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Development and Psychometric Validation of the Non-Suicidal Self-Injury Scale among University Students in Pakistan

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ABSTRACT

Non-Suicidal Self-Injury (NSSI) is an increasingly prevalent mental health issue amongst adolescents and young adults in universities, as emotional, maladaptive coping and psychological factors increase. While NSSI is increasingly seen across the world, there are no culturally and norm-based valid assessment instruments in Pakistan to measure self-injurious behaviours among the university students. Total of 750 students of University of Gujrat were selected. The former (400 student samples) was used for Component Analysis (PCA) with Varimax and the latter (350 student sample) was used for Exploratory Factor Analysis (EFA) via Principal Component Analysis (PCA), both of which showed a four-factor solution: Behavioural Pattern, Functions of NSSI, Functional Impairment and Emotional Antecedents. The four-factor solution accounted for a good level of variance and had acceptable factor loadings. Confirmatory Factor Analysis (CFA) also revealed a relatively good model that confirming the factorial validity of the scale. The NSSI scale also showed good internal consistency as Cronbach's alpha was ($\alpha = .90$) along with significant convergent and divergent validity. Study findings revealed that NSSI scale is reliable and valid to assess NSSI tendencies of University students in Pakistan. Practicing screening, assessment, and intervention in educational and health (clinical) contexts in Pakistan may be beneficial for psychologists, counsellors, researchers and other health professionals.

Introduction

Mental illnesses are a worldwide public health issue affecting young adults, especially college students who face many academic, developmental and psycho-social difficulties as they make the

transition to adulthood. Along with feelings of emotional vulnerability as well as exploration of identity, instability and increasing independence, emerging adults are especially vulnerable to psychological distress (Arnett, 2000), especially as university students. The stresses of academic demands, economic pressures, interpersonal conflicts, uncertainty about future careers, and adjustment to the new social environment all play significant roles in contributing to the greater stress, anxiety, depression, and emotional regulation problems found in this population of individuals (Stallman, 2010). Many studies have established that university students have worse psychological health and more psychological problems than many other groups in society (American College Health Association [ACHA], 2022).

Among them, in recent times NSSI has become more prominent as it represents a psychological disorder as coping mechanisms. NSSI is the deliberate and intentional action of an individual to harm or injure their own body tissue for a variety of reasons unrelated to suicidal intent and socially unsanctioned (American Psychiatric Association [APA], 2022). Some of the common types of NSSI include cutting, burning, scratching, hitting, biting and preventing wounds from healing. Unlike suicide, the main goal of NSSI is not to take one's life, but one's goal is to reduce emotional distress, punish oneself, regain a sense of control over one's emotion and/or avoid psychological pain (Nock, 2010). People who practice NSSI often do not mean to kill themselves, but serious psychological ramifications and risks for future NSSI have been linked to repeated NSSI (Nock et al., 2006). As a result, NSSI has been steadily increasing in recognition in psychiatric classification systems, such as the Diagnostic and Statistical Manual of Mental Disorders (5th ed., text rev.; DSM-5-TR) recognizing Non-Suicidal Self-Injury Disorder as the category for "Further Study" (APA, 2022).

NSSI is becoming an increasingly common behavior among adolescents and young adults in the last 20 years. 17% to 38% of adolescents and young adults reported lifetime SI in other countries (Muehlenkamp et al., 2012; Swannell et al., 2014). One out of every five adolescents is estimated to engage in NSSI, suggesting the scale of the issue worldwide is gradually increasing (Xiao et al., 2022). Likewise, a systematic review specifically targeting South Asian countries also found significant prevalence rates among adolescents and young adults and university students, and found depression, past suicidal behaviour, financial stress, abuse and difficulties with identity to be important correlates with NSSI (Haregu et al., 2023). The implications of these findings indicate that NSSI is not just a problem among developed populations and is an important psychological problem in developing countries like Pakistan.

Various theories have been proposed to help explain the factors that lead to NSSI in people. Emotion regulation has consistently appeared as the most upholding clarification among these. Gross (2015) defines emotion regulation as the processes by which people monitor, evaluate, and modify emotionally reacting in order to function adaptively. People with persistent emotional dysregulation may have less successful coping strategies when faced with negative emotional experiences and so may self-injure as a way to gain short-term psychological relief (Gratz & Roemer, 2004). Corroborating this, the Experiential Avoidance Model argues that NSSI is effective, as a way of reducing or escaping the negative emotional experiences through negative reinforcement (Chapman et al., 2006). Similarly, Nock and Prinstein's (2004) functional model proposes both automatic and social reinforcement processes for the continued engagement in NSSI, such as emotion regulation, relief from psychological distress, interpersonal communication, and escape from challenging interpersonal situations. Furthermore, Klonsky (2007) found that NSSI is a behaviour which has multiple psychological functions, such as affect regulation, self-punishment, anti-dissociation, interpersonal influence, and boundary setting, suggesting that NSSI is not necessarily an explanation of a single theory.

These theoretical models have been recently well substantiated by the empirical evidence. Wolff et al. (2019) found in their systematic review and meta-analysis that one of the strongest psychological factors that is linked to NSSI is emotion dysregulation with emotional acceptance, impulse control, goal-setting, and access to adaptive coping strategies significantly increasing the likelihood of NSSI. Likewise, Taylor et al., (2018) identified intrapersonal motives, especially emotion regulation as the predominant function of NSSI, with interpersonal motives being much less common. The results cast doubt on the assumption that self-injury is an attention-seeking behaviour, and that this behavior is primarily a maladaptive means of coping with overwhelming emotional experiences. Overall, results from the theoretical and empirical studies suggest that conceiving NSSI as a multi-dimensional phenomenon comprising behavioural, emotional, cognitive, interpersonal, and functional components.

Due to the multifaceted nature of NSSI, it is crucial to have a proper psychological assessment to identify people at risk, and guide research and clinical practice. There are a variety of measures that have been created to capture various aspects of NSSI, such as the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001), Functional Assessment of Self-Mutilation (FASM), Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009), and the Self-Harm Screening Inventory (SHSI; Kim et al., 2022). While these instruments have acceptable psychometric properties, these were most often designed in Europe and vary widely in dimensions evaluated, theoretical frameworks and cultural applicability. Moreover, several alternatives to measure NSSI have been found, yet systematic reviews have identified gaps in the psychometric properties or cultural adaptation of the instruments that exist (Chávez-Flores et al., 2019), which reinforces the need for culturally appropriate instruments to be developed to accurately assess NSSI across diverse populations.

Given the growing global alarm amongst individuals with NSSI, there has been limited research that has explored the context of NSSI in Pakistan, more so a lack of culturally appropriate psychometric tools within the University setting. Most available measures have been designed in western contexts might not be able to capture the cultural, emotional and contextual characteristics influencing self-injurious behaviours among young adults in Pakistan. Development of this kind of culturally relevant and psychometrically sound instrument of Assessment is an important contribution to the psychological assessment as well as mental health research in Pakistan in view of significant psychological burden of NSSI.

The current study was thus designed to create and establish the Non-Suicidal Self-Injury Scale (NSSIS) for Pakistani University students. The scale was developed by literature search, adaptation and construction of the scale, expert evaluation, pilot test, Exploratory Factor Analysis (EFA), confirmatory factor analysis (CFA), reliability test and test of convergent and divergent validity. It is expected that this valid, reliable and culturally appropriate NSSIS will provide researchers, psychologists, mental health practitioners with an instrument to reliably assess non-suicidal self-injury in University students and will assist in better screening, research, and improvements in intervention studies in Pakistan.

Objectives of the Study

- To develop and validate a Non-Suicidal Self-Injury Scale (NSSIS) that can be used in university students.
- Determine the Psychometric properties of the created Non-Suicidal Self-Injury Scale

Method

Research Design

The research methodology used in the current study was quantitative (survey method) aiming at drafting and validating the Non-Suicidal Self-Injury (NSSI) Scale for the use with the student community of Universities. While designing the scale, a psychometric approach was used, which comprised item generation, expert evaluation, pilot testing and statistical scale validation. This was concluded to be suitable as this is the type of attribute which can be systematically observed and tested in a delimited population with regard to the psychological attributes. There were two phases to the study, involving the bulk of the population. The initial phase was the development of scales, which included the development of an item pool using theory and diagnosis criteria, and expert review and iteration. The second phase involved a scale validation which was carried out using reliability analysis, factor analysis and convergent and divergent validity for the instrument developed to secure the reliability of the instrument.

Phases of the Study

The study was comprehensively divided into two phases:

Phase 1: Development of Non-Suicidal Self-Injury (NSSI) Scale

There were four steps: firstly, item generation. This was followed by expert evaluation (second stage), and trial out (third stage) and field administration (fourth stage).

Step 1: Generation of Item Pool

A careful literature review was performed, and all the items of the original NSSI scale were searched and found from the literature and DSM-5-TR diagnostic criteria. In addition, categorisation of the items was done based on theoretical approaches like the emotion regulation theory, the behavioural reinforcement model and the cognitive-behavioural model. Several empirical studies on prevalence and psychological factors and functional features of NSSI were also reviewed to highlight the salient areas of NSSI. In light of this review, items were developed that would cover a range of subscales related to Emotional antecedents, Cognitive aspects, Frequency, Duration, Impairment, Distress, Motivations and consequences/behavioural aspects. A comprehensive listing of items was generated which covers the behavioural, emotional and cognitive components of NSSI. Care was taken to assure that the issues were germane to university students, and had no suicidal intent. Moreover, it had developed a set of requirements that the items be clear and concise and eliminate any ambiguity.

Step 2: Content validation process - experts' evaluation

Content validity is the extent to which the items of the scale cover the construct being measured (Lawshe, 1975). Content validity of the Non-Suicidal Self-Injury Scale (NSSIS) was done by 3 subject/field matter experts from psychology field who rated and commented on the first 25 items in NSSIS. The evaluation carried out by the experts applied one of the four-point Likert scale (4 = highly relevant, 3 = moderately relevant, 2 = moderately irrelevant, 1 = not relevant) for all items. Clarity, relevance, appropriateness and representativeness were evaluated to assess the suitability of the items to measure NSSI in university students. Content Validity Ratio (CVR), based on Cohen et al., (2010) formula was used to determine the relevance and essentiality of each item.

$$CVR = \frac{n_e - N/2}{N/2}$$

Where n_e = the total number of experts, N = the total number of experts on the panel, and the numeric value of the content validity ratio is determined by the Lawshe table.

Table 1: Content Validity Ratio of Items of NSSIS

Number of Items	Item Numbers	CVR Range
16	1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17, 18, 21	1.00
6	5, 9, 15, 19, 22, 24	0.67 – 0.99
3	20, 23, 25	0.67

The CVR of 25 items is shown in Table 1. Content validity was achieved by using Lawshe's (1975) Content Validity Ratio (CVR) method which was applied by experts. The items with the CVR of 1.00 in this study are considered as essential items; these items were categorized as Highly Relevant. Those that achieved Moderately Relevant ratings indicated acceptable relevance levels with satisfactory expert agreement and relatively few items from this group remained after the theoretical review.

Step 3: Try-out

To determine the clarity, readability and comprehensibility of scale, Non-Suicidal Self-Injury scale (NSSIS) was presented to 350 students of University of Gujrat whose age ranged from 18-24. The results of the responses indicated that in general the items do not need much further revision some participants felt that the items were too rambling and the same introduction should be repeated throughout. This change helped to improve the overall appearance of the scale and the participants' understanding of the scale.

Participants of the Study

In the current study 750 University students were collected from a variety of Universities. The subjects were students in academic years (18 – 25 years) both male and female. In the case of NSSI, university students may experience a higher emotional distress and maladaptive coping behaviours owing to the academic stress, student interpersonal problems, identity stress and adjustment stress. In order to cater to the gender diversity in the University, both female and male students were included.

Sampling Technique

In this study, the researcher chose convenience samples that are considered people who are easily accessible to the researcher (Etikan et al. 2016). The rationale for this approach was because the approach can be adopted easily by students in the university and also due to the time and resources constraints in the study.

Instruments

Developed Non-Suicidal Self-Injury Scale

The purpose of Non-Suicidal Self-Injury Scale is to assess self-injuring behaviour without suicidal intention among university students. The 25 items of the questionnaire were put in a Likert-type format ranging from 'Never' (1) to 'Always' (6). This scaling technique enabled to measure the frequency, and how intense NSSI behaviours were. The higher the score on the scale, the higher level of non-suicidal self-injury.

Self-Harm Screening Inventory (SHSI)

Kim et al. (2022) Self-Harm Screening Inventory (SHSI) was utilized. This instrument was selected because there were very similar behaviours with this instrument and non-suicidal self-injury that could be measured, allowing for us to validate our instrument being created for this purpose. A 10 item scale with a dichotomous (Likert type) response format (1-0) was used, during which the respondents answered in a yes/no format to each item to report the presence or absence of specific self-harmful behaviours. Yes (scale value) = 1 and No (scale value) = 0. SHSI was used to assess the convergent validity of non-suicidal self-injury in the present study.

Satisfaction with Life Scale (SWLS)

Diener et al.'s (1985) Satisfaction with Life Scale (SWLS) was used. This scale measures the person's levels of life satisfaction and does not directly relate to the idea of NSSIs behaviours. The scale was made up of 5 items with response options on a 7 item likert scale (from 1: Strongly Disagree to 7: Strongly Agree). In the present study, the divergent validity of non-suicidal-injury was done with SWLS.

Procedure

Then, the research process was begun after getting approval from the Department of Psychology, University of Gujrat. The subjects were selected randomly from the different university's subjects and the consent of the subjects was obtained and their purpose and object of the study were explained. The study was executed in two stages with 750 students of the universities as a whole. In the first phase, data was collected of 350 people and used to discover the factor structure of the Non-Suicidal Self-Injury Scale (NSSIS) via factor analysis (EFA). This EFA has been used to alter the scale to refine the scale with the results. Another independent sample of 400 university students was selected in the second phase to test the goodness of fit of the factor structure that was found during the first phase, with Confirmatory Factor Analysis (CFA). Participants were provided with written information on the voluntary nature of participation in the study, answers will be kept confidential and participants could withdraw from the study at any time.

Step 4: Field Administration

After preparing the questionnaire, the administration process was done to get responses to the questionnaire from the target population in the field. The students at the University were asked about it using a questionnaire both by paper forms and an online Google Form. To gain ease of access, an online questionnaire was sent out to academic networks and students through direct contacts and 280 respondents were obtained. The instructions to the participants' short questionnaire were handwritten and read aloud to the participants during the paper-and-pencil testing. The items were explained to answer and clear any questions or confusions that may come up. Completed questionnaires were picked up, checked and responses from both the sources carefully tabulated into SPSS and further statistically analyzed.

Data Analysis

SPSS and AMOS software were used in analysing the data. The data were analysed descriptively and item analyzed using the SPSS program to look at the characteristics and distribution of the items. An Exploratory Factor Analysis (EFA) was performed that produced the subscales of the Non-Suicidal Self-Injury Scale. Next, Confirmatory Factor Analysis (CFA) was carried out using AMOS and the measurement model and put together model fit indices were examined. Reliability of the constructed scale was determined through Cronbach's alpha coefficient and content,

construct, convergent validity and discriminant validity were analysed to understand the psychometric properties of the constructed scale.

Ethical Considerations

Throughout the study, ethical guidelines of the American Psychological Association (APA) have been carefully adhered to. Participants were asked about their purpose for participating in the research and informed that their answers would remain anonymous and confidential at the same time stating that they could terminate the research without repercussions. As the nature of non-suicidal self-injury is sensitive, participants were also given details of psychological supports to offer in case of distress experienced during or after their participation in any case.

Results

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted on responses from 350 university students to examine the underlying factor structure of the newly developed Non-Suicidal Self-Injury Scale (NSSIS).

Table 2: Sample Adequacy Test

	KMO and Bartlett's Test of Sphericity	Chi-Square (χ^2)	df	Sig.
NSSIS	0.949	4147.830	300	.000

Note: NSSIS=Non-Suicidal Self-Injury Scale

The 4-factor solution with eigenvalues > 1 resulted from Principal Component Analysis with Varimax rotation. The four factors accounted for 57.34% of the overall variance. F1 (Behavioural Pattern) had the maximum percentage (41.15%) and was followed by Functions of NSSI (6.43%), Functional Impairment (4.96%) and Emotional Antecedents (4.78%).

Table 3: Factors, Relative Items and Percentage of Variance (N=350)

Factor #	Factor Label	Items	Eigen Value	Percentage of Variance
1	Behavioral Pattern	10, 9, 6, 7, 8	10.28	41.15
2	Functions of NSSI	25, 19, 21, 17, 18, 16, 23, 20, 24, 22	1.60	6.43
3	Functional Impairment	14, 13, 12, 15, 11	1.24	4.96
4	Emotional Antecedents	5, 1, 2, 4, 3	1.19	4.78

The rotated component matrix showed a well defined and easy to understand 4 factor structure. The factor loadings for most of the items were from .40 to .75 on the corresponding factors. Some items had a few cross-loadings, but were accepted for reasons of conceptual relevance and theoretical consistency.

Table 4: Factor Loading on Non-Suicidal Self-Injury Scale using Varimax Rotation (N=350)

Item#	Behavioural Pattern	Functions of NSSI	Functional Impairment	Emotional Antecedents
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10	.69	.19	.23	.08
9	.68	.21	.23	.07
6	.66	.24	.20	.21
7	.64	.19	.23	.20
8	.63	.25	.27	.16
25	.61	.40	.17	.04
19	.58	.50	.16	.04
5	.50	.19	.12	.47
21	.27	.68	.10	.15
17	.26	.67	.26	.14
18	.17	.66	.25	.09
16	.22	.65	.36	.14
23	.10	.64	.22	.34
20	.33	.62	.18	.01
24	.44	.50	.18	.18
22	.25	.48	.13	.25
14	.23	.22	.74	.10
13	.22	.20	.72	.18
12	.22	.25	.72	.12
15	.29	.24	.65	.14
11	.24	.29	.51	.29
1	-.10	.15	.10	.75
2	.18	.06	.17	.74
4	.22	.15	.10	.66
3	.36	.26	.20	.49

Confirmatory Factor Analysis (CFA)

EFA revealed four factors which were then analyzed by CFA on a second independent sample of 400 university students. Initial measurement (first order) model revealed lack of model fit so item 25 was dropped because of poor psychometric contribution, and theoretically plausible error covariances were inserted between the corresponding items.

Table 5: Model Fit Summary of Confirmatory Factor Analysis (N=400)

Indexes	Chi-square	Df	p	CFI	RMSEA	GFI
Model	518.411	242	.000	0.913	0.054	0.905

On the CFA final model, overall, the four factor structure of the Non-Suicidal Self-Injury Scale (NSSIS) was confirmed. The results for the loadings of the items on the latent constructs showed satisfactory values, thus affirming the potentially multidimensional nature of non-suicidal self-injury. In general, the results justified the validity of the construct and the structural validity of the scale which developed for university students.

Reliability Analysis

The internal consistency of the NSSIS was checked by calculating of cronbach's alpha co-efficient. Behavioural Pattern and Functions of NSSI had good reliability levels ($\alpha = .809$ and $\alpha = .810$, respectively) and the level of reliability of Functional Impairment and Emotional Antecedents were acceptable ($\alpha = .791$ and $\alpha = .701$, respectively). The results showed that the internal consistency for each of the four dimensions of the scale was satisfactory.

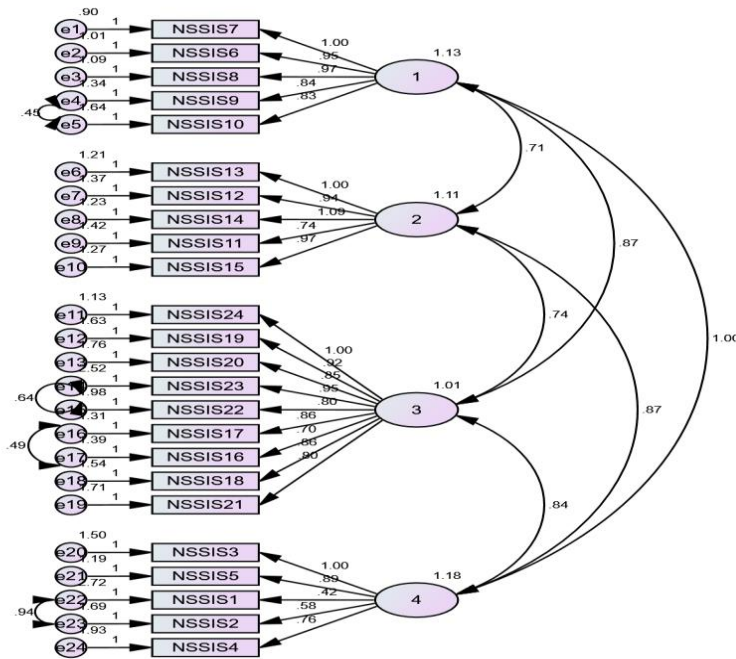


Figure 1: Final Model to Confirm the Factor Structure of NSSIS

Table 6 shows the Cronbach's alpha reliability coefficient of the factors of the Non-Suicidal Self-Injury Scale.

Factor #	Factor Label	Items	Cronbach's Alpha
1	Behavioral Pattern	10, 9, 6,7, 8	0.809
2	Functions of NSSI	25, 19, 21, 17, 18, 16, 23, 20, 24, 22	0.810
3	Functional Impairment	14, 13, 12, 15, 11	0.791
4	Emotional Antecedents	5, 1, 2, 4, 3	0.701

Convergent and Divergent Validity

Evidence for construct validity was examined using correlations with the Self-Harm Screening Inventory (SHSI) and the Satisfaction with Life Scale (SWLS).

Table 7: Correlations of the Non-Suicidal Self-Injury Scale (NSSIS) with Measures of Convergent and Divergent Validity

Variable	1	2	3
NSSIS	-	.450**	-.304**
SHSI		-	
SWLS			-

Note = SHSI = Self-Harm Screening Inventory; SWLS = Satisfaction with Life Scale. $p < .01$ (two-tailed).

To test for convergent validity, the response for the total score of the NSSIS was significantly positively correlated with the SHSI ($r = .450$, $p < .01$). On the other hand, as proposed divergent

validity with NSSIS, a significant negative correlation was found with the SWLS ($r = -.304$, $p < .01$). Additionally, there was a positive correlation between every NSSIS dimension and total score on the scale ranging from .504 to .882 and good internal consistency among the scales.

Discussion

The focus of the present study was to develop and validate Non-Suicidal Self-Injury Scale (NSSIS) for University students in Pakistan. Results showed that the NSSIS showed adequate psychometric properties such as: content validity, construct validity, factorial validity, convergent validity and divergent validity. All items were consolidated into four final dimensions in the final scale which support the multidimensional nature of NSSI among university students: Behavioural Pattern, Functions of NSSI, Functional Impairment and Emotional Antecedents.

During scale development, items were created systematically according to criteria for NSSI in DSM-5-TR, items from previously established literature, and items from previously published self-injury scales (Nock, 2009). Content validation of an instrument in psychological assessment highlighted the importance of expert evaluation to determine that the items in this study were adequate for the construct (Haynes et al., 1995). Pilot testing also revealed that items were acceptable/dense and also culturally suitable for Pakistani University students. The cultural adaptation is especially applicable as stigma and lack of mental health awareness may affect how self-injurious behaviours are manifest and reported.

Exploratory Factor Analysis produced an acceptable factor structure, and yielded four factors with overall good sampling adequacy ($KMO = .949$) and the factors accounted for 57.34% of the variance. The first factor, Behavioural Pattern, expanded upon the described concepts of repetition, urges, persistence and intention to engage in NSSI, in line with the DSM-5-TR conceptualisation of NSSI as a repetitious behaviour (APA, 2022). Previous studies on NSSI among adolescents and young adults (Klonsky 2007; Nock 2010) have found similar behavioural features.

The Functions of NSSI factor tapped into emotional functions of non-suicidal self-injury (e.g., emotion regulation, decrease in distress, and self-punishment). Such results contribute to affect regulation and experiential avoidance theories of NSSI to suggest that NSSI may be used as a coping strategy to deal with the overwhelming emotional experience (Chapman et al., 2006; Gratz, 2003; Nock & Prinstein, 2008). In the Pakistani cultural context, as emotional expression might be limited by social stigma, self-destructive behavior can become a means to deal with emotional discomfort.

The other significant and vital dimension now mentioned was Functional Impairment, which showed that NSSI negatively influenced academic functioning, interpersonal relations, and emotional functioning. This finding aligns with one focus in DSM-5-TR, which is on clinically significant distress and impairment, as it relates to NSSI (APA, 2022). Previous research has shown that there is a correlation between low quality of life, psychosocial problems and self-injury (Whitlock et al., 2006).

Focus on the Emotional Antecedents factor was on emotional pain, emotional distress, intrusive thoughts, and emotional numbness before engaged in self-injury. This allows for a cognitive-emotional development of NSSI that sees emotions and increased negative affect as significant factors contributing to the presentation of self-injuring behaviors (Nock, 2009). These results collectively suggest that emotions and behaviors are both factors in maintaining NSSI.

The four-factor model also was supported by Confirmatory Factor Analysis. Going on to remove one poorly functioning item and make theoretically-based alterations, the model was fit, with

acceptable fit indices (CFI = .913, TLI = .901, RMSEA = .054, GFI = .905), and confirmed the multidimensional nature of the NSSIS. While cross loadings were detected during EFA some items were decided on for retention, as it was recommended given the theoretical relevance of the item and the conceptual consistency (Kline, 1998).

The above evidence of convergent and divergent validity further added to the validity of the NSSIS. The strong positive correlation between NSSIS and Self-Harm Screening Inventory (SHSI) showed that NSSI effectively worked on measuring self-injurious behaviour, similar to previous studies regarding the instruments used in assessing self-injury behaviour (Latimer et al., 2013). Further, the inverse correlation between NSSIS scores and life satisfaction indicated for divergent validity, which is consistent with the findings of the previous studies that indicated that NSSI has negative relationships with psychological adjustment and quality of life (Hamza et al., 2012).

This study's main contribution is the development of a culturally appropriate questionnaire for NSSI among students of universities in Pakistan. Much of the existing NSSI research has been conducted in Western populations, and thus may not fully represent cultural experiences of emotional distress and self-injury. The NSSIS may thus serve as a valuable instrument for detecting NSSI problems, for psychological research and for universities to think about relating to prevention and intervention.

In conclusion the results indicated that this NSSIS is valid and reliable multidimensional tool when used to assess NSSI in the university students of Pakistan. Its culturally adapted nature and good psychometric properties are advantageous for subsequent research and a clinical assessment of self-destructive behaviours in youth adults.

Implications of the Study

The findings from the present study make significant, theoretical and practical contributions in understanding and evaluating non-suicidal self injury (NSSI) in the university population. This study suggests the findings for the multidimensional nature of NSSI as it showed the relevance of behavioural patterns, emotional antecedents, functional motives and impairment in understanding the self injurious behaviours. The results also provide further empirical evidence for previously identified theories such as emotion regulation and experiential avoidance that propose that emotional distress and coping functions play a role in NSSI.

The study has developed an indigenous culturally relevant set of measures of NSSI for university students in Pakistan, which is an important contribution of this study. NSSIS can be utilized to manage shortage of culturally appropriate assessment tools and it may help in future psychometric research in Pakistan. As a tool, the scale can help the psychologist, counsellor and mental health professionals recognize students who have self-injury related issues. Culturally sensitive assessment for the early identification of these may help ensure that early intervention, preventative measures and provision of suitable counselling services are available within the educational environment.

Limitations of the Study

The study has a number of limitations. The sample in the study were only university students, and this may not have extended to clinic groups of individuals, or to individuals outside educational groups, such as adolescents, or to individuals older than the age of university students. Future studies should investigate the potential uses of the NSSIS with a variety of populations and circumstances. Second, the study utilized self-report questionnaires that might also be affected by response bias and underreporting as NSSI is a sensitive topic. In the future, it would be beneficial

to include other searching techniques like clinical interviews and behavioural indicators. Third, the extent of causal relationship between emotional factors and self-injurious behaviours could not be drawn out because the design is a cross-sectional study. Future studies are suggested to study the stability of NSSI patterns (longitudinal research is also recommended), and the predictive power of the scale should be further tested.

Conclusion

The Non-Suicidal Self-Injury Scale (NSSIS) was successfully developed and validated for assessing NSSI in University students in Pakistan by the present study. The results revealed a 4-factor solution of Behavioural Pattern, Functions of NSSI, Functional Impairment and Emotional Antecedents. The scale showed satisfactory reliability and validity, including convergent validity with the Self-Harm Screening Inventory, and divergent validity with the Satisfaction with Life Scale. The NSSIS is a useful instrument for research, screening, psychological assessment and could be used to assist the early identification and intervention of students who exhibit SIBs. Beyond this, the results highlight the importance of enhancing mental health awareness, availability of counselling services, and the need for preventive programmes in Pakistani universities.

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