



(REVIEW ARTICLE)



Deliberate self-harm: A review of measurement aspects

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Abstract

Deliberate self harm (DSH) refers to the intentional, direct injury of one's own body tissue without suicidal intent. This behavior is a significant mental health concern, particularly among adolescents and young adults. Understanding the measurement and theoretical aspects of DSH is crucial for effective assessment, intervention, and prevention efforts. Regarding measurement, the focus of this narrative, several self-report and clinical assessment tools have been developed to evaluate the prevalence, severity, and characteristics of DSH. These instruments assess various dimensions of DSH, such as frequency, methods, motivations, and associated psychosocial factors. Theoretically, DSH has been conceptualized within several frameworks, including the behavioral, neurological, socio-cultural, phenomenological, biological and eclectic respectively-although these are not the concerns in this paper. Clinicians should be trained to assess and address DSH using evidence-based practices, such as cognitive-behavioral therapy, dialectical behavior therapy, and medication management. Thereby, we can better support individuals struggling with this complex and often misunderstood behavior.

Keywords: Suicidal Behavior; Self-Infliction; Self Injurious Behaviour; Self-Mutilation; Parasuicide; Partial Suicide; Tests or tools for assessment

1. Introduction

In the philosophy of science, there is an ongoing debate about the role of theories, conceptual frameworks, and perspectives versus empirical tests and measurements. Both sides have compelling arguments. When theories take precedence, they provide the guiding principles that shape research. Conversely, when empirical observations and tools are prioritized, they can drive the development of new theories. The key is maintaining a dynamic relationship between the conceptual and the empirical, where they continuously inform and shape each other in the pursuit of scientific understanding (Bandalos, 2018).

1.1. Meaning and Definitions

Deliberate Self Harm (DSH) is known by various terms, but it generally refers to the deliberate, self-inflicted physical harm to one's body without the intent to die. The behavior is carried out with conscious intent, rather than being driven by unconscious motivations or accident-proneness. Individuals who engage in DSH may report that they do not wish to die as a result of their actions. Defining DSH is problematic, as attempts have often resulted in vague and inconsistent definitions. However, the key aspect is the conscious, deliberate self-infliction of physical harm without suicidal intent (Angelotta, 2015; Hicks & Hinck, 2008).

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1.2. Classification

Classifying DSH is a complex and challenging area of research. Proposed taxonomies have been based on various factors, such as the function or intent of the behavior, the severity and potential lethality, and whether it is impulsive or premeditated. Some models differentiate between isolated incidents and chronic, repetitive patterns of DSH. Linkages between self-harm and psychiatric conditions have informed certain classification systems. Figueroa's taxonomy is likely a comprehensive model that provides a structured way to understand the multifaceted nature of DSH behaviors, though the specific details would need to be reviewed. The complexity arises from the diverse motivations, underlying psychological factors, and the need to capture the nuances of this behavior on a spectrum rather than through a single, universal definition (Burešová, 2016; Figueroa, 1988).

A previous research has categorized DSH in People with Intellectual Disabilities (PWIDs) into several forms - stereotypic (head banging, self-hitting, lip/hand chewing); severe/life-threatening (castration, eye enucleation, limb amputation); isolated/unplanned (as in psychosis, schizophrenia, organic intoxication, and transsexualism); and, compulsive (hair pulling, skin pricking, nail biting, skin cutting, skin burning, self-hitting seen in borderline personality or eating disorders). This comprehensive taxonomy aimed to capture the diverse manifestations of SMB in this population (Venkatesan, 2024).

1.3. Assessment, Methods & Techniques

The review on DSH should provide an overview of the available assessment methods, diagnostic criteria, and empirical research instruments used to operationalize and measure the concept in the literature. This information can then inform a critical analysis of the theoretical frameworks underlying DSH. However, the review needs to integrate both the conceptual and empirical dimensions to ensure a balanced and comprehensive synthesis that considers theory and measurement in conjunction. This approach will help shed light on how the term "SDSH" has been defined, assessed, and studied in the research (Simeon & Hollander, 2001). Measuring DSH is crucial for understanding the prevalence, correlates, and underlying mechanisms of this behavior. Various assessment methods and empirical research instruments were enlisted as developed to operationalize and quantify DSH.

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1.4. Need, Rationale and Justification

Is there a need for separately reviewing the available tools and measurements? Has any comprehensive listing on assessments been undertaken for their effective evidence-based assessments, intervention, and management? Do the existing self-report and clinical assessment tools adequately capture the unique experiences and challenges faced by these people? Do the existing measures on DSH fully account for the complex interplay of disability-related factors, such as chronic pain, functional limitations, and social stigma? Are there well-developed or adapted and validated measures of DSH to improve diagnosis, treatment planning, and monitoring of progress, leading to better outcomes? Can investigating these gaps in knowledge lead to improved care and support for this vulnerable group?

1.5. Research Questions

The research area on measurements of DSH in PWIDs is wide open, with many unanswered questions. What are the types, rates, patterns, methods used, severity levels, unique experiences, challenges faced, accessibility factors barriers to accessing support, risk factors, social environmental factors, theories, models, perspectives, triggers, consequences, help-seeking patterns, prevention and management, effective interventions, role of policies, caregivers, and co-morbidities associated with such behaviors?

1.6. Objectives

In short, the main aim of this focussed review was to compile research contributions on or about the available tools and measurements on DSH. Although important and needed, the review does not cover review of measurement tools on DSH in parents, siblings or carers of people who harm themselves.

2. Method

A survey method was used to gather titles of research articles in English from national and international journals in the fields of psychology, psychiatry, social work, nursing, public health, rehabilitation science, cultural studies, and disability impairments. Various online and offline databases and search engines such as Google Scholar, PsycINFO, Research Gate, Web of Science, and PubMed were utilized for the database search.

2.1. Procedure

After entering the raw data on reference listing in an Excel spreadsheet, the codification, categorization, and classification of the themes reflected by the titles included in the study were generated and subjected to inter-observer reliability checks by involving two mutually blinded independent coders for at least a quarter of entries in the overall sample of research articles. This minimized the risk of bias by yielding a robust correlation coefficient ($r: 0.97$). A descriptive and interpretative statistical analysis was carried out by applying measures of non-parametric statistics using IBM SPSS Statistics (Version 27). Effect sizes were analyzed using Cohen's guidelines as 0.91 (Cohen, 1992), which is interpreted as an 'almost perfect agreement' (Landis & Koch, 1977). Face validity is found to be high for the classification of the thematic categories covered by the research papers.

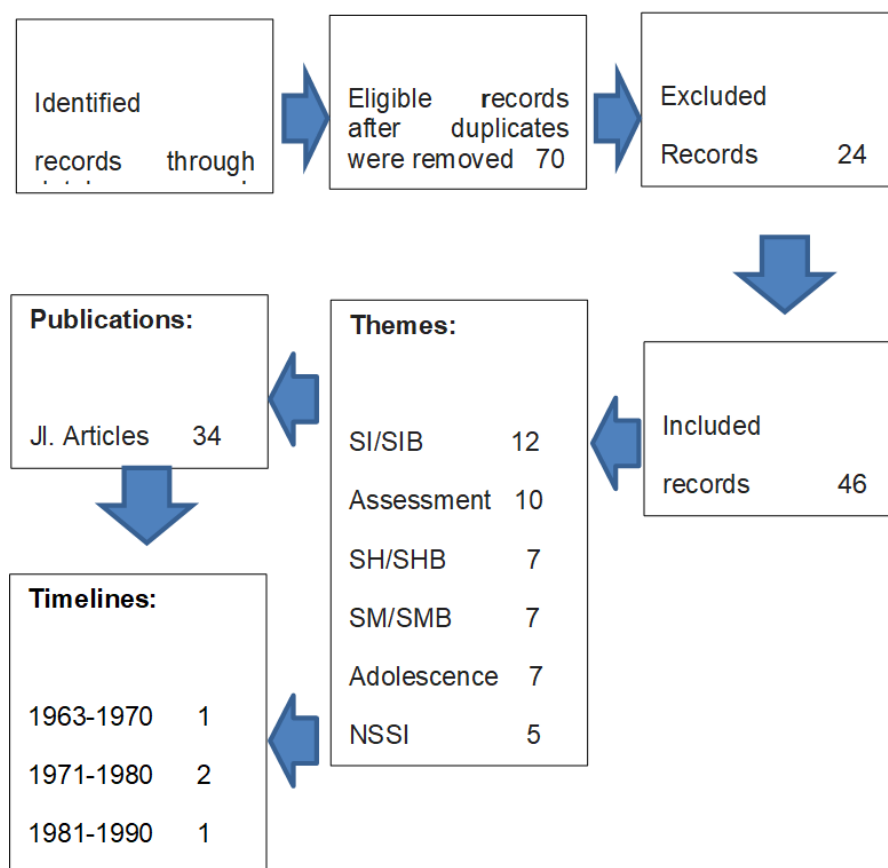


Figure 1 Flow Diagram cum Harvest Plot depicting the procedure and frequency distribution of literature on DSH Measurements included in this review

The analysis 46 compiled research articles upto April 2024 as enlisted from the data bases on internet-based search engines was analyzed using a harvest plot and flow diagram using the "MOOSE" (Meta-analysis of Observational Studies in Epidemiology) guidelines, which cover various aspects of the review process, including background, problem definition, aims or hypothesis statement, study design, mention of qualitative methodology, search strategy, data extraction, statistical analysis, and reporting of results. The analysis aimed to be comprehensive, with efforts to include all available studies, contact with authors, and handling of published and unpublished data. The final report includes details on the relevance of the studies, data classification and coding, statistical methods, sensitivity analysis, assessment of bias, conclusions, and funding sources (Figure 1). The keywords like tools, tests, or measures and

theories, models, or perspectives on self-harm, self-mutilation behavior, non-suicidal self injury, self-injury, self-inflicted harm, or equivalent terms were used.

Chapters from books, and reference books were also included. Excluded were newsletters, magazines, periodicals, unpublished dissertations, seminar proceedings, webinars, conferences, audiovisual materials, research articles not peer reviewed, and incomplete or misleading cross-references from available sources. The ethical issues unique to assessment or testing DSH include respecting diverse ethnic groups, respecting informed consent, and being mindful of their impaired decision making capacity, potential biases, confidentiality, beneficence and non-maleficence, risk of harm, privacy and power dynamics was taken into account. If caregivers or family members are involved, but their interests may conflict with the autonomy. Additionally, they may be more vulnerable to coercion or feelings of obligation to participate (Venkatesan, 2009).

3. Results

The results show that measures of DSH vary in their form, content, administration, scoring, target audience, completion time, and availability. The tools cover a range of domains, including epidemiological, behavioral, psychological, social, intervention, healthcare, and policy aspects. Epidemiological measures assess rates, prevalence, incidence, and demographic factors. Behavioral measures evaluate the types, frequency, severity, methods, patterns, and triggers of DSH. Psychological measures examine the motivations, emotional and cognitive factors, body image, self-perception, and trauma/adverse experiences. Social and environmental measures cover relationships, access to mental health services, stigma, and life stressors. Intervention measures assess the effectiveness of treatments, adherence, relapse prevention, and caregiver involvement. Healthcare utilization measures include emergency visits, service use, and barriers to care. Policy and systems-level measures address the availability and accessibility of mental health resources, regulations, and provider training. The diversity of these measures reflects the complex and multifaceted nature of DSH (Nixon & Heath, 2008).

The analysis of the list of references on tools, tests, and measures of DSH by timelines shows that the first publication is about the use of a projective technique, the Rosenzweig Picture-Frustration Study, on felons and delinquents (Rosenzweig, 1963). This was followed by the use of the same instrument on assaulting and self-injurious women (Rosenzweig, 1978). The development and standardization of formal self-reporting instruments on DSH began only with a tool for the assessment of self-destructive thoughts (Firestone, 1996). Even as of now, there are no more than 10-15 tests available to measure this important construct in clinical psychology. Even the available ones are short, require re-validation by time or content, and have limited published psychometric properties. The titles of available measures are heterogeneous, which challenges prospective users or examiners in determining the most appropriate tool for a given instance.

The published research on DSH is predominantly in the form of original research articles (73.91%), with fewer books (15.22%) and book chapters (10.87%). There appears to be a need for arriving at a consensus on the nomenclature, understanding the nature, content, functions, and dimensions of DSH, and their implications for treatment planning, as a precursor to further research on tool development. The limited availability of assessment tools and techniques for DSH is examined in the following sections. There is no exclusive journal available as yet with distinct title and focus on DSH alone, which is also a growing need of the present times.

3.1. Self-report Techniques

In addition to the Self-Injury Questionnaire (SIQ) and Self-Harm Inventory (SHI) mentioned earlier, other self-report measures of Deliberate Self-Harm (DSH) include the Self-Harm Inventory (Sansone & Sansone, 2010), Ottawa Self Injury Inventory (Nixon et al., 2015), Functional Assessment of Self Mutilation (FASM; Nock & Prinstein, 2004), Deliberate Self Harm Inventory (DSHI; Gratz, 2001), Self-injury Motivation Scale-SII (SIMS-II; Osuch, Noll, & Putnam, 1999), and Self Injury Inventory (SII; Zlotnick et al. 1997). These instruments assess various aspects of DSH, such as the frequency, severity, and methods of self-harm behaviors, as well as the motivations and functions underlying the behavior.

3.2. Clinician-administered measures

In addition to the self-report measures mentioned earlier, there are also clinician-administered tools for evaluating DSH. These include: Clinical Assessment of Nonsuicidal Self-Injury (CANSA; Faura-Garcia, Orue, & Calvete, 2021), Self-Harm Behavior Scale (SHBS; Gutierrez et al., 2001), and Timed Self Injurious Rating Scale (Brasic et al., 1997). These clinician-administered measures can provide a more in-depth evaluation of DSH by incorporating clinical interviews and observations, complementing the information gathered from self-report instruments.

These assessment instruments for DSH vary in terms of their content, purpose, or the specific types of self-injury they target. They may differ in whether they measure the frequency or duration of DSH, as well as the number of items, length, format of instructions, scoring, psychometric properties, norms, or interpretation. For example, the Deliberate Self-Harm Inventory (DSHI) recognizes four types of self-injury, including body alterations like tattoos and piercing, indirect self-harm like substance use or failure to care for oneself, and overt self-injury such as cutting and burning. It also identifies eight reasons for self-harm, including regulation of feelings, communication with self and others, and sensation regulation. Additionally, there are structured interview-based measures, such as the Suicide Attempt Self Injury Interview (Linehan et al. 2006), Self Injurious Thoughts and Behaviors Interview (SITBI; Nock, Holmberg, Photos, & Mitchel, 2007), Parasuicide history interview (Linehan & Comtois, 1996; Linehan, 1993), Firestone Assessment of Self Destructive Thoughts (Firestone & Firestone, 1996). These provide a more in-depth clinical evaluation of DSH by incorporating interview and observational data.

Overall, the diversity of these instruments reflects the multifaceted nature of DSH and the need for a comprehensive assessment approach to capture its various dimensions.

3.3. Screening Measures

In addition to the previously mentioned measures, Ross and Heath (2002) developed a screening tool to assess the prevalence of DSH. Their findings indicate that 13.9% of participants engaged in DSH, with girls reporting higher rates (over 36%) compared to boys. The most common type of self-harm was self-cutting, followed by self-hitting, pinching, scratching, and biting. Furthermore, students who self-mutilated reported significantly higher levels of anxiety and depressive symptoms compared to those who did not engage in self-harm. This screening tool provides insights into the epidemiological aspects of DSH, highlighting the need for early identification and intervention, particularly among adolescent populations.

3.4. Projective Techniques

Projective techniques used for measuring DSH include tools like Thematic Apperception Test (TAT), Rorschach Inkblot Test (Kochinski et al. 2008), Draw-A-Person Test, House-Tree-Person (HTP) Test, Rosenzweig Picture-Frustration Study (Boiko & Lester, 2000; Rosenzweig, 1978; 1963), Sentence Completion Tests (Dawkins, et al., 2021), and Storytelling Techniques (Hilton, 2015). However, it's important to note that these methods should be administered and interpreted by trained mental health professionals to ensure accurate assessment and appropriate clinical interventions. For example, Jacobs-Kayam, Lev-Wiesel and Zohar (2013) found indicators of DSH are expressed in self-figure drawings of female adolescents who were sexually abused. Researchers used a version of Machover's Draw A Person (DAP) Test to detect DSHB in adolescent females who suffered childhood sexual abuse or trauma. While these projective techniques can provide valuable insights into the psychological underpinnings of DSH, they require careful application and interpretation by qualified clinicians to effectively inform the assessment and treatment of this complex behavior.

3.5. Ecological Momentary Assessment

Ecological momentary assessment (EMA) techniques have been used to capture DSH in real-time, for providing detailed information about the antecedents, triggers, and contexts associated with self-harm episodes. The choice of assessment method depends on the research or clinical objectives, the population being studied, and available resources. Integrating multiple measurement approaches can provide a more comprehensive understanding of DSH. The tools and measures used to assess DSH include self-reports, structured interviews, and brief screening instruments, each with its own advantages and limitations.

4. Discussion

In the early conceptualizations (1950s-1970s), DSH was viewed as a symptom of severe mental conditions like psychosis or personality disorders. Clinicians relied on case studies and clinical observations to understand these behaviors. At that time, there was lack of standardized assessment tools or diagnostic criteria. By the 1970s-1990s, there was an emergence of self-report measures. Among the first developed self-report measures, the Self Injury Questionnaire (SIQ; Alexander, 1999) and Self-Harm Inventory (Sansone, Wiederman, & Sansone, 1998) were the pioneers. These measures focused on the frequency, methods, and functions of DSH. With the increased recognition of DSH as a distinct phenomenon, separate from suicide attempts, other tools emerged as Diagnostic Criteria and Clinical Assessments (1990s-2000s) for non-suicidal self-injury (NSSI) in the DSM-IV-TR. With the development of clinician-administered measures, such as the Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock et al. 2007), the emphasis on understanding the underlying motivations and functions of DSH.

Following 2000s, Ecological Momentary Assessment (EMA) involving the utilization of real-time, in-the-moment assessment techniques were started. This format attempted to capture the dynamic, contextual factors, triggers, and immediate antecedents of DSH. At present, integrated approaches involving a combination of self-report, clinician-administered, and ecological momentary assessment methods are used. The emphasis on understanding the multidimensional nature of DSH, including cognitive, affective, and behavioral aspects. The ongoing efforts are also directed toward refining and validating assessment tools on DSH for both research and clinical practice. Thus, the history of self-mutilation assessment reflects the evolving understanding of this complex phenomenon, from a symptom-based approach to a more comprehensive, multidimensional understanding of the behavior and its underlying mechanisms (Angelotta, 2015; Vanderhoff & Lynn, 2001).

The assessment of DSH is an ongoing, dynamic and continuous process. The intent for undertaking the act, agent used, place, precautions taken to avoid their discovery, and the preparations for their execution in anticipation of death vary. Several issues and considerations regarding comprehensive assessment of DSH in clinical conditions, understanding their underlying causes, mental health impacts, physical health risks, stigma and shame, treatment and intervention are needed in the present scheme of things on this subject. In the development, standardization or use of tools for measuring DSH, cost and utility considerations are important. The measure must be relevant to the target group being addressed. They must be useful for treatment planning and outcomes. The tool must be relatively straight forward to administer. They must have readily available training materials. The test scores must have clear meanings and consistent across clients. Self report tools are preferred to others reporting about an individual. The results of the measure should be readily understood or interpreted even by non-professional audiences. These are gold standards which clinicians and researchers aspire in the relatively under developed area of assessment of DSH tools (Luiselli et al., 2012).

Recommendations

DSH is a growing public health concern that requires urgent attention. Unfortunately, there are many stereotypes, misconceptions, and prejudices about individuals who engage in DSH, including the confusion that they wish to die or are somehow misguided. Early identification and assessment using well-developed and standardized tools are crucial for addressing this issue.

Newly developed or re-validated assessment tools for DSH should cover a wide range of domains, including the methods and types of self-harm behaviors, frequency and severity of incidents, accessibility and lethality of the methods employed, psychological factors, emotional triggers and motivations, cognitive distortions and thought patterns, dissociation and depersonalization experiences, social and interpersonal factors, peer and family influences, experiences of bullying, abuse, or neglect, availability of social support and help-seeking behaviors. Additionally, the function and consequences of DSH, perceived benefits, history of professional help-seeking and treatment, effectiveness of coping strategies and alternative behaviors, stages of change and readiness for recovery, identity and cultural factors, gender, age, experiences of marginalization, discrimination, or belonging, and spiritual and religious beliefs should all be considered as potential domains for inclusion in a comprehensive assessment.

By addressing these multifaceted aspects of DSH, a deeper understanding of the contributing factors and the individual's journey towards recovery can be gained. This assessment approach should be combined with public education and awareness programs, incorporating self-harm education and encouraging responsible media reporting. It is also crucial to challenge negative stereotypes, promote empathy and understanding, and provide accessible support services, crisis hotlines, and other resources for individuals struggling with DSH.

Online Self-harm content consumption involving the viewing, sharing, or engaging with content related to self-harm (images, videos, forums, social media posts), seeking out online "pro-self-harm" communities or content, excessive time spending on virtual self-expression by posting self-harm-related content (photos, text, videos) on social media platforms, creating digital "wounds" or "scars," participating in online self-harm challenges or "games," cyberbullying and online victimization needs to be addressed in upcoming DSH tools.

5. Conclusion

In sum, the linkage between theories and assessment is also crucial for understanding the underlying mechanisms of DSH and developing effective interventions. The assessment methods used should be guided by the specific theoretical framework being applied, allowing for a deeper understanding of the individual's experience and the factors contributing to their DSH behaviors-another area of review to be taken up in right earnest.

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