
FACTORS RELATED TO NON-SUICIDAL SELF-INJURY IN UNIVERSITY STUDENTS: A SCOPING REVIEW

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Abstract: Self-harm behaviors are associated with many unhealthy behavioral urges and future suicidal ideation or attempts. This behavior has also become a clinical condition that may need to be the focus of clinical attention in the most recent revised text of the Diagnostic and Statistical Manual of Mental Disorder. Self-injurious behaviors of varying severity were found among university students. This study aimed to identify predictors that influence the occurrence of NSSI, thereby increasing the chances of building an understanding of the etiology of self-harm behaviors in university students. To be included, all papers have to be peer-reviewed, written in English or Indonesian, and have a specific focus on university student populations. Papers specifically examined NSSI according to DSM-5 diagnosis criteria and were published after DSM-5 was published. Two articles were identified after conducting searches in three academic databases (Scopus, ProQuest, ScienceDirect) as well as Google Scholar. This review identified that university students who met the NSSI criteria were more likely to experience other mental disorders, severe role impairment, and a higher propensity to think about or attempt suicide compared to students who did not meet the criteria. Non-suicidal self-injury disorder can also be found independently and separately from other disorders, and thus, NSSI requires a different understanding and paradigm in handling. Some of the NSSI diagnostic criteria are field-proven and support the validation of the existence of the criteria proposed in the DSM-5. Future research utilizing the full DSM-5 criteria should be increased to add the necessary literature support in this regard.

Keywords: Non-Suicidal Self-Injury, DSM-5, Correlates, Scoping Review

INTRODUCTION

Non-suicidal self-injury (NSSI) has been described in the literature as the intentional infliction of bodily tissue destruction without suicidal intent (Nock & Favazza, 2009; Nock et al., 2006; Chapman et al., 2006). The American Psychiatric Association (APA) includes these behaviors in the list of conditions that may be the focus of clinical attention, with the definition of intentional infliction of bodily harm (such as cutting or hitting oneself) without suicidal intent. This condition is divided into two categories, namely "Current Non-suicidal Self-Injury" (R45.88) and "History of Non-suicidal Self-Injury" (Z91.52; APA, 2022, p. 823). These behaviors with varying degrees of severity appear in 6% of the 2,101 students in Higher Education (Whitlock et al., 2008). Meanwhile, according to research in India, these behaviors were very high in occurrence among university students, with a range of occurrence between 14% and 38% (Kharsati & Bhola, 2015). Furthermore, several studies have discovered that NSSI has a correlation with future suicidal behavior (Fitzgerald & Curtis, 2017; Zetterqvist, 2015; Whitlock, Powers, & Eckenrode, 2006; Gratz, 2001).

Approximately one in five university students reported a history of NSSI (Kiekens et al., 2018). University students are in a transitional growth stage full of challenges and demands for increased autonomy, the phase from adolescence to young adulthood (Arnett, 2015). In line with this, Zivin et al. (2009) suggest that this phase is a vulnerable phase for the emergence of both mental health problems and risky behaviors (Auerbach et al., 2016; Hunt & Eisenberg, 2010). Swannell et al. (2014) identified that university students tend to self-injure more frequently than non-university early adult individuals. This may occur because the learning process in higher education provides additional pressures and burdens in the form of financial, academic, and social group changes, so this period is at risk of reducing students' mental health and psychological well-being (Whitlock et al., 2014; Kwan et al., 2016).

Being a University student puts individuals under pressure from various aspects as they are expected to no longer depend on family and have to make choices in matters such as love, work, and perspective of life (Arnett, 2015). Physical separation from parents in overseas students, higher autonomy demands, increased academic workloads, and expectations to adjust to the new environment often led students to feel anxious, confused, lonely, and helpless

(Arria et al., 2009). According to Thullen et al. (2016), college students have a higher risk of engaging in NSSI behavior, especially if they have psychological vulnerability and lack of social support. Research conducted by Keikens et al. (2018) identified that in the first two years of college, approximately 15% of students engaged in NSSI. The data also showed that NSSI behavior tends to be repeated by students with a frequency of more than 5 times a year (Kiekens et al., 2018). Despite these various findings, there is still a lack of research findings that identify the factors that cause the occurrence of NSSI in college students (Hamza et al., 2021). This implies that it is important to identify what factors are associated with the emergence of NSSI behavior in college students.

One constraint in research on self-injury is that most researchers still use different and inconsistent terms and meanings, including deliberate self-harm (DSH), self-injurious behavior, deliberate self-injury (DSI), self-abuse, self-mutilation, attempted suicide, direct self-destruction, body marking and so on (Victor et al., 2017). Some even still encompass suicidal behavior in NSSI measurements (Nock, 2014), although it has been emphasized that these behaviors are not intended for the purpose of suicide. To improve its understanding, the latest edition of the Diagnostic and Statistical Manual of Mental Disorder, text revised (DSM-5-TR) has classified these behaviors as a form of Non-Suicidal Self-Injury Disorder (NSSID). This disorder (NSSID) has several hallmarks to meet the diagnostic criteria, including at least five occurrences of NSSI behavior in the past year, distress in one or several areas of the individual's life due to the self-injurious behaviors, intractable psychological distress prior to NSSI, uncontrollable urges and thoughts to engage in NSSI, the expectation that this behavior can produce relief or resolve interpersonal problems, and NSSI does not appear exclusively when under the influence of drugs, psychosis, or other stereotypic disorders (APA, 2022).

Although the DSM-5-TR has outlined the diagnostic criteria for NSSI-D, to date, it is rare to find studies that use the full criteria from the DSM-5-TR to measure NSSI-D (Zetterqvist, 2015; Victor et al., 2017). Based on a literature review conducted by Zetterqvist (2015), only one study was found that utilized the complete criteria of DSM-5 in the student population. Meanwhile, according to a systematic review of NSSI clinical assessment Instruments by Faura-Garcia et al. (2021), out of 7,813 articles on NSSI, 26 different

measurement instruments were identified, but more than half of these measurement instruments only focused on identifying the functions, methods, frequency, and urges of NSSI, while thirty percent still measured suicide or drug use. This shows how research using the complete NSSI-D criteria of the DSM-5 still needs to be improved.

In order to enhance research in this area, this study aims to determine prospective factors related to NSSI disorder (according to DSM-5 diagnostic criteria) in a sample of university students. Identifying variables that influence the emergence of behavioral disorders can help efforts to identify strategies for handling and preventing the emergence of NSSI disorders among students. Several previous studies have been conducted to identify predictors of NSSI among adolescents (Cipriano et al., 2017; Valencia-Agudo et al., 2018; Barrocas et al., 2015), but very few literature review studies have attempted to identify predictors of NSSI among university students.

The findings from this study are expected to inform future research to create empirical models useful for prevention and treatment strategies. Therefore, it is important to first review the concept of non-suicidal self-injury used in each study. No current or underway systematic reviews or scoping reviews on the topic of NSSI Disorder according to DSM-5 diagnostic criteria in university students were identified. Determining predictors of NSSI disorder will improve the chances of identifying individuals most at-risk and understanding etiological factors.

Therefore, the aim of this study was to identify what factors influence NSSI (Diagnostic and Statistical Manual of Mental disorder-fifth edition referred) in a sample of university students.

METHODOLOGY

This scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews by the Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews checklist (PRISMA-ScR; Tricco et al., 2018; Joanne Briggs Institute, 2015). The Research Ethics Committee approved this study. This study protocol has been registered and can be accessed under OSF registration number 9Y5SR.

Search strategy

A limited preliminary search was conducted on two databases, Scopus and Proquest, to identify articles on the topic of NSSI. Related terms in the titles and abstracts of relevant articles were then identified. The terms used in the index terms of the articles were also identified to develop a more complete search strategy. The selection of keywords and index terms in the data search strategy was explicitly made differently for each data source used in this research. In addition, reference lists obtained from various sources deemed relevant were also reviewed and screened for inclusion in the supplementary data. The studies included were those published in both English and Bahasa Indonesia. The studies that were included were published after 18 May 2013 (after the DSM-5 was published). Databases searched in this study included Scopus, Proquest, and ScienceDirect. Unpublished studies or grey literature were also identified in this study through Google Scholar.

Eligibility Criteria

This scoping review included studies of Non-suicidal self-injury (NSSI) within the conceptual framework of NSSI disorder in the DSM-5-TR (APA, 2022) without regard to the use of terminology other than NSSI in University student populations, without being limited by cultural or subcultural factors, and not limited to a particular gender or race. Studies were required to include correlational analyses of NSSI disorder. Assessment of non-suicidal self-injury behavior conducted specifically based on DSM-5-TR NSSI categories. Studies that included suicidal intent, non-university student samples, NSSI criteria that do not comply with DSM-5-TR, and opinion papers with an absence of methodology were excluded from the review.

Study/Source of Evidence Selection

After completing the search process stage, all data regarding the identified articles were uploaded to the Rayyan.ai web-based software. After all the data was collected in Rayyan.ai, duplicate articles were identified and removed. The next step was to check and screen the titles and abstracts by two independent reviewers. The reviewers were tasked with assessing the abstracts and titles against predefined inclusion criteria for further review. Potentially relevant articles were then tracked and downloaded in full. Two or more independent reviewers assessed the selected full texts in more detail against more specific inclusion criteria. The article selection process then identified which articles were included or excluded in the subsequent process. Reasons for the exclusion of full-text articles identified as not meeting the inclusion

criteria were recorded and reported in the web-based scoping review software. Differences of opinion between reviewers at this stage of the selection process were resolved through discussion. The article search and selection process results were recorded in detail in the web-based software used and can be downloaded when required.

Data Extraction

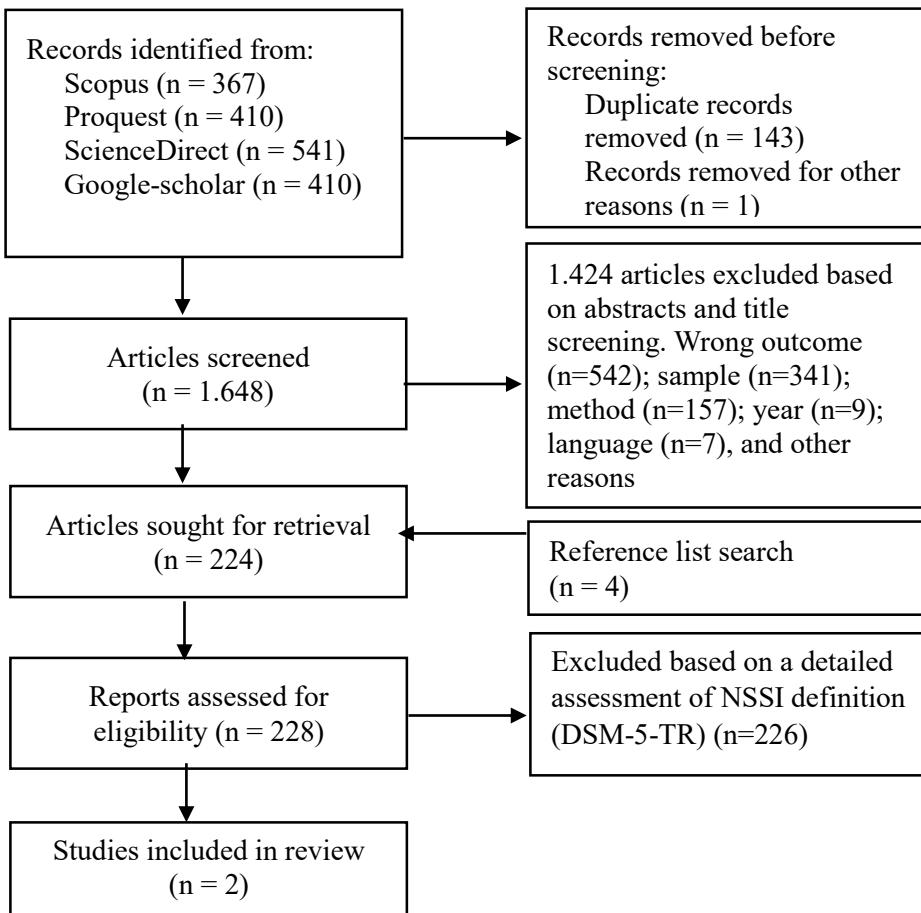
The reviewers extracted data relevant to the research questions from the selected articles using a modified JBI data extraction tool. The framework used in this process refers to the general guidelines for eligibility criteria related to scoping reviews, namely PCC (population, Concept, Context). The extracted data included specific details about the characteristics of the article (including author name, year of publication, country of origin or place of study), the purpose of the study, the study participants (population and sample size), the NSSI concepts used in the study, the context of the study, the research methods used, and key findings relevant to the questions posed in this study. The overall items examined were tailored to the purpose and rationale of this study, which is to identify the factors that influence the occurrence of NSSI in university students. The list of data to be extracted was included in the form as a guide for the reviewers. Differences in views between the two reviewers during this process were always resolved through discussion.

RESULTS

Description of Findings

The articles search process was performed on Scopus, ProQuest, ScienceDirect, and Google Scholar. This process resulted in the identification of 1.792 articles, with 144 articles detected as duplicates. Furthermore, 1.648 articles were selected by looking at the title and abstract. Based on this process, 1.424 articles were disqualified due to discrepancies in sample characteristics, data collection method, and language used. Subsequently, 228 full-text articles were further assessed. Based on the results of the full-text assessment referring to the eligibility criteria (participants, concepts, and context), two studies met the inclusion criteria for this review process. This finding suggests that NSSI-related research with the full criteria of DSM-5 is still relatively rare in university student samples. A detailed summary of the article selection process can be seen in Figure 1.

Figure 1. PRISMA Flowchart of Study Selection



The two articles included were then further analyzed and produced descriptive data as listed in Table 1.

Table 1. Description of studies

Reference	Sample	N	NSSI Prevalence	M-Age (Years)	NSSI Assessment
Kiekens et al., (2018)	Leuven University students, Belgium	4,565 freshmen	The prevalence of NSSI-D within twelve months=0.8%. NSSI in females (1.1%) was higher than in males (0.4%).	18.3	Self-Injurious Thoughts-Behaviors Interview (SITBI) + additional questions referring to DSM-5 criteria
Victor et al., (2017)	Public universities in western Canada and the western United States	164 individuals (with NSSI histories)	54.55% met diagnostic criteria for NSSI (DSM-5-TR)	20	Non-suicidal Self-injury Disorder Scale (NSSIDS), inventory-of Statements About Self-Injury (ISAS)

The two studies reviewed involved students from different regions, including Belgium (n=4,565), western Canada (n=63), and the western United States (n=101). In Belgian participants, the most common forms of self-harm behaviors included banging hands and/or feet against objects or walls (8.7%, SE=0.4). The following behavior that often appears is cutting or carving the skin by 6.1% (SE=0.4), followed by scraping the skin by 5.0% (SE=0.3). Meanwhile, in participants in Canada, the three most common NSSI behaviors appeared in succession, namely banging themselves at 62%, followed by pinching in second place (54%) and cutting in third place at 51%. Meanwhile, for participants in the western United States, the most common NSSI method differed in the first order from the previous two regions, with cutting behaviors of 38% in the first place, followed by pulling the hair at 29% in the second place and pinching (27%) in third place. The number of participants who met all NSSID criteria in each study was 34 in Belgium, 24 in Canada, and 12 in the United States

Correlates of NSSID in University Student

Based on the review of the two articles, it is known that several variables influence the emergence of NSSI in university students. An overview of the findings of the two studies in question can be seen in Table 2.

Table 2. Correlates of NSSID

Reference	Correlates of NSSI	Assessment Tool	Key Findings
Kiekens et al., (2017)	Suicidal thoughts and behaviors over 12 months (i.e., suicide ideation, plan, and attempt).	SITBI and additional questions that map each of the <i>DSM-5</i> criteria	<ul style="list-style-type: none"> - 61.8% of the students with NSSI-D reported 12-month suicidal ideation (SE = 8.3) and suicidal plans (51.6%, SE = 8.5). - 10% of students with NSSI-D also indicated a suicide attempt in the past year.
	Mental disorders over 12 months (i.e., major depression, mania, anxiety, and alcohol dependence)	Composite International Diagnostic-Screening-Scales Interview (CIDI-SC; Kessler & Ustün, 2004)	<ul style="list-style-type: none"> - Of those with NSSID, 80.7% of participants with NSSID (SE = 6.6) also met criteria for at least one mental disorder in the past 12 months. - 63.8% of participants with NSSI-D also had Major depressive disorder (SE = 8.1)
	The severity of role impairment	Sheehan Disability Scale	There is a significant association between NSSID and the severity of role impairment.
(Victor et al., 2017)	Depression Anxiety	THAT 21 BDI-II	Students with NSSID experienced more severe depression and anxiety

Based on the data above, it is recognized that studies using the full *DSM-5* criteria are more focused on looking at the relationship between NSSID and other mental disorders. Furthermore, the following will describe the findings of variables that correlate with NSSID in university students.

Suicidal Thoughts and Behaviors (STB).

These conditions are conceptualized as a continuum that includes suicidal ideation (suicidal thoughts), suicide planning (e.g., planning how to kill oneself), and suicide attempts (e.g., deliberately harming oneself with the intention of dying). In Kiekens et al. (2017), STB over 12 months was measured using the SITBI, an interview tool developed by Nock et al. (2007) that seeks to uncover participants' self-injury ideation and behavior. The instrument consists of five modules that range from thoughts (suicidal ideation, suicide plans, and NSSI ideation) to behaviors (suicide attempts and NSSI behaviors). The interview process sought to examine the frequency, method, age of onset, functions, triggers, severity of episodes, drugs used

during the occurrence of the behavior, medical treatment, social influence, impulsivity, and the likelihood of future self-harm behavior (NSSI). In the NSSID-compliant student participants, the occurrence of suicidal ideation within 12 months was found to be 61.8%, and suicide planning was 51.6%. One in 10 students who met the NSSID criteria was also found to have attempted suicide in the past 12 months. This suggests that NSSID criteria have a higher correlation to the occurrence of STB when compared to the control group and students with past NSSI.

Mental disorders.

According to the results of Kiekens et al. (2017), in University students who met the criteria for NSSI-D, 80.7% (SE=6.6) of them also met the requirements for at least one mental disorder during the past 12 months. Furthermore, more than half of those with mental disorders also had two or more comorbid disorders. In contrast, of the students who had at least one mental disorder, only 3.3% met the criteria for an NSSID. In Kiekens et al. (2017) study, NSSID was most commonly co-occurring with Major Depressive Disorder (MDD; 63.8%, SE=8.1); this is also in line with Victor et al. (2017) study, which showed that the level of depression in students with NSSID was more severe than participants who did not meet the criteria for NSSID (Cohen's $d=.71$, $p=.02$).

The most prevalent mental disorder among participants with NSSID in the Kiekens et al. (2018) study was Generalized Anxiety Disorder (GAD; 54.1%, SE = 8.5). This finding is further supported by the results of Victor et al. (2017), who identified that the anxiety level of student participants with NSSID was higher than that of students who did not meet the criteria (Cohen's $d = .70$, $p = .02$). Other mental disorders that were also found to be higher in NSSID participants than participants who did not meet the NSSID criteria in Kiekens et al. (2018) study were Panic Disorder (22.2%, SE = 7.0), Extensive Mania (20.4%, SE = 6.9), and Alcohol Dependence (16.1%, SE = 6.6).

In Kiekens et al. (2018), 12-month mental disorders were measured using The Screening Scales of the Composite International Diagnostic Interview (CIDI-SC; Kessler & Ustün, 2004) developed by the World Health Organization to produce reliable predictions related to the diagnosis of mental disorders with reference to DSM-4. Whereas in the research of Victor et al. (2017), depression and anxiety were measured using the Depression, Anxiety, and Stress Scales, Short Form (DASS-21; Lovibond & Lovibond, 1995), Beck

Depression Inventory, 2nd Edition (BDI-II; Beck, et al., 1996), and Beck Anxiety Inventory (BAI; Beck & Steer, 1990).

Severe role impairment in daily life.

Severe role impairment in daily life. Referring to a study conducted by Kiekens et al. (2018), this impairment is identified by the existence of problems related to physical and mental health conditions that affect the management of daily life, quality of work done, social life conditions, and intimate relationships. This role impairment is measured using the Sheehan Disability Scale (Kessler & Ustün, 2004). Based on this scale, individuals who score 7 to 10 on a domain are considered to have severe role disorders. Furthermore, the study by Kiekens et al. (2018) found that students with NSSID have a higher tendency to experience severe role impairment compared to students without NSSID, with a comparison of 58.9% occurrence ($SE = 8.3$) in students with NSSID and 10% occurrence rate ($SE = 0.5$) in students without NSSID (Kiekens et al., 2018).

DISCUSSION

This study aims to identify what variables influence the emergence of Non-suicidal Self-injury in university students. The definition of Non-suicidal Self-injury refers to the definition from DSM-5-TR (APA, 2022). The results of the review showed how there is still very little empirical research related to NSSI that uses the full criteria of the DSM-5-TR, especially among university students. Based on the full article screening of a total of 228 articles, it was found that only two articles used the full DSM-5-TR criteria in identifying their research participants. The search showed that the other 226 articles did not use the complete NSSI criteria in identifying NSSI participants, which is in line with the findings of Zetterqvist (2015), who found only one study that utilized the complete criteria of DSM-5-TR. Cipriano et al. (2017) also found that some studies still used different criteria from the DSM-5-TR or only part of the DSM-5-TR criteria. In fact, individuals who engage in self-harm behaviors do not automatically qualify all NSSI criteria from the DSM-5 (Glenn & Klonsky, 2013; Selby et al., 2012). The limited number of studies that use the full criteria of the DSM-5 or DSM-5-TR is due to various factors, one of which is that most studies still refer to research that was conducted before the DSM-5 was published (Andover, 2014).

Based on the review of the two studies that met the criteria, it was identified that University students who met the full NSSI criteria were more likely to have other mental disorders (Major Depressive Disorder, Generalized Anxiety Disorder, Panic Disorder, Extensive Mania, and Alcohol dependence), severe role impairment, and a higher likelihood of having suicidal thoughts or attempts compared to University students who did not meet the criteria. This is in line with previous studies, which revealed that individuals who met the diagnostic criteria had more clinical disorder profiles compared to those who did not meet the NSSID diagnostic criteria (Merikangas & Kalaydjian, 2007; Glenn & Klonsky, 2013; Washburn et al., 2015). This confirms that students identified as meeting the full NSSI criteria need clinical treatment, especially for those who have a higher propensity for future suicide.

Based on the review, it was also identified that neither study tested the mediator or moderator variables of NSSI. They also focus more on risk factor analysis than NSSI's protective factors. This is in line with another literature review study related to NSSI, which found that there is still very little research evidence examining mediators, moderators, and protective factors of NSSI (Valencia-Agudo et al., 2018; Fliege et al, 2009). The research of Kiekens et al. (2018) presents data on the sociodemographic characteristics of research participants. The socio-democratic data includes basic information such as the age, nationality, and gender of the participants, as well as additional information related to the financial and economic conditions of the parents. Unfortunately, these various demographic data were not analyzed further, so there needed to be more discussion about the influence of sociodemographic variables of participants on the emergence of NSSI behavior. Learning more about it is interesting, especially since it can be a comparison material for readers with different cultural characteristics and sociodemographic conditions.

Another major challenge of NSSI research is that many terminologies and conceptualizations have evolved before the DSM-5 was published. Based on terminologies created before the emergence of the DSM-5, many measurement tools have been created and continue to be used to date. Some of the weaknesses that also frequently arise in NSSI-related research are that the various measurement tools used often only identify visible forms of behavior rather than evaluating explanatory conceptualizations of behavioral dynamics. Based on the article selection process, it was found that many studies (56 articles) only identified whether participants had engaged in self-

harming behavior or not. In these articles, participants who had engaged in self-harming behavior were immediately categorized as NSSI perpetrators. NSSI occurrences were generally identified with a "Yes" response, and no NSSI occurrences were categorized with a "No" response option. The checklist method tends to produce higher estimates of NSSI occurrence. Not surprisingly, there is a high variation in the prevalence of occurrence among studies on NSSI in university students. For example, Kiekens et al. (2018) study found that approximately 15% of university students engaged in NSSI during the first two years, while Verensia et al. (2021) study revealed that 32.1% of a total of 886 undergraduate students committed acts of self-harm. Meanwhile, Kharsati and Bhola (2015) revealed that the incidence of this behavior among university students ranged from 14% to 38%.

To address the variation in assessments of NSSI as outlined above, future research of NSSI, including in the Southeast Asian region, is expected to more accurately utilize the definition and investigate participants' perceptions and interpretations, in part by referring to the NSSI criteria from the DSM-5-TR. A consistent conceptualization of non-suicidal self-injury from studies around the world based on the DSM-5-TR will allow for an expanded understanding of NSSI and enable the creation of the best measurement tools to aid diagnosis and intervention. The use of consistent concepts referring to the DSM-5-TR may enhance the understanding of this disorder as an independent disorder, separate from other disorders such as addiction, Borderline Personality Disorder, and suicidality. Research that distinguishes NSSI from other psychiatric disorders may support the establishment of NSSI disorder as a valid diagnosis in the DSM-5 (Glenn & Klonsky, 2013; Selby et al., 2015). Separating suicide attempts from NSSI is also something that should be considered in future NSSI research. Although both behaviors are on the continuum of self-harming behaviors, there are important clinical differences across them in terms of disorder etiology, function, methods, and so on. Only examining whether or not self-harming behaviors occur without further examining the function, cause, intention, form, or consequences of such behaviors may lead to inappropriate conclusions about NSSI. In addition, errors in identifying the disorder make it difficult to identify a realistic proportion or need for clinical treatment of NSSI in the community. In addition to encouraging the use of more consistent definitions, equitable sampling from different cultures, not only from Western countries, in NSSI research also needs to be improved. The results of Turner et al. (2014) showed

differences between NSSI participants of Caucasian and Asian races, especially in the intensity, frequency, and methods of NSSI conducted. The absence of research from Eastern countries in this scope shows the importance of increasing research in other parts of the world, especially in Southeast Asia.

Limitations

Compared to previous reviews, this study limited the concept of NSSI based on the DSM-5 definition and diagnostic criteria. This means that the search range is only devoted to studies conducted after the DSM-5 was published or after 2013. Furthermore, this study is also limited to the non-clinical population, specifically general students. NSSI studies using the full DSM-5 criteria were usually conducted in clinical populations. As a result, this study only managed to obtain a few articles that qualified based on the predetermined inclusion and exclusion criteria. The limitation of the study after the DSM-5 was published (in 2013) and the selection of a non-clinical population has narrowed the scope significantly, although this limitation was chosen to obtain research results that are consistent with the newer definition of NSSI. The limited number of articles obtained could undoubtedly affect the depth of discussion and breadth of conclusions drawn. This also leads to potential gaps in the findings because the use of full DSM-5 criteria as inclusion criteria has excluded studies that did not check all criteria. Methodologically, future research could use less specific screening criteria but still be in line with the DSM-5-TR, which includes the occurrence of recurrent self-harming behaviors of mild to moderate severity, without suicidal intent, so that more articles can be included in the scoping review. The articles obtained also only represent samples from Western countries, so they do not represent samples from Eastern countries that have different cultural characteristics. In fact, there are likely to be differences between participants from different cultures, continents, and races. This shows how important related research needs to be conducted in other parts of the world, including Southeast Asia. On the other hand, the results of this review can also enrich the literature related to NSSI in the general population based on the full DSM-5-TR criteria, which is still relatively rare. However, the results of this study are expected to be able to enrich the sources of information needed to build an understanding of NSSI disorders.

CONCLUSION

This scoping review showed that the fulfillment of all diagnostic criteria of Non-Suicidal Self-Injury proposed in DSM-5 in university students has a

strong correlation with other clinical disorders, especially depression and anxiety. This study also showed that NSSI is a disorder that can be found independently in individuals even without comorbidity with other clinical disorders, especially borderline personality disorder (BPD). NSSI which fulfills the DSM-5-TR criteria is identified to be correlated with suicidal ideation, intentions, and actions. However, it is also a disorder that can be found independently and thus requires a different understanding and paradigm in its treatment. Future research may explore in more detail whether there are specific differences related to the DSM-5-TR criteria (function, form, impact) between NSSI that present independently or with comorbidity with other clinical disorders. Several diagnostic criteria of NSSI from DSM-5 have been found in the field and support the validation of the proposed criteria in DSM-5. These criteria can be a standard guideline for future mental health researchers and practitioners in detecting and treating this disorder. Future studies are expected to use the terms and definitions of NSSI more carefully to make appropriate contributions to improving the understanding and treatment of the disorder. Future scoping review research is also expected to identify a broader range of aspects and components of NSSI to generate more prosperous and comprehensive data.

Informed Consent Statement

None.

Conflict of Interest

The authors declare that there is no potential conflict of interest.

Ethics Statement

This study obtained research ethics approval from the Research Ethics Committee, the Faculty of Gadjah Mada University with Number: 7414/UN1/FPSi.1.3/SD/PT.01.04/2023.

Author Contributions

The first author is the leading researcher with the most significant role, but all authors are involved in planning, conducting the research, and developing the article.

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Data Availability Statement

The first author may provide existing data during this study upon any reasonable request.

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