Linington, C. (2024). Impacts of Self-Harm Scars on Psychosocial Functioning, Quality of Life, and Recovery in People With Histories of Self-Harm: A Scoping Review. *Psychotherapy and Counselling Journal of Australia, 12*(2). https://doi.org/10.59158/001c.125796

LITERATURE REVIEWS

Impacts of Self-Harm Scars on Psychosocial Functioning, Quality of Life, and Recovery in People With Histories of Self-Harm: A Scoping Review

Candyce Linington[a]

Keywords: non-suicidal self-injury, scar, cicatrix, self-harm, psychosocial, recovery

https://doi.org/10.59158/001c.125796

Psychotherapy and Counselling Journal of Australia

Vol. 12, Issue 2, 2024

While much is known about non-suicidal self-injury (NSSI), less is known about the impacts of scars resulting from previous self-harm. Since NSSI scars cannot be removed completely, they can affect psychosocial functioning, quality of life, and overall recovery from self-harm, which clinicians must be aware of in practice. A preliminary search of the self-harm scar literature revealed that no existing scoping review particular to the psychosocial, quality of life, and recovery impacts of NSSI scars has been undertaken. This scoping review aimed to address the research gap and assess the extent of empirical literature specific to the topic. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews and methodological recommendations of the Joanna Briggs Institute were used as a guide. Four database searches returned 227 potential studies, from which 19 were included and one additional study sourced after screening their references. A total of 20 studies were finally included in the review. Various psychosocial, quality of life, and recovery impacts of NSSI scars were identified, highlighting stigma and shame as prominent among a majority of negative experiences. However, data also indicated some people may experience NSSI scarring more positively. Results support utilising a compassionate, person-centred approach to address the unique needs of individuals who have NSSI scars. Additional implications for practice are discussed. Future research on NSSI scars is warranted, such as exploring intersections of population and scar characteristics that may contribute to diverse experiences and outcomes. Utilising qualitative or mixed methods approaches in future studies may also be beneficial.

Non-suicidal self-injury (NSSI), otherwise known as deliberate self-harming behaviour without suicidal intent (American Psychiatric Association, 2022), is a global phenomenon associated with cutting, burning, scratching, hitting, stabbing, punching, or poisoning oneself to produce pain or wounds to the body (Ammerman et al., 2019). More recently, NSSI has also been found to include forms of digital self-harm causing psychological injury (Erreygers et al., 2022). Common outcomes of past

a Candyce Linington holds a Master of Counselling, a Graduate Certificate of Addictive Behaviours, a Bachelor of Counselling and Psychotherapy, and an Advanced Diploma in Transpersonal Counselling. She has been practising counselling and psychotherapy since 2019. Candyce can be contacted at candyce.linington@outlook.com

self-harming injury to the body include not only the physical impacts of resulting scars (Ho et al., 2018) but also the psychosocial impacts on overall wellbeing and quality of life associated with scars in general (Ngaage & Agius, 2018; Reinholz et al., 2015). However, because NSSI scars have been self-inflicted, the psychosocial impacts are likely to have increased complexity compared with the impacts of scars resulting otherwise (Ho et al., 2018). Moreover, one of the recommendations of the National Institute for Health and Care Excellence (NICE, 2022) to support individuals who have self-harmed pertains to the management of scars. Thus, it is important to understand the impacts of NSSI scars on psychosocial functioning, quality of life, and overall recovery from self-harm to ensure this population is suitably supported.

NSSI research has predominantly focused on associated risk, protective factors, and interventions in relation to treating current self-harming behaviour (De Luca et al., 2023; McEvoy et al., 2023; Plener et al., 2015; Witt et al., 2021a, 2021b) and on surgically or cosmetically treating resulting scars (Edriss et al., 2022; Ho et al., 2018; Takaya et al., 2020). Although there has been little focus on the psychosocial, quality of life, and self-harm recovery impacts of self-harm scars, the literature indicates that most people seeking surgical or cosmetic treatment for their scars do so because of social stigma, shame, guilt, and regret (Edriss et al., 2022; Ho et al., 2018; Takaya et al., 2020). Despite the ongoing research exploring the need to improve the appearance of scars, evidence indicates no interventions are available to eradicate self-harm scars completely without any scarred remnants remaining, and hence treatment generally aims to ensure the scars look more socially acceptable (Edriss et al., 2022; Takaya et al., 2020). Therefore, being aware of the psychosocial impacts self-harm scars might have on a person's wellbeing and quality of life is imperative for ethical counselling and psychotherapeutic practice.

A preliminary search of the self-harm scar literature revealed no recent or ongoing systematic or scoping reviews particular to the psychosocial, quality of life, and recovery impacts of NSSI scars. However, a scoping review protocol pertaining to the psychosocial impacts of scars in general was found (Ziolkowski et al., 2019). While the Ziolkowski et al. (2019) scoping review protocol focused on the impacts associated with various types of scars, the current scoping review has focused on the impacts of self-harm scars only. This scoping review addresses the research gap and assesses the extent of the published empirical literature specific to the impacts of self-harm scars on psychosocial functioning, quality of life, and recovery from self-harm tendencies, as well as examines the care and practice recommendations for individuals who have NSSI scars. Consequently, this scoping review is relevant to counsellors and psychotherapists by contributing to evidence-informed insights and awareness to support ethical client care. It also highlights opportunities for further research particular to the psychosocial, quality of life, and recovery impacts of people with self-harm scars.

Method

The scoping review was guided by the Joanna Briggs Institute (JBI; Peters et al., 2020) methodological recommendations for scoping reviews and Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). Ethics approval was not required for this review.

Development of Research Question and Objectives

Following the recommendations for scoping reviews, the research question was formulated utilising the Population-Concept-Context framework (Peters et al., 2020; Tricco et al., 2018). The primary research question was formulated as follows:

1. What is known about the impacts of NSSI scars on an individual's psychosocial functioning, quality of life, and overall clinical and personal recovery from self-harm?

Key concepts in the research question were defined as follows. The term *psychosocial impacts* refers to the influence of physical, cognitive, emotional, behavioural, spiritual, and social domains of being on an individual's psychological and social health, wellbeing, or quality of life (Peter et al., 2022). *Clinical recovery* was defined as the objective recovery outcomes as measured by a clinician or therapist, such as symptom reduction, while *personal recovery* was defined as the processes of subjective experience, such as being able to live a meaningful and purposeful life despite experiencing challenges or other limitations (Slade & Wallace, 2017). The objective of this scoping review was to synthesise primary empirical evidence associated with the possible psychosocial, quality of life, and overall self-harm recovery impacts experienced by people who have self-harm scars. In addition, the scoping review aimed to highlight avenues for further research by reporting on the population and scar characteristics, as well as the implications and practice recommendations noted in the studies reviewed.

Literature Search and Selection Strategy

An initial keyword search strategy was developed from the key concepts identified in the scoping review question. Medical Subject Heading (MeSH) terms and text words identified in relevant articles were used to develop a full search strategy in PubMed and were adapted for other suitable databases. The search strategy aimed to locate published primary empirical studies.

The author searched a variety of databases to ensure a diversity of relevant sources and study designs. PubMed was searched for full text results using MeSH and text words. Adapted searches conducted in PsycINFO and CINAHL Ultimate, both located on EBSCOhost, also included full text results, but with minor differences using MeSH title, abstract, and/or

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion criteria	Exclusion criteria
Population	All populations with self-harm scars associated with non-suicidal self-injury.	Populations with histories of self-harm who did not have scars. Evidence associated with scars as a result of attempted suicide, self-immolation, skin picking, or excoriation.
Concept	Evidence identifying the psychosocial, quality of life, and possible clinical and personal recovery impacts of self-harm scars.	Studies reporting impacts of self-harm only. Evidence reporting impacts of scars as a result of attempted suicide, self-immolation, skin picking, or excoriation only.
Context	All geographical and cultural contexts. Evidence in English.	Evidence not in English.
Sources of evidence	Published empirical evidence (e.g., qualitative, quantitative, mixed methods). Full text.	Unpublished studies (e.g., theses or dissertations), opinion papers, commentaries, or personal accounts. Single case study reports. All types of secondary sources (e.g., reviews). Protocols. Full text not available.

keywords/subject. Titles, abstracts, and keywords were searched in Scopus using an adapted keyword strategy. All searches were limited to full text English or full text translated to English, and no limits were placed on date.

All search strategies were applied to the selected databases in alphabetical order on the same date, May 7, 2024. The search strategies for all database searches can be found in Appendix A. Results from each database search were recorded in a Microsoft Excel sheet and exported to Endnote (V.9.3.1) for duplicates to be removed. After elimination of duplicates, the remaining references were uploaded to the JBI System for the Unified Management, Assessment and Review of Information (JBI SUMARI; Munn et al., 2019) for title and abstract screening, followed by full text screening against inclusion and exclusion criteria.

Inclusion and Exclusion Criteria

Evidence was considered for inclusion if it met criteria based on the Population-Concept-Context framework, as recommended by the JBI (Peters et al., 2020; Tricco et al., 2018). Utilising inclusion and exclusion criteria, as presented in Table 1, two reviewers—the author and a second reviewer—independently screened the titles and abstracts of articles for potential inclusion, and the author reviewed and resolved any conflicts. When suitability of an article was unclear based on title and abstract screening, it was included for full text screening. The full texts of remaining articles were retrieved and screened by the author against the eligibility criteria. Reasons for exclusion were noted in the JBI SUMARI (Munn et al., 2019). References of included studies were then screened for potential articles.

Data Extraction Framework

Data from the selected sources were extracted and charted in numerical or narrative summary statements using a modified version of the JBI data extraction tool (Peters et al., 2020), amended by the author. The data

extraction form is presented in Appendix B. Data extracted by the author comprised study citations, study design and analysis, location of studies, study aims, study measures, population and scar characteristics, impacts on psychosocial functioning and quality of life, impacts on clinical and personal recovery, relevant study findings, strengths/limitations, and recommendations for clinical practice and care. Critical appraisal of the evidence is not mandatory for scoping reviews because the purpose is to determine what is known about a topic and to provide an overview of the available evidence (Peters et al., 2020); therefore, it did not form part of this review.

Data Analysis and Synthesis

Following data extraction, each study was categorised according to author, year, and location; study design and analysis; measures utilised; population and scar characteristics; impacts on psychosocial functioning and quality of life; impacts on clinical and personal recovery; and recommendations for clinical practice and care. An overview of the synthesised and collated data is presented in Tables 2 and 3 and in textual narrative synthesis (Lucas et al., 2007). Four sub-questions were created to answer the main research question:

1. What are the possible impacts of self-harm scars on an individual's psychosocial functioning?
2. What are the possible impacts of self-harm scars on NSSI clinical and personal recovery?
3. What population and scar characteristics were recorded in the evidence reviewed? For example, age, ethnicity, sexuality or gender, and type and location of scars.
4. What are the practice and care recommendations for counsellors and other helping professionals supporting individuals with self-harm scars?

Results

Study Selection

The searches identified 347 articles in the selected databases. After removing duplicates, 227 titles and abstracts were screened from which 170 records were excluded. The remaining 57 studies were subjected to full-text screening, of which 38 were excluded owing to irrelevant population (n = 2), irrelevant format (n = 10), and irrelevant concept (n = 26). One additional study was sourced after screening the references of included articles. A total of 20 primary studies were included in the scoping review. Figure 1 presents a PRISMA flow chart detailing the stages of article identification and selection, in line with scoping review reporting guidelines (Tricco et al., 2018).

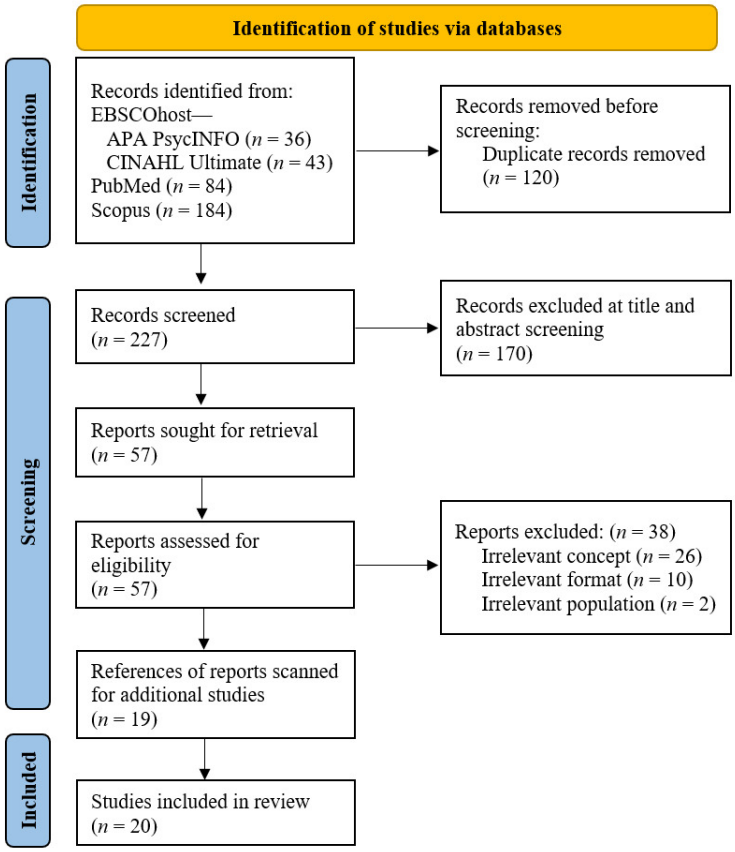

Figure 1. PRISMA Flow Diagram of Article Selection Process

Note. Adapted from "The PRISMA 2020 Statement: An updated guideline for reporting systematic reviews" by M. J. Page, J. E. McKenzie, P. M. Bossuyt, I. Boutron, T. C. Hoffmann, C. D. Mulrow, L. Shamseer, J. M. Tetzlaff, E. A. Akl, S. E. Brennan, R. Chou, J. Glanville, J. M. Grimshaw, A. Hróbjartsson, M. M. Lalu, T. Li, E. W. Loder, E. Mayo-Wilson, S. McDonald, ... and D. Moher, 2021, *BMJ*, *372*, Article n71 (https://doi.org/10.1136/bmj.n71). CC BY 4.0.

Study, Population, and Scar Characteristics

Articles included in this scoping review were published between 2005 and 2024. The studies were conducted in the following countries: the United States of America (n = 8), the United Kingdom (n = 5), Germany (n = 3), Canada (n = 2), Turkey (n = 1), and Korea (n = 1). Eleven studies were quantitative, six qualitative, two mixed-methods, and one a case report.

Sample size ranged from 6 to 368 participants. Generally, age ranged between 14 years and 80 years; however, included studies focused mostly on young adults in their 20s (n = 19), except for one whose participants were 14–17 years. Population characteristics included undergraduate students (n = 5), women in prison (n = 1), young people with depression (n = 1), people identifying as heterosexual, homosexual, lesbian, gay, bisexual, questioning, asexual, or not disclosing sexuality, as well as various nationalities. Overall, most participants identified as white and heterosexual. Genders, as reported in most of the studies, were mainly distinguished as female and male. However, one study reported a female participant identifying as transgender. Additionally, one study comprised five female and one non-binary participants, while another comprised male, female, and non-binary genders

without specifying the number for each. Furthermore, one study represented only males, three only females, two did not identify gender, and some studies only reported the predominant gender. Overall, as reported in the studies, females were predominantly represented. Most studies comprised participants with NSSI scars (n = 19), except one which focused on the perceptions of participants without NSSI histories towards people with NSSI scars (Burke et al., 2019), making it relevant for this review. Scar characteristics were stated in 12 studies, mainly detailing the number of scars, which varied from one to over 50, and their locations—most often on the arms but also other parts of the body, such as the chest. Five studies reported methods of obtaining scars, with skin cutting most frequently mentioned. An overview of the reported study, population, and scar characteristics is presented in Table 2.

Psychosocial and Quality of Life Impacts of Self-Harm Scars

The psychosocial and quality of life impacts identified in this review were diverse, and participants predominantly experienced them as challenging, although some experienced them more positively or a combination of both. Feelings of stigma and shame attributable to NSSI scars were identified as a prominent theme adversely affecting psychosocial wellbeing and quality of life by 10 of the included studies (Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Burke et al., 2017, 2019; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016; Piccirillo et al., 2020; Reinholz et al., 2015; Stacy et al., 2017). Additionally, NSSI scars were identified as contributing to psychological distress (Acikel et al., 2005; Bachtelle & Pepper, 2015; Burke et al., 2020); feeling a lack of belonging (Burke et al., 2017; Mutamba et al., 2023); struggles with unpleasant memories, self-acceptance, mental health, personal recovery, and emotional wellbeing (Kendall et al., 2021); emotional and clinical difficulties (Bachtelle & Pepper, 2015; Myung et al., 2024), such as anger, grief (Mutamba et al., 2023), depressive or borderline symptoms, self-disgust, scar-related regret, scar-related rumination (Bachtelle & Pepper, 2015) or increased propensity to engage in future NSSI (Bachtelle & Pepper, 2015; Burke et al., 2017; Chandler, 2014; Dyer et al., 2013; Gutridge et al., 2019; Stacy et al., 2017); and increased risk of suicide (Burke et al., 2016, 2018). NSSI scars might also adversely affect an individual's confidence (Gutridge et al., 2019) and self-esteem (Acikel et al., 2005; Kristen et al., 2024). For example, some participants felt self-conscious (Mutamba et al., 2023) or embarrassed and concerned about judgement (Burke et al., 2020; Gutridge et al., 2019) and negative perceptions or assumptions of others (Chandler, 2014; Gutridge et al., 2019; Lewis & Mehrabkhani, 2016; Mutamba et al., 2023) or themselves held negative perceptions, attitudes, and cognitions about their scars (Burke et al., 2017; Lewis & Mehrabkhani, 2016; Myung et al., 2024; Piccirillo et al., 2020). An overview of identified psychosocial and quality of life impacts of NSSI scars is presented in Table 3.

Additionally, the studies reviewed identified that NSSI scars can have a negative impact on body image—for example, dissatisfaction, unhappiness, and preoccupation with physical appearance—that may be greater than the

Table 2. Study, Population, and Scar Characteristics

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
Acikel et al. (2005) Turkey	Clinical study. Clinical observations—objective cosmesis. Client observation and satisfaction—subjective cosmesis.	Pre- and postoperative photographs. Client satisfaction.	*N* = 16. Aged 20–41 years. Mean age = 23.8 years. White 100%. Males 100%.	Cutting scars Upper arm (11) Forearm (11) Chest (4)
Bachtelle and Pepper (2015) USA	Quantitative. Statistical analysis. Frequency analysis.	Demographics questionnaire. Deliberate Self-Harm Inventory (DSHI; Gratz, 2001). Inventory of Statements About Self-Injury (ISAS; Klonsky & Glenn, 2009; Klonsky & Olino, 2008). Beck Depression Inventory-II (BDI-II; Beck et al., 1996). McLean Screening Instrument for Borderline Personality Disorder (Zanarini et al., 2003). Self-Report Scar Questionnaire (S-RSQ). The Differential Emotions Scale IV (Izard et al., 1993). Scar Regret Subscale. Self-Disgust Scale (Overton et al., 2008).	*N* = 49 undergraduate students with NSSI scarring. *n* = 36 females (73.5%). Aged 18–47 years. Mean age = 20.54, *SD* = 5.13. White *n* = 43 (87.8%), non-Hispanic *n* = 44 (89.8%), Hispanic *n* = 5 (10.2%), Native American *n* = 1 (2.0%); two or more races *n* = 5 (10.2%). Heterosexual *n* = 43 (87.8%), bisexual *n* = 5 (10.2%). *n* = 48 endorsing significance or meaning to their NSSI scars and results reported on.	Not reported
A. C. Brown et al. (2022) UK	Mixed methods. Thematic analysis. Experience sampling methodology (ESM). Test of Self-Conscious Affect Version 3 short form (TOSCA-3S; Tangney et al., 2000).	Quantitative measures: Experience of Shame Scale (Andrews et al., 2002); TOSCA-3S (Tangney et al., 2000); Patient Health Questionnaire-9 (Kroenke et al., 2001); adapted Self-Injurious Thoughts and Behaviours Inventory short form (SITBI; Nock et al., 2007). ESM Diary. Qualitative Interview.	*N* = 6. *n* = 5 females and *n* = 1 non-binary. Aged 17–23 years. Mean age = 20.67, *SD* = 3.01. White *n* = 3 (50%), Pakistani *n* = 2 (33.3%), mixed background *n* = 1 (16.7%). Heterosexual *n* = 4 (66.7%), bisexual *n* = 1 (16.7%), asexual *n* = 1 (16.7 %).	Not specifically identified; however, participants were individuals who used cutting as a method of non-suicidal self-injury (NSSI)
Burke et al. (2017) USA	Quantitative. Exploratory factor analyses.	Non-Suicidal Self-Injury Scar Cognition Scale (NSSI-SCS; Burke et al., 2017). Various measures of concurrent and divergent validity.	*N* = 110 undergraduate students with at least 1 NSSI scar. 85.5% female, others male. Mean age =	11.8% (*n* = 13) 1 NSSI scar 42.7% (*n* = 47) 2–5 scars 28.2% (*n* = 31) 6–20 scars 7.3% (*n* = 8) 21–50 scars 3.6% (*n* = 4) over 50 scars 75.5% (*n* = 83) arm(s)/wrist(s) 9.1% (*n* = 10) abdomen

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
			20.13, *SD* = 2.35. Caucasian 80%, African American 4.5%., East Asian 2.7%, South Asian 2.7%, biracial 7.3%, other racial background 2.7%.	7.3% (*n* = 8) shoulder(s) 20% (*n* = 22) hip(s) 14.5% (*n* = 16) upper arm(s)/elbow(s) 14.5% (*n* = 16) hand(s)/knuckle(s)/finger(s) 38.2% (*n* = 42) thigh(s) 10.9% (*n* = 12) lower leg(s)/ankle(s) less than 5% on scalp, face, neck/throat, chest, breast(s), back, buttock(s), and knee(s)
Burke et al. (2020) USA	Quantitative. Exploratory factor analyses.	Modified version of ISAS (Klonsky & Glenn, 2009). Presence, number, and perceived noticeability of NSSI scars—questionnaire. Scar concealment questionnaire. NSSI-SCS (Burke et al., 2017). Depression Anxiety Stress Scale (Henry & Crawford, 2005). Two items from the SITBI (Nock et al., 2007). Alexian Brothers Urges to Self-Injure Scale (Washburn et al., 2010). Items developed to assess NSSI scar-specific treatment variables.	*N* = 278 adults with at least 1 NSSI scar. Mean age = 20.20, *SD* = 2.64. White *n* = 215 (77.3%), black *n* = 39 (14.0%), Asian *n* = 8 (2.9%), other/ biracial *n* = 15 (5.4%), preferred not to answer *n* = 1 (0.4%). Heterosexual *n* = 201 (72.3%), homosexual *n* = 14 (5.0%), bisexual *n* = 61 (21.9%), preferred to self-describe *n* = 2 (0.7%).	0 scars 0 (0%) 1 scar 47 (16.9%) 2–5 scars 157 (56.5%) 6–20 scars 51 (18.3%) 20–50 scars 13 (4.7%) 50+ scars 10 (3.6%) Type and location of scars not reported
Burke et al. (2016) USA	Quantitative. Statistical analyses.	Self-report questionnaires assessing suicide attempt history, frequency of NSSI, presence/number of NSSI scars, brooding, current depressive symptoms, and suicidal ideation: DSHI (Gratz, 2001). Beck Scale for Suicidal Ideation (BSS; Beck & Steer, 1991). BDI-II (Beck et al., 1996). Ruminative Responses Scale (Treynor et al., 2003).	*N* = 231 young adults. *n* = 181 females (78%). Mean age = 21.24.	*N* = 43 with NSSI histories who reported having an NSSI scar: 20.9% (*n* = 9) 1 scar 46.5% (*n* = 20) 2–5 scars 18.6% (*n* = 8) 6–20 scars 7.0% (*n* = 3) 20–50 scars 2.3% (*n* = 1) over 50 scars (4.7% no comment) Cutting most frequently used
Burke et al. (2018) USA	Quantitative—cross-sectional. Three exploratory data mining techniques (elastic net regression, decision trees, random forests).	Demographics. BDI-II (Beck et al., 1996). Modified version of the DSHI (Gratz, 2001) with an additional question on scarring. ISAS (Klonsky & Glenn, 2009; Klonsky & Olino, 2008). BSS (Beck & Steer, 1991). Suicide attempt history.	*N* = 359 undergraduate students with a history of NSSI. *n* = 229 females without past suicide attempt, *n* = 40 females with past suicide attempt. Majority female (75%), majority white *n* = 228 (65%), black/ African American *n* =	Not reported

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
			47, Asian *n* = 43, biracial *n* = 25, other *n* = 16.	
Burke et al. (2019) USA	Quantitative. Statistical and correlational analysis.	DSHI (Gratz, 2001). Behavioral Intention Questionnaires (BIQs). Semantic Differential Scale (SDS). Implicit Association Test (IAT; Greenwald et al., 1998). Single-Category Implicit Association Test (SC-IAT; Karpinski & Steinman, 2006).	*N* = 236 undergraduate psychology students without history of NSSI. *n* = 193 females (82.5%). Mean age = 20, *SD* = 3.93 White 58.1%, black 12.8%, East Asian 10.3%, South Asian 6.8%, biracial 7.3%, other 4.7%, Hispanic/Latino *n* = 15 (6.4%).	Not reported
Chandler (2014) UK	Qualitative. Thematic analysis.	24 transcribed narrative interviews.	*N* = 12 people who had self-injured. *n* = 7 female, *n* = 5 male. Aged 21–37 years.	Not reported
Dyer et al. (2013) Germany	Quantitative. Statistical analysis.	Questionnaires. Body image: Multidimensional Body–Self Relations Questionnaires—Appearance Scales (MBSRQ-AS; T. A. Brown et al., 1990) and the Fragebogen zur Erfassung des Korperbildes nach Brandverletzungen [Evaluation of Body Image After Burn Injuries] (FKBB; Seehausen et al., 2010). Borderline Symptom List (BSL-23; Bohus et al., 2009). Self-Harm Inventory (Sansone et al., 1998). Scar description questionnaire.	*N* = 125 female (*n* = 56 NSSI scars; n = 69 other causes of scars, i.e., accidents, surgery wounds). Mean age = 27.3 (+/−9.4; range 18–60).	Various sizes and visibility of NSSI scars and scars resulting from other causes
Dyer et al. (2015) Germany	Quantitative. Statistical analyses.	MBSRQ-AS (T. A. Brown et al., 1990). FKBB (Seehausen et al., 2010). BSL-23 (Bohus et al., 2009). Scar characteristics. Survey of scarred body areas.	*n* = 109 male (*n* = 19 with NSSI), *n* = 185 female (*n* = 96 with NSSI).	Various types, sizes, and locations of NSSI scarring and other types of scars
Gutridge et al. (2019) UK	Exploratory qualitative. Thematic analysis.	Focus groups—transcribed.	*N* = 10 females in prison with NSSI scars. Aged 18 years and older.	Not reported
Kendall et al. (2021) UK	Qualitative. Thematic analyses.	Internet forums, photographic sharing sites, video sharing sites, blogs.	*N* = 25. *n* = 1 male, *n* = 24 females—1 of whom was transgender. Half indicated	Not reported

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
			age: aged 15–32, mean age = 25. British *n* = 7, American *n* = 4, Austrian *n* = 2, Australian *n* = 2, Canadian *n* = 1, South African *n* = 1, not specified *n* = 8.	
Kristen et al. (2024) UK	Qualitative. Discourse analysis.	Recordings of therapy sessions—transcribed.	*N* = 6 female adolescents (aged 14–17) with clinical depression and current NSSI and scars.	Not reported
Lewis and Mehrabkhani (2016) Canada	Qualitative. Thematic analysis.	53 online written posts by the sample about their scars.	*N* = 52 individual authors of online data. Demographics not available.	Not reported
Mutamba et al. (2023) Canada	Qualitative. Critical discourse analysis.	Narrative interviews—transcribed.	*N* = 14 participants (male, female, and non-binary) with history of self-harm and scars. Aged 16–32.	Not reported
Myung et al. (2024) Korea	Quantitative. Descriptive statistics and exploratory factor analysis, reliability analysis, and correlation analysis.	Korean version of the Multidimensional Non-Suicidal Self-Injury Scar Scale (Myung et al., 2024). Korean version of the Event Related Rumination Inventory (Cann et al., 2011; Hyun-ui et al., 2013). Post-Event Rumination Questionnaire. Korean version of Internalized Shame Scale (Cook, 1988; Cook & Coccimiglio, 2001; I. S. Lee & Choi, 2005). Korean version of the Posttraumatic Growth Inventory (Song et al., 2009; Tedeschi & Calhoun, 1996). Translated version of the Acquired Capability for Suicide Scale (Van Orden et al., 2008). Hospital Anxiety and Depression Scale (Oh et al., 1999; Zigmond & Snaith, 1983). Self-Concealment Scale (Park & Yon, 2008). Self-Injurious Thoughts and Behaviors Interview—Korean Version-Short Form (S. J. Lee et al., 2021; Nock et al., 2007).	*N* = 333 adults. Aged 18–39. Sample 1: *N* = 133; *n* = 108 (81.2%) females; *n* = 25 (18.8%) males; mean age = 22.13, *SD* = 2.99. Sample 2: *N* = 200; *n* = 172 females (86%); *n* = 28 males (14%); mean age = 22.47, *SD* = 3.41.	*n* = 64 (19.2%) 1 NSSI scar *n* = 149 (44.7%) 2–5 scars *n* = 68 (20.4%) 6–20 scars *n* = 33 (9.9%) 21–50 scars *n* = 19 (5.7%) 51+ scars. Participants reported having 1 or more scars on various parts of the body (e.g., wrist, thigh, and neck)
Piccirillo et	Mixed methods.	IAT (Greenwald et al., 1998)	*N* = 351 (*n* =	*n* = 54 (47%) with at least 1

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
al. (2020) USA	Statistical analysis.	and SC-IAT (Karpinski & Steinman, 2006). Explicit measures—DSHI (Gratz, 2001), BIQs, SDS.	236 without NSSI history; *n* = 115 with at least 1 lifetime act of NSSI; *n* = 54 [47%] with at least 1 scar). *n* = 286 females (81.5%), *n* = 65 males. Mean age = 20, *SD* = 3.62. White 61.5%, black 12%, East Asian 9.1%, South Asian 6.3%, biracial 6.8%, Hispanic or Latino 6.6%, other 4.3%. Heterosexual 82.3%, lesbian, gay, or homosexual 3.1%, bisexual 9.7%, questioning 3.4%, preferred not to use a label for sexual orientation 1.4%.	scar. Cutting and scratching the skin most prevalent, followed by preventing healing, sticking sharp objects into skin, and self-inflicted burns *n* = 70 (60.9%) cutting *n* = 33 (28.7%) scratching
Reinholz et al. (2015) Germany	Quantitative. Statistical analysis.	Dermatology Life Quality Index (Finlay & Khan, 1994). Patient Scale from the Patient and Observer Scar Assessment Scale (Draaijers et al., 2004). An epidemiological data questionnaire.	*N* = 130 with various scars (physiological scars, keloids, hypertrophic scars, atrophic scars, self-harm scars). *n* = 56 male, *n* = 74 female. Aged 16–80 years.	NSSI scars were located on chest = 1, arms = 7, other = 5
Stacy et al. (2017) USA	Quantitative. Statistical analysis.	ISAS (Klonsky & Glenn, 2009). S-RSQ (Bachtelle & Pepper, 2015).	*N* = 103 undergraduate psychology students. NSSI group (*n* = 49), environmentally inflicted scar group (*n* = 54). Females 76.5%. Aged 18–47 years. Mean age =19.83, *SD* = 3.79. European American 94.1%, non-Hispanic 88.2%, heterosexual 93.1%. NSSI group: *n* = 42 heterosexual, *n*	Not reported

Author(s), year, country	Study design and analysis	Study measures	Population characteristics	Scar characteristics
			= 5 bisexual, *n* = 2 sexuality unknown, *n* = 0 homosexual. Environmental group: *n* = 53 heterosexual, *n* = 1 homosexual.	

negative impact of scars caused by accident or surgery (Dyer et al., 2013, 2015). Studies indicated that individuals with NSSI scars tended to be concerned with the presence of scars and desired to conceal, hide, or reduce scar appearance (Acikel et al., 2005; Bachtelle & Pepper, 2015; Chandler, 2014; Kristen et al., 2024; Stacy et al., 2017). Increased concerns with scar appearance and fear of stigma or negative views of others tended to contribute to avoidance behaviour, such as avoiding relationships (Burke et al., 2019; Kendall et al., 2021) or avoiding social activities and clothing that might expose scarring (Kendall et al., 2021; Mutamba et al., 2023). Other avoidant behaviours included reducing workload, altering career choices, or reducing involvement in certain social domains that might require individuals to reveal their scars (Acikel et al., 2005; Kendall et al., 2021).

Some studies reported positive psychosocial and quality of life impacts for individuals with NSSI scars. For example, some individuals reported more positive cognitions (Burke et al., 2017; Lewis & Mehrabkhani, 2016), such as associating their scars with reminders not to engage in NSSI behaviour again, or with strength because the scars indicated they had managed and overcome challenging times in their lives, thereby reflecting greater acceptance (Bachtelle & Pepper, 2015; Chandler, 2014; Lewis & Mehrabkhani, 2016).

Clinical and Personal Recovery Impacts of Self-Harm Scars

The impacts of self-harm scars on clinical and personal recovery identified in the studies are provided in Table 3 above. While some studies did not report clinical or personal recovery outcomes, those that did were associated with adverse psychosocial and quality of life impacts (Acikel et al., 2005; Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Burke et al., 2016, 2017, 2020; Chandler, 2014; Dyer et al., 2013; Gutridge et al., 2019; Kristen et al., 2024; Mutamba et al., 2023; Piccirillo et al., 2020; Stacy et al., 2017). Stigma and shame were identified as adversely affecting clinical and personal recovery generally (Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Kendall et al., 2021; Kristen et al., 2024; Piccirillo et al., 2020), as well as more specifically leading to non-acceptance or concealment of scars (Bachtelle & Pepper, 2015; Kendall et al., 2021; Lewis & Mehrabkhani, 2016), self-disgust, scar-related regret, and scar-related rumination (Bachtelle & Pepper, 2015). NSSI scars were also shown to influence clinical recovery adversely by increasing the risk of repeat NSSI behaviour (Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Burke et al., 2017, 2020; Chandler, 2014; Dyer et al., 2013; Gutridge

Table 3. Impacts on Psychosocial Functioning, Quality of Life, and Clinical and Personal Recovery, with Practice Recommendations

Author(s), year, country	Impacts on psychosocial functioning and quality of life	Impacts on clinical and personal recovery	Recommendations for clinical practice
Acikel et al. (2005) Turkey	Psychosocial and quality of life—Impacts on psychology, self-confidence, and self-esteem were noted, as were reduced activity and productivity in work and social domains due to concerns about scar appearance.	Clinical—No new act of self-harm occurred postoperatively except for one client with antisocial personality disorder who presented with new scars at one year follow-up. Personal—None reported.	Medical approaches to treat self-harm scars, such as surgical interventions, can camouflage scars that appear socially unacceptable to individuals. This can improve physical appearances of the scars, self-confidence, self-esteem, and motivation to engage in more social and work aspects of life.
Bachtelle and Pepper (2015) USA	Psychosocial and quality of life—*n* = 48 (98%) endorsed significance or meaning to their non-suicidal self-injury (NSSI) scars. *n* = 29 (60.4%) attributed stigma and shame to their scars. Individuals with higher shame levels were more likely to engage in future self-injury, experience clinical depressive and borderline symptoms, self-disgust, scar-related regret, scar-related rumination, and attempts to avoid or reduce scar appearances. Growth interpretations (e.g., NSSI scars as markers of strength, overcoming adversity, regret over past NSSI rather than the NSSI scarring) of NSSI scars were associated with reduced levels of self-disgust, scar-related regret, and future NSSI. Growth interpretations of NSSI scars did not correlate with clinical symptoms and were associated with less overall scar-related distress.	Clinical and personal—Individuals who experience shame and stigma associated with their NSSI scars may be more clinically impacted than those who find strength or growth from their scars. Shame affected both personal and clinical recovery and was associated with increased likelihood of future NSSI and clinically depressive and borderline symptoms, especially with negative scar-related rumination present.	Exploring the significance and psychological impact of self-harm scars may increase therapist understanding to help individuals reduce future NSSI and improve scar acceptance. Utilising therapeutic strategies to address negative perceptions and shame from NSSI scars was suggested to reduce negative emotions, depressive symptoms, self-disgust, and ruminative thoughts about future NSSI. Mindfulness and acceptance strategies were suggested to promote self-compassion towards previous NSSI and scarring. Supporting clients to accept NSSI scars may be an important aspect of therapy.
A. C. Brown et al. (2022) UK	Psychosocial and quality of life—Participants felt the need to conceal scars owing to shame, perceiving them as socially unacceptable to others.	Clinical and personal—Shame affected both personal and clinical recovery and was associated with reoccurrence of NSSI behaviour in individuals with or without scars. Struggles with recovery were associated with difficulty accepting scars as a result of perpetuating stigma and shame.	Addressing shame was identified as a key concept to consider in therapy for individuals with NSSI and participants with self-harm scars. Compassion-focused therapy or relational therapies, such as cognitive analytic therapy, were suggested. Systemic approaches to address associated stigma may be beneficial.
Burke et al. (2017) USA	Psychosocial—Over 63% of individuals with NSSI scarring endorsed at least one cognition loading on the social factor associated with shame and stigma on the Non-Suicidal Self-Injury Scar Cognition Scale (NSSI-SCS; Burke et al., 2017). Approximately 50% endorsed at least one positive cognition about their scars. 79% endorsed scar cognitions loading on reminders of past negative experiences. Feeling unique was associated with positive (e.g., attainment of a desired identity) or negative (e.g., lack of belonging) perceptions.	Clinical and personal—Individuals who endorsed items of weakness on the NSSI-SCS (Burke et al., 2017) may experience feeling weak regarding their ability to handle stress and be at increased risk of repeat NSSI. Individuals feeling hopeless, stuck, and suicidal because of	The NSSI-SCS (Burke et al., 2017) has the potential to enhance the ability of clinicians, therapists, and researchers to assess a range of NSSI scar-related cognitions, as well as their clinical correlates, informing both assessment and intervention.

Author(s), year, country	Impacts on psychosocial functioning and quality of life	Impacts on clinical and personal recovery	Recommendations for clinical practice
		their NSSI scarring were significantly more likely to experience suicidal ideation.	
Burke et al. (2020) USA	Psychosocial and quality of life—Participants concealed scars from both themselves and others at least some of the time. Frequency of scar concealment from the self and others was significantly associated with negative NSSI scar-specific beliefs, such as fear of judgement and embarrassment, and psychological distress, such as depression, anxiety, and recent NSSI urge severity.	Clinical—Frequency of scar concealment from self and others was significantly associated with recent NSSI urge severity. Personal—Frequency of scar concealment from self and others was significantly associated with negative NSSI scar-specific beliefs, such as fear of judgement and embarrassment, and psychological distress, such as depression, anxiety, and recent NSSI urge severity.	Psychological interventions targeting NSSI scarring, negative scar-specific beliefs, concealment practices, and acceptance may not only be sought by individuals with scars but also aid in NSSI remission. Acceptance and mindfulness strategies were suggested as beneficial for addressing shame, as were cognitive restructuring techniques to support more balanced beliefs about NSSI history and current scarring. Graduated exposure strategies were recommended to increase tolerance and coping.
Burke et al. (2016) USA	Psychosocial and quality of life—Presence and number of NSSI scars predicted current suicidal ideation and suicide attempt history, which was more strongly associated with greater levels of brooding. Individuals with NSSI scars reporting lower levels of brooding were at reduced risk of suicidal ideation.	Clinical and personal—Presence and number of NSSI scars predicted current suicidal ideation and a history of suicide attempts, which were linked to higher levels of brooding. Individuals with NSSI scars reporting lower levels of brooding were at reduced risk of experiencing current suicidal ideation.	Assessing presence and number of scars is important to evaluate suicide-related risk. Therapy interventions to address ruminative brooding may increase resilience to suicidal ideation and behaviour. Rumination-focused cognitive behavioural therapy was suggested to assist with brooding.
Burke et al. (2018) USA	Psychosocial and quality of life—NSSI scars may be associated with increased suicide risk.	Clinical—NSSI scars may be associated with increased suicide risk.	NSSI functions, scarring, and medical lethality may be more important to assess than NSSI severity indices when evaluating suicide risk.
Burke et al. (2019) USA	Psychosocial and quality of life—Overall acceptance of unintentional disfigurement or tattoos and rejection of NSSI scars by individuals without NSSI history was noted. There was a greater perception of NSSI scars being bad than good, being dangerous than safe, and being rejected than accepted in individuals without NSSI history. Participants without scars were less likely to engage in sexual or non-sexual interactions with people with NSSI histories and scars. Women without NSSI histories tended to be more accepting of sexual or non-sexual interactions with people with NSSI histories and scars.	Not reported.	Educational programs about NSSI and impacts may be helpful for populations with and without NSSI history/scars in reducing implicit and explicit bias associated with perpetuating stigma and shame.
Chandler (2014) UK	Psychosocial and quality of life—All participants were concerned about the perceptions of others. Some associated NSSI	Clinical and personal—Some participants	Attending to the diverse ways in which scars are experienced was highlighted as an important

Author(s), year, country	Impacts on psychosocial functioning and quality of life	Impacts on clinical and personal recovery	Recommendations for clinical practice
	scars with disgust, hopelessness, social anxiety, and a desire to hide them, noting that they may increase the likelihood of re-engaging in NSSI.	associated NSSI scars with disgust, hopelessness, social anxiety, and a desire to hide them, noting that they may increase the likelihood of re-engaging in NSSI. Others associated their scars with hope and acceptance, viewing them as reminders of having overcome challenges and the need to avoid re-engaging in NSSI.	aspect of compassionate clinical practice.
Dyer et al. (2013) Germany	Psychosocial—NSSI scars led to negative body image.	Not specifically reported; however, scars were found to lead to negative body image, which may increase risk of further harm.	Addressing NSSI early in treatment may help reduce scarring that might otherwise exacerbate existing negative body image.
Dyer et al. (2015) Germany	Psychosocial—Women with scars tended to experience greater negative body image than men; men with NSSI scars also experienced negative body image.	Not reported.	Assessment of body image disturbances among individuals with NSSI and support to reduce NSSI behaviour and possible scarring was recommended.
Gutridge et al. (2019) UK	Psychosocial and quality of life—Women reported embarrassment and lack of confidence, especially around unknown people, wished scars would go away, and noted that scars were reminders of bad times in life. Women felt less embarrassed in prison settings since many other women had NSSI scarring. Women were concerned about negative judgement and the perceptions of others; they wanted to cover scars in most social situations. Negatively influencing youth was also of concern. Covering scars was functional for reducing concerns.	Clinical and personal—NSSI scars increased risk of re-engaging in NSSI. Women expressed that less noticeable scars would aid NSSI recovery.	Medical skin camouflage may help female prisoners with NSSI recovery and wellbeing.
Kendall et al. (2021) UK	Psychosocial and quality of life—Two prevalent themes were identified: temporal aspects of identity, and social stigma and scars. The impact of scarring was prevalent in social and personal life and affected self-perspectives. Experienced stigma was prominent. Scars commonly evoked unpleasant memories, emotional pain, and struggles with self-acceptance, mental illness, healing, and surviving. To avoid stigma and shame and support wellbeing, social functioning, clothing, relationships, and careers were altered.	Clinical and personal —Some narratives were associated with resisting shame and allowing scars to be visible as a means of dismantling stigma. Others reported scars evoked unpleasant memories, emotional pain, and struggles with self-acceptance, mental illness, healing, and surviving. Experiencing stigma was prominent.	Tattoos may change the narrative associated with scars and help recovery. Addressing stigma and supporting individuals towards self-acceptance was suggested.
Kristen et al. (2024) UK	Psychosocial and quality of life—Two paradoxical impacts of scars were identified as being shameful and stigmatising, or as validating suffering. Participants expressed self-hate, negative body image, low self-	Clinical and personal—Challenges were associated with the impact of stigma and shame on	Therapist awareness of adolescent use of descriptions of self-harm behaviours and scars (shameful and stigmatising or validating of suffering) within

Author(s), year, country	Impacts on psychosocial functioning and quality of life	Impacts on clinical and personal recovery	Recommendations for clinical practice
	esteem, and lack of self-efficacy due to the stigma and shame of their scars. Participants tended to navigate unpleasant impacts by concealing scars, or by associating validation of their mental health difficulties with the meaning of their scars.	recovery. Some participants described their scars positively as validating their distress.	therapy may support treatment and recovery. Therapists should consider the broader social context of NSSI scars when supporting clients.
Lewis and Mehrabkhani (2016) Canada	Psychosocial and quality of life—Four dominant themes were associated with perceptions of scars: as part of positive or negative self-narratives (either shame or strength of overcoming challenges), non-acceptance of scars (disgust and shame), accepting scars as a process, and ambivalence towards scars (okay if concealed or when alone, and concern about perceptions of others). Shame tended to hinder scar acceptance and recovery and also contributed to ambivalence about perceptions of scars.	Clinical and personal—Shame hindered scar acceptance and recovery. It also contributed to ambivalence about perceptions of scars.	Discussing the role of scars in NSSI assessment and intervention is important. For clients with visible or noticeable scars, supporting the processing of scar-related emotions and thoughts is necessary. Shame was identified as a barrier to NSSI scar acceptance; therefore, it may be important to address shame in therapy.
Mutamba et al. (2023) Canada	Psychosocial and quality of life—Participants identified feelings of discomfort and a sense of unbelonging, as well as anger, grief, and numbness; self-consciousness of scars, concerns about assumptions of others, avoiding activities due to concerns about exposing scars; and concerns about how NSSI scars would affect careers, relationships, and other areas of life.	Clinical—Not reported. Personal—Scars tended to affect personal recovery, as noted in the reported psychosocial and quality of life impacts; however, this was not explicitly noted in the study.	To improve personalisation of care, therapists should consider how the social circumstances of youth presenting with embodied expression (self-harm) might be affected.
Myung et al. (2024) Korea	Psychosocial and quality of life—The study suggested that the Korean sample may experience more negative cognitions related to NSSI scars, which could contribute to emotional and clinical difficulties, compared with the Burke et al. (2017) study.	Not reported.	The Korean version of the Multidimensional Non-Suicidal Self-Injury Scar Scale (Myung et al., 2024) will be useful for understanding cognitive and psychosocial impacts in future research in relation to clinical practice.
Piccirillo et al. (2020) USA	Psychosocial and quality of life—Individuals with and without prior NSSI both associated NSSI behaviour with negative attributes compared with positive attributes in both implicit and explicit tests. Individuals with NSSI history had fewer negative associations than those without NSSI. Lower explicit bias correlated with history of more severe NSSI, but not implicit bias. Participants with history of NSSI had more negative attitudes towards NSSI and were less likely to engage in relationships than those without NSSI history.	Clinical and personal—Stigma is associated with adverse impacts on clinical and personal recovery.	The researchers suggested addressing the stigma of NSSI and scars to improve support, recovery, and disclosure for individuals with NSSI or NSSI scars. Public health approaches, such as psychoeducation, may be useful to address stigma associated with NSSI scars.
Reinholz et al. (2015) Germany	Quality of life—Differences in the impact on quality of life between different scar types were identified. The strongest impacts were attributed to self-harm scars and associated stigma.	Not reported.	Knowledge of the impact on quality of life of different scar types may be crucial for treatment and prevention, and treating scars may improve quality of life.
Stacy et al. (2017) USA	Psychosocial and quality of life—Compared with the environmentally inflicted scar group, participants in the NSSI scar group were more likely to interpret scars as reminders of having overcome adversity and avoided foolish choices; they were also more likely to associate stigma or shame with scars. The NSSI group showed greater attention to their scars than did the environmental group, engaged in more scar-related behaviours, and	Clinical—Compared with the environmental scar group, the NSSI scar group reported actively attending to scars more when stressed and that scars may increase risk of re-engaging in	Implications for practice were not specifically reported.

Author(s), year, country	Impacts on psychosocial functioning and quality of life	Impacts on clinical and personal recovery	Recommendations for clinical practice
	used their scars for specific purposes. Individuals in the NSSI group prioritised observing, thinking about, noticing, touching, rubbing, or reducing the appearance of their scars, and concealing their scars from others. The NSSI group focused on their scars more when stressed than did the environmental group and reported scars may increase risk of re-engaging in self-harm.	self-harm. Personal—Compared with the environmental scar group, individuals in the NSSI group were more likely to interpret their scars as reminders of having overcome adversity and avoided foolish choices; they were also more likely to associate stigma or shame with scars.	

et al., 2019; Stacy et al., 2017) and contributing to clinically depressive and borderline symptoms (Bachtelle & Pepper, 2015) and suicide (Burke et al., 2016, 2018). Moreover, increased scar-related ruminative brooding was found to correlate with a higher likelihood of future NSSI behaviour in one study (Bachtelle & Pepper, 2015) and suicidal ideation in another, which also suggested that levels of brooding were important to consider in terms of evaluating suicidal risk (Burke et al., 2016).

Some studies reported positive clinical and personal recovery outcomes for individuals with NSSI scars (Bachtelle & Pepper, 2015; Chandler, 2014; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016). Positive outcomes related to increased growth interpretations, such as viewing NSSI scars as markers of strength or overcoming adversity, or associating regret over past NSSI behaviour rather than the NSSI scarring itself, were found to reduce levels of self-disgust, scar-related regret, and future NSSI (Bachtelle & Pepper, 2015). Positive associations attributed to NSSI scars were also found to increase hope and scar acceptance (Chandler, 2014). Additionally, some individuals associated revealing their NSSI scars as validating of the distress they had experienced (Kristen et al., 2024) or resisting shame and dismantling stigma (Kendall et al., 2021). One study found growth interpretations of NSSI scars were associated with less overall scar-related distress and did not correlate with clinical symptoms (Bachtelle & Pepper, 2015).

Recommendations for Clinical Practice and Care

Recommendations for clinical practice and care comprised varieties of biological, psychological, and social approaches, as presented in Table 3 above. Biological approaches identified in the studies included the use of medical interventions to improve the appearance of scars (Acikel et al., 2005). It was noted that such approaches may not only improve scars to appear more socially acceptable to individuals but also have beneficial psychosocial impacts on self-confidence, self-esteem, and increased work and social engagements

(Acikel et al., 2005). Moreover, methods of camouflaging or treating NSSI scars—such as using tattoos—to reduce their appearance may aid recovery and wellbeing (Gutridge et al., 2019; Kendall et al., 2021; Reinholz et al., 2015).

Other studies noted the importance of applying early intervention approaches to support individuals who self-harm as a method of reducing the possibility of future scarring (Dyer et al., 2013, 2015; Lewis & Mehrabkhani, 2016). It was suggested that therapists assess the presence and number of scars when evaluating suicide risk (Burke et al., 2016, 2018) and a range of scar-related cognitions in individuals with NSSI scars to better inform their practice (Burke et al., 2017; Lewis & Mehrabkhani, 2016; Myung et al., 2024). Awareness of how individuals depict their experiences of NSSI scarring (Bachtelle & Pepper, 2015; Chandler, 2014; Kristen et al., 2024; Reinholz et al., 2015), how the scars might be discussed or perceived in the broader social context, and how this could affect individuals (Kristen et al., 2024; Mutamba et al., 2023) were also identified as important aspects of practice. Other individual impacts identified as important to explore in therapy included concern about the perceptions of others, disgust (Chandler, 2014; Lewis & Mehrabkhani, 2016), and concern about negatively influencing youth (Gutridge et al., 2019). While an overarching compassionate approach to care was suggested (Chandler, 2014), utilisation of therapeutic interventions to support individuals with the impacts of stigma and shame (Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Piccirillo et al., 2020), brooding (Bachtelle & Pepper, 2015; Burke et al., 2016), negative scar-specific beliefs, concealment practices (Bachtelle & Pepper, 2015; Burke et al., 2020), negative emotions, depressive symptoms, and self-disgust (Bachtelle & Pepper, 2015) were also recommended. For instance, using compassion-focused therapy, relational therapies such as cognitive analytic therapy (A. C. Brown et al., 2022), or acceptance and mindfulness strategies were suggested as potentially beneficial for addressing shame (Bachtelle & Pepper, 2015; Burke et al., 2020) and promoting self-compassion towards previous NSSI behaviour and scarring (Bachtelle & Pepper, 2015). Additionally, rumination-focused cognitive behavioural therapy was suggested to assist with brooding (Burke et al., 2016), as were cognitive restructuring techniques to support more balanced beliefs about NSSI history and current scarring (Burke et al., 2020). NSSI scars were associated with evoking unpleasant memories for some, and had implications for self-acceptance, mental health, personal recovery, and emotional wellbeing (Kendall et al., 2021). However, utilising graduated exposure strategies to increase tolerance and coping was suggested for individuals who may conceal their scars as a means of avoiding memories triggered by their scars (Burke et al., 2020). Bachtelle and Pepper (2015) also highlighted that supporting clients to accept NSSI scars may be an important aspect of therapy, and that increased understanding of the impacts of scars may aid therapists in guiding treatment.

Furthermore, studies highlighted that broader systemic (A. C. Brown et al., 2022) or public health approaches, such as the use of psychoeducational or early intervention programs (Burke et al., 2019; Piccirillo et al., 2020), may be beneficial in addressing the stigma associated with NSSI scars. An example identified was facilitating psychoeducational programs in school settings that can provide non-judgemental information about NSSI and the associated risk and consequences (Piccirillo et al., 2020). It was also recommended that therapists utilise social media and the internet to provide psychoeducation and address stigma in the broader public domain (Piccirillo et al., 2020).

Discussion

Interpretations and Implications

The aim of this scoping review was to synthesise the existing empirical evidence reporting psychosocial, quality of life, and recovery impacts, and the associated practice recommendations particular to individuals with NSSI scars. Regarding the possible psychosocial and quality-of-life impacts NSSI scars might have on an individual, this scoping review confirms diverse psychosocial and quality of life impacts. As noted in the studies reviewed, the psychosocial and quality of life impacts associated with the stigma and shame experienced were prominent for individuals with NSSI scars (Bachtelle & Pepper, 2015; A. C. Brown et al., 2022; Burke et al., 2017, 2019; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016; Piccirillo et al., 2020; Reinholz et al., 2015; Stacy et al., 2017). NSSI scars tended to contribute to avoidance behaviour, such as reducing social engagements, as well as scar concealment behaviour, such as wearing clothes to hide scars in various social contexts (Kendall et al., 2021; Mutamba et al., 2023). Avoidance and scar concealment behaviour tended to be associated with social domains, such as work (Acikel et al., 2005; Kendall et al., 2021) and relationships (Burke et al., 2019; Kendall et al., 2021). Psychosocial and quality of life impacts were likely to be intertwined and reciprocal, such that stigma and shame could perpetuate negative scar beliefs and cognitions, including self-stigma, which perpetuated avoidance behaviour and contributed to ongoing stigma (Bachtelle & Pepper, 2015; Burke et al., 2017; Lewis & Mehrabkhani, 2016; Myung et al., 2024; Piccirillo et al., 2020). It was observed that people with NSSI scars were more inclined to experience stigma and shame than those with naturally occurring scars, who tended to perceive their scars as more socially acceptable (Piccirillo et al., 2020; Reinholz et al., 2015; Stacy et al., 2017).

While the majority of studies included in this scoping review indicated most people experienced challenges associated with NSSI scars, a few reported more positive, or both positive and negative experiences (Bachtelle & Pepper, 2015; Chandler, 2014; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016). For example, some individuals tended to resist stigma and find greater self-acceptance of their NSSI scars (Bachtelle & Pepper, 2015; Chandler, 2014; Kendall et al., 2021; Kristen et al., 2024), while

others exhibited ambivalence about accepting or rejecting their scars, feeling confident to reveal them in certain situations but not in others (Lewis & Mehrabkhani, 2016). These results reveal that experiences are unique and that it is important to ensure a compassionate (Chandler, 2014) and person-centred approach is applied in counselling or psychotherapeutic contexts, as suggested by Lewis and Hasking (2021).

This scoping review additionally sought to identify possible impacts of NSSI scars on clinical and personal recovery; however, not all the studies reported clinical and personal recovery outcomes. Nonetheless, the review found the impacts of NSSI scars on recovery tended to be associated with psychosocial experiences and quality of life (Bachtell & Pepper, 2015; Kendall et al., 2021; Kristen et al., 2024; Piccirillo et al., 2020; Reinholz et al., 2015). For example, a prominent concern held by people with NSSI scars related to how they would be perceived by their broader community, and while some struggled with associated stigma and shame, others were more resilient to this (Chandler, 2014; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016). The scoping review revealed that individuals who struggle with navigating the impacts of stigma and shame on their lives, or who experience difficulty accepting their scars, could lose hope and become vulnerable to repeat NSSI behaviour (Bachtelle & Pepper, 2015; Stacy et al., 2017) or even be at increased risk of suicide (Burke et al., 2016, 2017). Thus, NSSI scars are an important factor to consider with regard to suicidal ideation (Burke et al., 2016). The results place increased weight on the importance of therapists fostering a compassionate approach to support the unique experiences of people with NSSI scars (Chandler, 2014). These suggestions are further supported by a relevant commentary (Lewis, 2016) and recent review (Lewis & Hasking, 2021) advocating for a person-centred framework when working with individuals with histories of NSSI.

Scar and population characteristics recorded in the studies were also explored by this scoping review. Although various ages, ethnicities, sexualities, and genders were considered in different studies, the majority of participants identified in this scoping review were white, young adults in their 20s, female, and from Western backgrounds; therefore, the results of the review cannot be generalised to all populations. Additionally, NSSI scar characteristics were either unrecorded or inconsistently recorded across the studies. However, evidence indicated self-harm cuts to the arms were most frequently associated with scars (Acikel et al., 2005; Burke et al., 2017) and that a greater number of scars might correlate with a greater risk of suicide (Burke et al., 2016). While Chandler (2014) did not report specifically on scar characteristics, the author noted that presence of scars increased the risk of repeat self-harm. The results of this review indicate awareness of scar characteristics is therefore an important factor to consider in terms of supporting individuals in their recovery.

This scoping review also sought to identify practice and care recommendations for therapists supporting individuals with NSSI scars. Most studies reviewed provided biological, psychological, and social recommendations associated with clinical practice and care. While medical interventions cannot eliminate NSSI scars completely, the scoping review results indicate that improving the appearance of NSSI scars, whether through surgery, medical tattooing, or other cosmetic procedures, may benefit individuals' psychosocial functioning and quality of life (Acikel et al., 2005; Gutridge et al., 2019; Kendall et al., 2021; Reinholz et al., 2015). These results are supported by other reviews particular to the medical treatment of NSSI scars (Edriss et al., 2022; Ho et al., 2018; Takaya et al., 2020).

While this scoping review indicates an overarching compassionate approach to therapy would support individuals with self-harm scars (Chandler, 2014), it also notes the benefits of utilising various psychological therapies to address shame, stigma (Bachtell & Pepper, 2015; A. C. Brown et al., 2022; Piccirillo et al., 2020), and unhelpful cognitions in order to support increased scar acceptance (Bachtelle & Pepper, 2015; Burke et al., 2020). Additionally, utilising rumination-focused cognitive behavioural therapy to evaluate and address ruminative brooding was highlighted as an important aspect to consider in terms of suicidal risk (Burke et al., 2016). Although studies suggested the use of psychological therapies, the psychosocial challenges faced by individuals with NSSI scars often stemmed from the stigma and shame perpetuated by negative perspectives in broader social contexts and communities (A. C. Brown et al., 2022; Piccirillo et al., 2020). Evidence indicated this affected individuals' negative bias and self-stigma associated with their scars (Piccirillo et al., 2020). Therefore, unsurprisingly, evidence highlighted the importance of evaluating the unique meaning, beliefs, or cognitions people with NSSI scars might hold (Burke et al., 2017). Moreover, the review found that therapists should not only consider how broader sociocultural perspectives towards NSSI scarring might be influencing individuals (Kristen et al., 2024) but also advocate for public health or systemic approaches to address stigma (A. C. Brown et al., 2022; Burke et al., 2019).

From a public health perspective, social media and the internet may be useful avenues for therapists to address broader perspectives and reduce the stigma associated with NSSI and subsequent scarring (Piccirillo et al., 2020). Evidence also suggests that educational or early intervention programs about NSSI and its consequences could target individuals who either do or do not self-harm as a means of reducing the risks of NSSI, future scarring, stigma, and shame (Burke et al., 2019; Piccirillo et al., 2020). One potential strategy to address stigmatising perceptions and behaviours is facilitating non-judgemental psychoeducational programs in school settings that can provide information about NSSI and the associated risk factors (Piccirillo et al., 2020). Moreover, psychoeducational programs with the potential to reduce stigma may subsequently promote help-seeking behaviour among those with

histories of self-harm who may, or may not yet, have scars (Piccirillo et al., 2020). The results are supported by two commentaries, one particular to the overlooked role of NSSI scarring (Lewis, 2016) and another particular to stigma and the lived experience of NSSI (Hasking et al., 2022), as well as a recent review endorsing the use of a person-centred framework with individuals presenting with NSSI histories (Lewis & Hasking, 2021).

Literature Limitations and Directions for Future Research

This scoping review identified several limitations of the studies and gaps in the research, which may provide directions for future research. Although the evidence provides useful information particular to the psychosocial, quality of life, and recovery outcomes, as well as practice and care recommendations for individuals with NSSI scars, the studies did not tend to focus on this specifically; therefore, conducting future studies particular to the topics in question may strengthen the results of this scoping review. In particular, few studies reported the impacts on clinical and personal recovery, or discerned their differences, and the results from this scoping review indicate these are important aspects to consider given the unique nature of NSSI scar experiences, whether positive, negative (Bachtelle & Pepper, 2015; Chandler, 2014; Kristen et al., 2024), or at times ambivalent (Lewis & Mehrabkhani, 2016). Lewis's (2016) commentary on the overlooked role of NSSI scarring and Lewis and Hasking's (2021) recent review endorsing the use of a person-centred framework for individuals with histories of NSSI support the results and suggestions of this scoping review.

Furthermore, although population and scar characteristics were recorded in the studies, some studies did not report some of these characteristics. In general, the participants in the studies reviewed were predominantly white, heterosexual females. Therefore, this scoping review indicates the results are limited and cannot be generalised to all populations. The scoping review indicates that additional research to evaluate any similarities or differences associated with various demographics and aspects of culture is recommended. Additionally, owing to the lack of scar characteristics captured in most of the studies, which may hold implications for identifying risk to improve recovery support (Burke et al., 2016; Chandler, 2014), future research should include detailed reports on scar locations, the extent of scarring, and the methods of self-injury. This will enhance understanding of NSSI scarring and strengthen the results of this scoping review.

Moreover, considering the evidence indicates that some individuals struggle more with the stigma and shame associated with NSSI scars, while others may be more resilient (Bachtelle & Pepper, 2015; Chandler, 2014; Kendall et al., 2021; Kristen et al., 2024; Lewis & Mehrabkhani, 2016), future research exploring the intersections of population, scar characteristics, and the impacts of scarring may provide greater insight into the differing experiences. Incorporating an intersectional approach within therapeutic practice is essential for culturally appropriate and person-centred care (Ratts, 2017), which future research could consider. Additionally, while various

methodologies were utilised in the studies reviewed, most were quantitative by design. Therefore, the results of this scoping review may be strengthened by additional qualitative or mixed methods research that further explores the unique experiences and impacts of NSSI scars on people who live with them.

Strengths and Limitations

To the author's knowledge, this is the first scoping review to explore what is known about the psychosocial, quality of life, and recovery impacts, as well as care and practice recommendations, associated with self-harm scars. The results are therefore relevant for therapists supporting people with histories of self-harm who may have scars, as well as those currently self-harming who may be at increased risk of developing scars. Additionally, the results from this review can inform therapist education and practice, as well as provide avenues for future research particular to the experiences and needs of those with NSSI scars. Furthermore, this scoping review was guided by the methodological recommendations for scoping reviews outlined by the JBI (Peters et al., 2020) and PRISMA-ScR (Tricco et al., 2018), and thorough search strategies were developed and conducted in several databases to ensure the review captured relevant studies for screening and analysis. The scoping review presented empirical evidence on the possible psychosocial, quality of life, and recovery impacts on individuals with NSSI scars, which may have implications for practice, policy, and future research.

While this scoping review was limited to exploring empirical evidence, it is expected that future results gained from exploring the grey literature will support the current results. Additionally, while critical appraisal of the evidence was not performed for this review since it is not required for scoping reviews (Peters et al., 2020), it may be considered a limitation. This review may also have been limited by excluding papers for which there was no English version available. Given these limitations, the author notes that the results of this scoping review should be considered with caution, and that further research to validate the results is recommended.

Conclusion

While empirical research specifically associated with the psychosocial, quality of life, and recovery impacts of NSSI scars is limited, this scoping review provides insights into the potential experiences of individuals with NSSI scars that have implications for future practice and research. Psychosocial, quality of life, and recovery impacts, as found by this scoping review, tended to be bidirectional and reciprocal, whether positively or negatively experienced. Thus, it is suggested that therapists evaluate the unique psychosocial and quality of life experiences of individuals presenting with NSSI scars to better guide practice, while also being mindful of broader social discourses and personal biases that may affect the individual and therapeutic relationship.

Additionally, the needs of individuals with NSSI scars may vary, and many people with NSSI scars may not seek support specifically for scarring owing to adverse consequences such as stigma and shame. However, therapists could enhance person-centred care for individuals presenting with current or historical self-harm by assessing for NSSI scars and evaluating the intersecting psychosocial, quality of life, population, and scar characteristics that may perpetuate distress and affect personal or clinical recovery.

Besides being adept at applying psychological approaches to support individual needs—for example, utilising cognitive restructuring for unhelpful beliefs, graduated exposure for unpleasant memories, or compassion-focused acceptance and mindfulness approaches for struggles with shame and stigma—therapists may improve their practice by offering access to available medical or cosmetic scar interventions. Moreover, at a systemic level, it becomes an ethical responsibility of therapists to promote acceptance narratives, such as through online platforms, by facilitating psychoeducational and early intervention programs in settings like schools, for example, which may aid in deconstructing stigma and shame.

This scoping review highlighted possibilities for further research, such as exploring possible differences in the experienced impacts of NSSI scars within different cultural demographics and improving the evaluation of population and scar characteristics. Furthermore, future research could consider the intersecting impacts of population and scar characteristics on psychosocial experiences, quality of life, and outcomes of personal and clinical recovery. Exploring clinical and recovery outcomes for those who may have engaged support for NSSI scars may also be beneficial. This review also highlighted that additional qualitative or mixed methods research may strengthen the results.

Finally, this scoping review has presented the available published empirical evidence associated with the impacts of NSSI scars on psychosocial functioning, quality of life, and recovery. It is hoped this review might promote awareness and insight to support therapeutic practice and the implementation of public health or systemic interventions. It is also hoped this scoping review encourages avenues for further research to improve understanding and address the unique support and wellbeing needs of individuals who may be living with self-harm scars.

References

Acikel, C., Ergun, O., Ulkur, E., Servet, E., & Celikoz, B. (2005). Camouflage of self-inflicted razor blade incision scars with carbon dioxide laser resurfacing and thin skin grafting. *Plastic and Reconstructive Surgery*, *116*(3), 798–804. https://doi.org/10.1097/01.prs.0000176256.87404.dd

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425787

Ammerman, B. A., Hong, M., Sorgi, K., Park, Y., Jacobucci, R., & McCloskey, M. S. (2019). An examination of individual forms of nonsuicidal self-injury. *Psychiatry Research*, *278*, 268–274. https://doi.org/10.1016/j.psychres.2019.06.029

Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology*, *41*(1), 29–42. https://doi.org/10.1348/014466502163778

Bachtelle, S. E., & Pepper, C. M. (2015). The physical results of nonsuicidal self-injury: The meaning behind the scars. *The Journal of Nervous and Mental Disease*, *203*(12), 927–933. https://doi.org/10.1097/NMD.0000000000000398

Beck, A. T., & Steer, R. A. (1991). *Manual for the Beck Scale for Suicide Ideation*. Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. (1996). Beck Depression Inventory–II (BDI-II). In *APA PsycTests*. https://doi.org/10.1037/t00742-000

Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R. D., Domsalla, M., Chapman, A. L., Steil, R., Philipsen, A., & Wolf, M. (2009). The short version of the Borderline Symptom List (BSL-23): Development and initial data on psychometric properties. *Psychopathology*, *42*(1), 32–39. https://doi.org/10.1159/000173701

Brown, A. C., Latham, C., Danquah, A. N., Dunlop, B. J., & Taylor, P. J. (2022). "Cover up your arms, you're triggering people": A mixed-methods investigation of shame in those who self-injure. *Psychology & Psychotherapy: Theory, Research & Practice*, *95*(3), 701–716. https://doi.org/10.1111/papt.12394

Brown, T. A., Cash, T. F., & Mikulka, P. J. (1990). Attitudinal body-image assessment: Factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment*, *55*(1/2), 135–144. https://doi.org/10.1080/00223891.1990.9674053

Burke, T. A., Ammerman, B. A., Hamilton, J. L., Stange, J. P., & Piccirillo, M. (2020). Nonsuicidal self-injury scar concealment from the self and others. *Journal of Psychiatric Research*, *130*, 313–320. https://doi.org/10.1016/j.jpsychires.2020.07.040

Burke, T. A., Hamilton, J. L., Cohen, J. N., Stange, J. P., & Alloy, L. B. (2016). Identifying a physical indicator of suicide risk: Non-suicidal self-injury scars predict suicidal ideation and suicide attempts. *Comprehensive Psychiatry*, *65*, 79–87. https://doi.org/10.1016/j.comppsych.2015.10.008

Burke, T. A., Jacobucci, R., Ammerman, B. A., Piccirillo, M., McCloskey, M. S., Heimberg, R. G., & Alloy, L. B. (2018). Identifying the relative importance of non-suicidal self-injury features in classifying suicidal ideation, plans, and behavior using exploratory data mining. *Psychiatry Research*, *262*, 175–183. https://doi.org/10.1016/j.psychres.2018.01.045

Burke, T. A., Olino, T., & Alloy, L. (2017). Initial psychometric validation of the Non-Suicidal Self-Injury Scar Cognition Scale. *Journal of Psychopathology & Behavioral Assessment*, *39*(3), 546–562. https://doi.org/10.1007/s10862-017-9595-9

Burke, T. A., Piccirillo, M. L., Moore-Berg, S. L., Alloy, L. B., & Heimberg, R. G. (2019). The stigmatization of nonsuicidal self-injury. *Journal of Clinical Psychology*, *75*(3), 481–498. https://doi.org/10.1002/jclp.22713

Cann, A., Calhoun, L. G., Tedeschi, R. G., Triplett, K. N., Vishnevsky, T., & Lindstrom, C. M. (2011). Assessing posttraumatic cognitive processes: The Event Related Rumination Inventory. *Anxiety, Stress, & Coping*, *24*(2), 137–156. https://doi.org/10.1080/10615806.2010.529901

Chandler, A. (2014). Narrating the self-injured body. *Medical Humanities*, *40*(2), 111–116. https://doi.org/10.1136/medhum-2013-010488

Cook, D. R. (1988). Measuring shame: The Internalized Shame Scale. *Alcoholism Treatment Quarterly*, *4*(2), 197–215. https://doi.org/10.1300/J020v04n02_12

Cook, D. R., & Coccimiglio, J. (2001). *Internalized Shame Scale: Technical manual*. Multi-Health Systems.

De Luca, L., Pastore, M., Palladino, B. E., Reime, B., Warth, P., & Menesini, E. (2023). The development of non-suicidal self-injury (NSSI) during adolescence: A systematic review and Bayesian meta-analysis. *Journal of Affective Disorders*, *339*, 648–659. https://doi.org/10.1016/j.jad.2023.07.091

Draaijers, L., Tempelman, F. R. H., Botman, Y. A. M., Tuinebreijer, W., Middelkoop, E., Kreis, R. W., & van Zuijlen, P. (2004). The Patient and Observer Scar Assessment Scale: A reliable and feasible tool for scar evaluation. *Plastic & Reconstructive Surgery*, *113*, 1960–1965. https://doi.org/10.1097/01.PRS.0000122207.28773.56

Dyer, A., Hennrich, L., Borgmann, E., White, A. J., & Alpers, G. W. (2013). Body image and noticeable self-inflicted scars. *Journal of Nervous and Mental Disease*, *201*(12), 1080–1084. https://doi.org/10.1097/nmd.0000000000000057

Dyer, A., Mayer-Eckhard, L., White, A. J., & Alpers, G. W. (2015). The role of scar origin in shaping men's body image. *American Journal of Men's Health*, *9*(2), 115–123. https://doi.org/10.1177/1557988314531446

Edriss, M., Monconduit, R., St Claire, K., Akers, K. G., & Mehregan, D. (2022). Treatment of self-harm scars: A scoping review. *Dermatologic Surgery*, *48*(8), 809–814. https://doi.org/10.1097/dss.0000000000003499

Erreygers, S., Symons, M., Vandebosch, H., & Pabian, S. (2022). Fictitious online victimization: Exploration and creation of a measurement instrument. *New Media & Society*, *24*(1), 156–177. https://doi.org/10.1177/1461444820960079

Finlay, A. Y., & Khan, G. K. (1994). Dermatology Life Quality Index (DLQI)—A simple practical measure for routine clinical use. *Clinical and Experimental Dermatology*, *19*(3), 210–216. https://doi.org/10.1111/j.1365-2230.1994.tb01167.x

Gratz, K. L. (2001). Measurement of deliberate self-harm: Preliminary data on the Deliberate Self-Harm Inventory. *Journal of Psychopathology and Behavioral Assessment*, *23*(4), 253–263. https://doi.org/10.1023/A:1012779403943

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480. https://doi.org/10.1037/0022-3514.74.6.1464

Gutridge, K., Dunlop, B. J., Patterson, M., Mitchell, H., Philbin, J., Walker, T., Ranote, S., Robinson, L., & Abel, K. M. (2019). An exploratory study of women prisoners' attitudes towards their self-harm and the use of medical skin camouflage. *Journal of Forensic Psychiatry and Psychology*, *30*(1), 167–184. https://doi.org/10.1080/14789949.2018.1530285

Hasking, P., Staniland, L., Boyes, M., & Lewis, S. P. (2022). Adding insult to injury: The accumulation of stigmatizing language on individuals with lived experience of self-injury. *Journal of Nervous and Mental Disease*, *210*(9), 645–649. https://doi.org/10.1097/NMD.0000000000001524

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*(2), 227–239. https://doi.org/10.1348/014466505X29657

Ho, W., Jones, C. D., & Anderson, W. (2018). Deliberate self-harm scars: Review of the current literature. *JPRAS Open*, *16*, 109–116. https://doi.org/10.1016/j.jpra.2018.03.001

Hyun-ui, A., Hye-sun, J., Ji-won, M., & Ki-seon, S. (2013). Validation of the Event Related Rumination Inventory in a Korean population. *Cognitive Behavioral Therapy*, *13*(1), 149–172.

Izard, C. E., Libero, D. Z., Putnam, P., & Haynes, O. M. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, *64*(5), 847–860. https://doi.org/10.1037//0022-3514.64.5.847

Karpinski, A., & Steinman, R. B. (2006). The Single Category Implicit Association Test as a measure of implicit social cognition. *Journal of Personality and Social Psychology*, *91*(1), 16–32. https://doi.org/10.1037/0022-3514.91.1.16

Kendall, N., MacDonald, C., & Binnie, J. (2021). Blogs, identity, stigma and scars: The legacy of self-injury. *Mental Health Review Journal*, *26*(3), 258–278. https://doi.org/10.1108/MHRJ-06-2020-0041

Klonsky, E. D., & Glenn, C. R. (2009). Assessing the functions of non-suicidal self-injury: Psychometric properties of the Inventory of Statements About Self-injury (ISAS). *Journal of Psychopathology & Behavioral Assessment*, *31*(3), 215–219. https://doi.org/10.1007/s10862-008-9107-z

Klonsky, E. D., & Olino, T. M. (2008). Identifying clinically distinct subgroups of self-injurers among young adults: A latent class analysis. *Journal of Consulting and Clinical Psychology*, *76*(1), 22–27. https://doi.org/10.1037/0022-006X.76.1.22

Kristen, A., Lecchi, T., Loades, M. E., & Midgley, N. (2024). "I can't escape my scars, even if I do get better": A qualitative exploration of how adolescents talk about their self-harm and self-harm scars during cognitive behavioural therapy for depression. *Clinical Child Psychology and Psychiatry*, *29*(4), 1277–1295. https://doi.org/10.1177/13591045241241348

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Lee, I. S., & Choi, H. R. (2005). Assessment of shame and its relationship with maternal attachment, hypersensitive narcissism and loneliness. *Korean Journal of Counselling Psychotherapy*, *17*, 651–670.

Lee, S. J., Cho, Y. J., & Hyun, M. H. (2021). Self-Injurious Thoughts and Behaviors Interview-Korean Version: Psychometric properties. *Psychiatry Investigation*, *18*(2), 157–165. https://doi.org/10.30773/pi.2020.0302

Lewis, S. P. (2016). The overlooked role of self-injury scars: Commentary and suggestions for clinical practice. *Journal of Nervous and Mental Disease*, *204*(1), 33–35. https://doi.org/10.1097/nmd.0000000000000436

Lewis, S. P., & Hasking, P. A. (2021). Self-injury recovery: A person-centered framework. *Journal of Clinical Psychology*, *77*(4), 884–895. https://doi.org/10.1002/jclp.23094

Lewis, S. P., & Mehrabkhani, S. (2016). Every scar tells a story: Insight into people's self-injury scar experiences. *Counselling Psychology Quarterly*, *29*(3), 296–310. https://doi.org/10.1080/09515070.2015.1088431

Lucas, P. J., Baird, J., Arai, L., Law, C., & Roberts, H. M. (2007). Worked examples of alternative methods for the synthesis of qualitative and quantitative research in systematic reviews. *BMC Medical Research Methodology*, *7*, Article 4. https://doi.org/10.1186/1471-2288-7-4

McEvoy, D., Brannigan, R., Cooke, L., Butler, E., Walsh, C., Arensman, E., & Clarke, M. (2023). Risk and protective factors for self-harm in adolescents and young adults: An umbrella review of systematic reviews. *Journal of Psychiatric Research*, *168*, 353–380. https://doi.org/10.1016/j.jpsychires.2023.10.017

Munn, Z., Aromataris, E., Tufanaru, C., Stern, C., Porritt, K., Farrow, J., Lockwood, C., Stephenson, M., Moola, S., Lizarondo, L., McArthur, A., Peters, M., Pearson, A., & Jordan, Z. (2019). The development of software to support multiple systematic review types: The Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI). *International Journal of Evidence-Based Healthcare*, *17*(1), 36–43. https://doi.org/10.1097/xeb.0000000000000152

Mutamba, M., Wong, V., & Van Katwyk, T. (2023). Getting under the skin of society: Embodiment, belonging, and the power of counter-listening. *Social Work in Mental Health*, *21*(2), 129–144. https://doi.org/10.1080/15332985.2022.2094746

Myung, J., Kwon, Y. S., Hyun, M. H., & Lee, S. J. (2024). Development and validation of the Korean version of the Multidimensional Non-Suicidal Self-Injury Scar Scale. *Psychiatry Investigation*, *21*(1), 83–91. https://doi.org/10.30773/pi.2023.0193

National Institute for Health and Care Excellence. (2022). *Self-harm: Assessment, management and preventing recurrence (NICE Guideline 225)*. https://www.nice.org.uk/guidance/ng225/resources/selfharm-assessment-management-and-preventing-recurrence-pdf-66143837346757

Ngaage, M., & Agius, M. (2018). The psychology of scars: A mini-review. *Psychiatria Danubina*, *30*(Suppl 7), 633–638. https://psychiatria-danubina.com/UserDocsImages/pdf/dnb_vol30_noSuppl%207/dnb_vol30_noSuppl%207_633.pdf

Nock, M. K., Holmberg, E. B., Photos, V. I., & Michel, B. D. (2007). Self-Injurious Thoughts and Behaviors Interview: Development, reliability, and validity in an adolescent sample. *Psychological Assessment*, *19*(3), 309–317. https://doi.org/10.1037/1040-3590.19.3.309

Oh, S. M., Min, K. J., & Park, D. B. (1999). A study on the standardization of the Hospital Anxiety and Depression Scale for Koreans: A comparison of normal, depressed and anxious groups. *Journal of Korean Neuropsychiatric Association*, *38*(2), 289–296.

Overton, P. G., Markland, F. E., Taggart, H. S., Bagshaw, G. L., & Simpson, J. (2008). Self-disgust mediates the relationship between dysfunctional cognitions and depressive symptomatology. *Emotion*, *8*(3), 379–385. https://doi.org/10.1037/1528-3542.8.3.379

Park, M. R., & Yon, L. J. (2008). Construct exploration and validation of Self-Concealment Scale. *Korean Journal of Counseling*, *9*, 1547–1565. https://doi.org/10.15703/kjc.9.4.200812.1547

Peter, K. A., Helfer, T., Golz, C., Halfens, R. J. G., & Hahn, S. (2022). Development of an interrelated definition of psychosocial health for the health sciences using concept analysis. *Journal of Psychosocial Nursing and Mental Health Services*, *60*(6), 19–26. https://doi.org/10.3928/02793695-20211214-02

Peters, M. D. J., Godfrey, C., McInerney, P., Munn, Z., Tricco, A. C., & Khalil, H. (2020). Scoping reviews. In E. Aromataris & Z. Munn (Eds.), *JBI reviewer's manual*. JBI. https://doi.org/10.46658/JBIMES-20-12

Piccirillo, M. L., Burke, T. A., Moore-Berg, S. L., Alloy, L. B., & Heimberg, R. G. (2020). Self-stigma toward nonsuicidal self-injury: An examination of implicit and explicit attitudes. *Suicide and Life Threatening Behavior*, *50*(5), 1007–1024. https://doi.org/10.1111/sltb.12640

Plener, P. L., Schumacher, T. S., Munz, L. M., & Groschwitz, R. C. (2015). The longitudinal course of non-suicidal self-injury and deliberate self-harm: A systematic review of the literature. *Borderline Personality Disorder and Emotion Dysregulation*, *2*(1), Article 2. https://doi.org/10.1186/s40479-014-0024-3

Ratts, M. J. (2017). Charting the center and the margins: Addressing identity, marginalization, and privilege in counseling. *Journal of Mental Health Counseling*, *39*(2), 87–103. https://doi.org/10.17744/mehc.39.2.01

Reinholz, M., Poetschke, J., Schwaiger, H., Epple, A., Ruzicka, T., & Gauglitz, G. G. (2015). The Dermatology Life Quality Index as a means to assess life quality in patients with different scar types. *Journal of the European Academy of Dermatology and Venereology*, *29*(11), 2112–2119. https://doi.org/10.1111/jdv.13135

Sansone, R. A., Wiederman, M. W., & Sansone, L. A. (1998). The Self-Harm Inventory (SHI): Development of a scale for identifying self-destructive behaviors. *Journal of Clinical Psychology*, *54*(7), 973–983. https://doi.org/10.1002/(SICI)1097-4679(199811)54:7<973::AID-JCLP11>3.0.CO;2-H

Seehausen, A., Brenner, C., Wallis-Simon, H., Ripper, S., Otte, M., Hartmann, B., & Renneberg, B. (2010). Das körperbild bei menschen mit narben und entstellungen—Ein fragebogen zur erfassung des körperbildes nach brandverletzungen [Body image of people with scars and disfigurement—A questionnaire for the assessment of body image after burn injury]. *Verhaltenstherapie & Verhaltensmedizin*, *31*(4), 399–414. https://psycnet.apa.org/record/2011-03927-004

Slade, M., & Wallace, G. (2017). Recovery and mental health. In M. Slade, L. Oades, & A. Jarden (Eds.), *Wellbeing, recovery and mental health* (pp. 24–34). Cambridge University Press. https://doi.org/10.1017/9781316339275.004

Song, S. H., Heon, K. K., Lee, H. S., & Joon-ho, P. (2009). Validity and reliability of the Korean version of the Posttraumatic Growth Inventory. *Korean Journal of Health Psychology*, *14*, 193–214. https://doi.org/10.17315/kjhp.2009.14.1.012

Stacy, S. E., Lear, M. K., & Pepper, C. M. (2017). The importance of origin: Differences in interpretation of self-inflicted versus environmentally-inflicted scars. *Personality and Individual Differences*, *116*, 92–95. https://doi.org/10.1016/j.paid.2017.04.035

Takaya, K., Hayashi, R., Aramaki-Hattori, N., Okabe, K., Sakai, S., Asou, T., & Kishi, K. (2020). Treatment of deliberate self-harm scars with rotated thin-skin graft and minced-skin graft. *Plastic and Reconstructive Surgery—Global Open*, *8*(8), Article e3020. https://doi.org/10.1097/gox.0000000000003020

Tangney, J. P., Dearing, R. L., Wagner, P. E., & Gramzow, R. (2000). *Test of Self-Conscious Affect–3 (TOSCA-3)* [Dataset]. APA PsycTests. https://doi.org/10.1037/t06464-000

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, *9*(3), 455–471. https://doi.org/10.1002/jts.2490090305

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*(3), 247–259. https://doi.org/10.1023/A:1023910315561

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., Moher, D., Peters, M. D. J., Horsley, T., Weeks, L., Hempel, S., Akl, E. A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M. G., Garritty, C., & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, *169*(7), 467–473. https://doi.org/10.7326/M18-0850

Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E., Jr. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. *Journal of Consulting and Clinical Psychology*, *76*(1), 72–83. https://doi.org/10.1037/0022-006X.76.1.72

Washburn, J. J., Juzwin, K. R., Styer, D. M., & Aldridge, D. (2010). Measuring the urge to self-injure: Preliminary data from a clinical sample. *Psychiatry Research*, *178*(3), 540–544. https://doi.org/10.1016/j.psychres.2010.05.018

Witt, K. G., Hetrick, S. E., Rajaram, G., Hazell, P., Taylor Salisbury, T. L., Townsend, E., & Hawton, K. (2021a). Interventions for self-harm in children and adolescents. *Cochrane Database of Systematic Reviews*, *3*, Article CD013667. https://doi.org/10.1002/14651858.CD013667.pub2

Witt, K. G., Hetrick, S. E., Rajaram, G., Hazell, P., Taylor Salisbury, T. L., Townsend, E., & Hawton, K. (2021b). Psychosocial interventions for self-harm in adults. *Cochrane Database of Systematic Reviews*, *4*, Article CD013668. https://doi.org/10.1002/14651858.CD013668.pub2

Zanarini, M. C., Vujanovic, A. A., Parachini, E. A., Boulanger, J. L., Frankenburg, F. R., & Hennen, J. (2003). A screening measure for BPD: The McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD). *Journal of Personality Disorders*, *17*(6), 568–573. https://doi.org/10.1521/pedi.17.6.568.25355

Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, *67*(6), 361–370. https://doi.org/10.1111/j.1600-0447.1983.tb09716.x

Ziolkowski, N., Kitto, S. C., Jeong, D., Zuccaro, J., Adams-Webber, T., Miroshnychenko, A., & Fish, J. S. (2019). Psychosocial and quality of life impact of scars in the surgical, traumatic and burn populations: A scoping review protocol. *BMJ Open*, *9*(6), Article e021289. https://doi.org/10.1136/bmjopen-2017-021289

Appendix A. Search Strategies

Database	Search strings	Limiters
CINAHL Ultimate (EBSCOhost)	MH "Self-injurious behavior" OR TI ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") OR AB ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") OR SU ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") AND (MH Cicatrix OR TI ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) OR AB ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) OR SU ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) AND MH ("Behavior and behavior mechanisms") OR MH ("Mental health") OR TI (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*) OR AB (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*) OR SU (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*)	English Full text
PsycINFO (EBSCOhost)	MA "Self-injurious behavior" OR TI ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") OR AB ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") OR KW ("Self harm*" OR NSSI OR "Self injur*" OR "Self inflict*" OR "Non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "Intentional self harm*" OR "Deliberate self-harm*") AND MA cicatrix OR TI ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) OR AB ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) OR KW ("Self harm scar*" OR "NSSI scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR Scar OR Scars OR Scarring) AND (MA mental health OR MA mental health recovery OR MA secondary prevention) OR TI (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*) OR AB (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*) OR KW (Psycho* OR Soci* OR "Quality of life" OR Adapt* OR Attitude OR "Defence mechanism*" OR Motivat* OR Personality OR Cogniti* OR Thought* OR Meaning OR Perception OR emotion* OR Esteem OR Confidence OR Wellbeing OR Well-being OR Coping OR Recover* OR Maint* OR Relaps* OR behavio* OR Life*)	English Full Text
PubMed	("Self-Injurious Behavior"[Mesh] OR "Self harm*"[Text Word] OR NSSI[Text Word] OR "Self injur*"[Text Word] OR "Self inflict*"[Text Word] OR "Non-suicidal self-injur*"[Text Word] OR "self-injurious behavior*"[Text Word] OR "self-injurious behaviour*"[Text Word] OR "Intentional self harm*"[Text Word] OR "Deliberate self-harm*"[Text Word]) AND ("Cicatrix"[Mesh] OR "Self harm scar*"[Text Word] OR "NSSI scar*"[Text Word] OR "self-inflicted scar*"[Text Word] OR "hesitation mark*"[Text Word] OR Scar[Text Word] OR Scars[Text Word] OR Scarring[Text Word]) AND ("Behavior and Behavior Mechanisms"[Mesh] OR "Mental Health"[Mesh] OR "Mental Health Recovery"[Mesh] OR "Secondary Prevention"[Mesh] OR Psycho*[Text Word] OR Soci*[Text Word] OR "Quality of life"[Text Word] OR Adapt*[Text Word] OR Attitude[Text Word] OR "Defence mechanism*"[Text Word] OR Motivat*[Text Word] OR Personality[Text Word] OR Cogniti*[Text Word] OR Thought*[Text Word] OR Meaning[Text Word] OR Perception[Text Word] OR emotion*[Text Word] OR Esteem[Text Word] OR Confidence[Text Word] OR Wellbeing[Text Word] OR Well-being[Text Word] OR Coping[Text Word] OR Recover*[Text Word] OR Maint*[Text Word] OR Relaps*[Text Word] OR behavio*[Text Word] OR Life*[Text Word]) NOT (Suicid*[Text Word] OR "self-immolation"[Text Word] OR "skin picking"[Text Word] OR Excoriation*[Text Word])	English Full Text
Scopus	(TITLE-ABS-KEY ("self harm*" OR nssi OR "self injur*" OR "self inflict*" OR "non-suicidal self-injur*" OR "self-injurious behavior*" OR "self-injurious behaviour*" OR "intentional self harm*" OR "deliberate self-harm*") AND TITLE-ABS-KEY ("self harm scar*" OR "nssi scar*" OR "self-inflicted scar*" OR "hesitation mark*" OR scar OR scars OR scarring) AND TITLE-ABS-KEY (psycho* OR soci* OR "quality of life" OR adapt* OR attitude OR "defence mechanism*" OR motivat* OR personality OR cogniti* OR thought* OR meaning OR perception OR emotion* OR esteem OR confidence OR wellbeing OR well-being OR coping OR recover* OR maint* OR relaps* OR behavio* OR life*)) AND (LIMIT-TO (LANGUAGE , "English"))	English

Appendix B. Draft Data Extraction Tool

Study details
Citation details (e.g., author/s, date, title, journal, volume, issue, pages)
Study design
Location/country of studies
Population characteristics (e.g., age, gender, number of participants)
Study aims
Study outcome measures
Study results
Limitations
Details/results extracted from source of evidence (relating to the concept of the scoping review)
Scar characteristics (e.g., type and location)
Impacts on psychosocial functioning and quality of life (e.g., emotional and social impacts, and sense of wellbeing)
Impacts on clinical recovery (e.g., relapse or lapse to resume NSSI or not)
Impacts on personal recovery (e.g., CHIME—Connectedness, Hope and optimism about the future, Identity, Meaning in life, and Empowerment)
Recommendations for clinical practice and care