.</i> SITBI = Self-injurious thoughts and behaviours Interview.						

Discussion

Summary of the findings

The study reports descriptive information in the arena of self-injurious thoughts and behaviours (SITBs) in the Indian context. The cardinal focus was on exploring the epidemiological nature of Non-Suicidal Self-Injury (NSSI) as a clinically significant disorder under “Conditions for Further Study” in the 5th Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Additionally, its germane characteristics – versatility in the types of NSSI behaviours, duration, the average age of onset, majorly targeted body parts for exhibiting NSSI, and the nature of abuse associated with the condition. Furthermore, the objectives of the study also included understanding the motivational factors, and functions of SITBs.

Considering ABASI focuses on assessing the severity of NSSI and is not a tool for exploring the NSSI in itself, the questionnaire was administered only by individuals who agreed to have engaged in self-harm. Criterion A of NSSI in DSM-5 mentions the typical types of self-injurious thoughts and behaviours that inflict harm upon the surface of the body; however, ABASI includes other behaviours that induce pain/harm beneath the surface of one’s body. The information revealed allows the listing down of several behaviours practised by the sample subsumed within the same category. According to existing literature, scratching, rubbing, hitting, cutting, banging head or limb(s), and pulling of hair are fairly pervasive acts adopted to self-injure (Klonsky, Victor & Saffer, 2014; Pierro, Sarno, Perego, Gallucci & Madeddu, 2012; Peterson, Freedenthal & Andersen, 2008). However, the current study has also drawn attention upon other types of NSSI behaviours – burning, drawing blood, carving, insertion of objects, deliberate dietary restrictions, and dismissal of medical advice that are prevalent among the youth. Even though these behaviours are not omnipresent across the sample of the study, engagement in these less frequent behaviours shed light on the association of NSSI with certain acts that may lie beyond the existing

literature on the disorder (Klonsky, 2011; Andover, Primack, Gibb, & Pepper, 2010; Lloyd-Richardson, Perrine, Dierker & Kelley, 2007).

Approximately half of the sample met Criterion A – suggesting the high susceptibility of the youth to inflict severely debilitating harm upon themselves. It is crucial to mention that the current study used a parsimonious approach towards exploring this criterion among the participants. Other than calculating the DSM-5's criterion A parameter of “on five or more days in the last year” by adding the number of days across all 21 behaviours – only participants who performed a single type of action for more than five days in the past year met the criterion. The only reason why this form of evaluation was adopted because we wanted to avoid over diagnosing within the sample. However, if we were to follow a more permeable approach, there would have been a dramatic increase in the proportion of participants meeting this criterion (100% of the sample would have met criterion A. A finding of this nature draws attention upon the magnitude of risks associated with NSSI, and perhaps the unawareness around it.

Additionally, inferences of this nature cast attention upon the ubiquity of NSSI, and the extent to which it is cursorily perceived. Based on the age of onset of each of these behaviours, it can be inferred that individuals are fairly more susceptible to engaging in any such behaviours in their adolescent years. The study included participants between the age of 18 to 25 years – but a majority of the participants have shown NSSI onset in the early years of adolescence.

As stated by Nock (2009), practical reasoning behind NSSI suggests that reinforcement processes play a role in motivating the behaviour. These include positive intrapersonal/ interpersonal reinforcement, and negative intrapersonal/interpersonal reinforcement. Criterion B of the disorder accounts for these reinforcing processes that encourage or intensify one's engagement in NSSI. Even this parameter was met by almost half of the sample – emphasizing that reinforcement processes could be a veritable motivation behind NSSI (Heilbron & Prinstein, 2008; Gordon et al., 2010; & Selby, Nock & Kranzler, 2013; Zetterqvist, Lundh, Dahlström & Svedin, 2013). Furthermore, criterion C covers the association of NSSI with the occurrence of negative thoughts immediately before the engagement, lack of control over behaviour, and recurrent thoughts about self-injury – is fulfilled by about a third of the sample. Such a finding validates the preconceived consensus over the functions of NSSI (as per DSM-5). Results of over half of the participants also suggest significant distress associated with NSSI or interference of NSSI in the essential areas of functioning – which essentially indicates clear insight about the negative consequences of NSSI within the endorsers (criterion E). Criterion D and F were invariably met by every participant as they were under the inclusion/exclusion criteria for the study.

Based on ABASI, 22.22% of the participants met the full criteria of the disorder. Even though these individuals are not diagnosable solely based on a self-report measure, it is fair to say that they might be extremely susceptible to developing a full-blown disorder or be severely harmed by their status quo.

Focusing on the likely aetiology of NSSI, it is perhaps expected that having faced any traumatic abuse(s) – physical, emotional, or sexual may increase one's chances of self-injury (Jacobson & Gould, 2007; Weierich & Nock, 2008; Buser & Hackney 2012; Tatnell, Hasking, Newman, Taffe & Martin, 2017). Parr

(2020) found that being exposed to any form of sexual assault significantly increases a college student's susceptibility to developing anxiety, depression, suicidal ideation, and/or NSSI. Hence, abuse can be a closely linked variable associated with NSSI; however, further investigation is imperative to ascertain the same.

Additionally, the study's finding also draws attention towards a strong link between SITBs and borderline personality traits. The reason why we wanted to explore this particular connection was influenced by the already existing literature we have on the same. Given this significant association, it could be possible that certain borderline personality traits share a causal relationship with SITBs, but further research is required for the same to be ascertained.

In the current scenario, information is available on the increased prevalence of self-injury among women (Bhagat, Janghel, & Ajagallay, 2019; Olfson, Wang, Crystal, Bridge, Liu, & Blanco, 2018; Keith, 2000; Cloutier, Martin, Kennedy, Nixon & Muehlenkamp, 2009). This study reiterates the same for young women living in India. Among the participants that endorsed SITBs, more than three-fourth of them are women; and all of the participants who met the criteria of NSSI are women. Additionally, more than one-fourth of these participants reported themselves to be bisexually oriented. It is possible that resonating with rather unconventional factors in the society can put one at a higher risk of susceptibility (Mann, Patel, Elbogen, Calhoun, Kimbrel, & Wilson, 2020). However, further work in this area is imperative to ascertain the gender/sexual orientation differences associated with NSSI.

Further, the second phase of the study included administration of SITBI on the consenting sample which evinced some notable findings. Firstly, a majority of the participants (90%) affirmed the lifetime prevalence of suicidal ideation (it is important to reinstate, ABASI was already administered on these participants, wherein 39.68% affirmed lifetime prevalence of suicidal ideation). Secondly, one-third of the sample on SITBI self-reported lifetime prevalence of NSSI. This suggests a plausible overlap between NSSI and suicidal ideation. Hence, it is likely that the difference between the two is rather nuanced, and differs on the subject of insight that one has with reference to one's engagement in a particular behaviour. This study contributes to the already existing literature which speculates an overlap and co-occurrence between NSSI and suicidal ideation (Cheung, Wong, Lee, Lam, Fan, & Yip 2013; Andover, Morris, Wren & Bruzzese, 2012; Selby, Bender, Gordon, Nock & Joiner, 2012; Cloutier, Martin, Kennedy, Nixon & Muehlenkamp, 2009; Sarkar et al., 2006). Thirdly, a significant portion of the participants revealed contemplation over suicidal plans, indicating that perhaps ruminative tendencies are associated with suicidal thoughts – this reinforces the view that even a fairly “benign” indication of suicidal ideation should not be overlooked. Studies suggest that ruminative tendencies, brooding, and cognitive vulnerability to suicidal ideation are variables that share a positive correlation with SITBs (Upadhyay, 2020; Buelens, Luyckx, Gandhi, Kiekens & Claes, 2019; Mukherjee, Anindita; Dogra, Atanu Kumar, Banerjee & Saranya, 2014; Surrence, Miranda, Marroquín & Chan, 2009).

Suicidal gestures are performed with the desire to attract attention – the individual does not intend to kill themselves with a particular act; the sole intention is to gain attention. The motivation behind these

gestures correlates with social reinforcement (Nock, 2008). The findings on the suicidal gesture domain on SITBI reiterates that positive reinforcement is a motivator behind self-injurious thoughts and behaviours – this is further validated by the findings on ABASI for criterion B. However, considering the preponderance of the idea that most of SITBs are motivated by ‘attentional demands’ and with a lack of awareness about the distinction between the types of the phenomena under SITBs, it is hard to state how well individuals can draw this dichotomy. Hence, it is crucial to increase awareness in the domain of SITBs – for both individuals who endorse it and their caretakers. Moreover, it is the need of the hour to increase the sensitivity around these phenomena so that the misunderstood ‘attention-seeking behaviour’ and other forms of SITBs are analysed with equal empathy and regard for the individual involved. This will allow individuals who have insight into their behaviour to not feel embarrassed about seeking help.

On SITBI, three-fourth of the sample averred engagement in NSSI. Since ABASI was administered on this sample before SITBI, these participants had already affirmatively responded to engagement in NSSI. However, there is a discrepancy here – perhaps suggesting that because the difference between SITBs is so overlapping and esoteric, it is rather difficult for the participants to differentiate between the nature of their engagements in SITBs. Hence, increasing awareness is essential at this point.

Validating the parent publication of SITBI (Nock, Holmberg, Photos & Michel, 2007) participants of the current study have also suggested automatic negative reinforcement to be the primary reported function behind engagement in SITBs. Based on the common themes culminated on SITBI, it can be inferred that *“desire to get rid of frustration, disappointment, impulse, helplessness, regret, & self-loathing”* are reasons that showed preponderance among the participants, which substantiates the inclination on automatic negative reinforcement. This was followed by an emphasis on social negative reinforcement – *“desire to move away from societal expectations (family/ friends/ intimate relationships), repeated body shaming, bullying.”* A fair number of participants also reported social positive reinforcement behind SITBs; common themes elicited here included *“seeking attention & getting rid of loneliness/a sense of belongingness.”* It is fair to state that an attempt at trying to culminate these different themes suggests an overlap between different kinds of SITBs – just like the emphasis on autonomic negative reinforcement, the mental state of the participants has come out to be the most weighted precipitant in all the types of behaviours (Klonsky & Glenn, 2009; Schatten, Morris, Wren & Andover, 2013, December; García-Nieto, Carballo, Díaz de Neira Hernando, de León-Martínez & Baca-García, 2015; Muehlenkamp, Brausch, Quigley & Whitlock, 2013). Further, a substantive weight was also put on subjective responses like *“I deserve pain”, “I hurt myself because I like the pain”* and *“I have masochist tendencies”* which falls under the self-punishment hypothesis (Nock, 2009) – suggesting deprecation of self to be the perpetuating reason behind engagement in SITBs. It is possible that a propensity of this nature is influenced by having experienced any form of abuse in one’s childhood (Glassman, Weierich, Hooley, Deliberto, & Nock, 2007).

It is crucial to mention that there was a gap of 1 month between the conduction of the two phases of the study – it is possible that either of the two questionnaires turned out to be more pertinent to some participants. Nonetheless, we see a significant degree of overlap in NSSI between ABASI and SITBI results. Further, the age of onset of SITBs for SITBI participants ranges between 14 to 16 years –

validating the understanding that one's susceptibility is higher than otherwise during these vulnerable years of one's life (Deliberto & Nock, 2008; Andrews, Martin, Hasking & Page, 2014; Koenig et al., 2017).

Conclusion

In essence, the study reiterates emphasis on the notion that adolescents are incredibly vulnerable to adapting harmful mechanisms to cope with their struggles. The results suggest high lifetime prevalence rates of different forms of SITBs in the general population. 22.22% of the participants endorsing self-harm fulfil DSM-5 criteria of NSSI disorder and yet not even a single participant in this group considers it to be a problem for them because it's perceived as a 'coping mechanism.' The study also reiterates the significant association between SITBs and borderline personality traits. Additionally, it was found out that 80% of the participants endorsing self-harm are females. Furthermore, participants suggested that debilitating mental health conditions can perhaps make one susceptible to be engaging in self-destructive behaviours.

Implications

The current study explores the nature of SITBs prevalent among the Indian youth, giving us a reasonable insight into the problem to work on developing interventions that are germane to the culture. Since adolescence signifies the age of onset of SITBs, interventions focusing on supportive peer groups, sensitization, and awareness campaigns, resilience promoting programs at schools, parenting skills should be designed and implemented.

Limitations

As for the limitations of the study, firstly, even though the sample size was statistically significant – it still limits the chances of generalisation considering the adolescent population of the country. Secondly, the study employed self-report measures to elicit the data – making the application of the findings on the population difficult. Thirdly, the nature of the data produced was sensitive and triggering to certain participants. And lastly, a cross-sectional design contributes more as an initiative in the field of a topic. Hence, more longitudinal studies would be extremely fruitful in exploring the true characteristics of such problematic behaviours.

Future Directions

More sophisticated longitudinal studies could be conducted for follow up to find the link between NSSI and suicidal ideation/attempts. Moreover, screeners at the school level for early identification of endorsement/engagement would be extremely beneficial in detecting early signs of self-destructive behaviours. Additionally, a treatment focusing on both preventive measures (at secondary school) and crisis intervention (helplines/free resources) should be designed. Designing a more robust large-scale

study to assess the reliable prevalence rates, and to compare findings would be more informative. Researchers could also engage in investigating the role of resilience as hardiness. Lastly, the endorsement of self-harm can be studied using tools that assess implicitly or factor in multiple informants rather than self-reported measures.

Declarations

Ethics approval and consent to participate

The study received approval from the Department of Psychology, Gargi College, University of Delhi. Informed consent was elicited from each of the participants of the study.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

Ritika Singh (corresponding author) conducted the study in entirety. Dr. Sabeen Rizvi performed the role of a supervisor in the conduction of the study.

Acknowledgements

Suicidality is an issue of deep-rooted concern in India, and the objective of this study was to gain a little more insight into the same. Considering the taboo around this phenomenon in the Indian culture, we appreciate the input of our participants.

We extend immense gratitude to them for being willing and comfortable to talk at length about experiences that are rather sensitive and triggering. Without their contribution and co-operation, this study would not have been possible. We would also like to thank Mathew Nock, and Jason Washburn for

permitting us to use their respective tools for our study. Lastly, we are grateful for our friends and family whose support and encouragement made every aspect of this research possible.

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