

RESEARCH ARTICLE

Childhood maltreatment and self-hatred as distinguishing characteristics of psychiatric patients with self-harm: A comparison with clinical and healthy controls

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Abstract

Introduction: Deliberate self-harm (DSH) is common in clinical populations. Childhood maltreatment (CM) and attitudes both towards oneself and towards DSH may be of importance for the development of DSH. This study aimed to test whether patients with DSH report more CM, more negative attitudes towards oneself and more positive attitudes towards DSH than a clinical and a healthy comparison group, and whether the effects of CM are mediated by negative attitudes towards oneself.

Method: Females with DSH and psychiatric disorders ($n = 34$), females without DSH but with psychiatric disorders ($n = 31$) and healthy female individuals ($n = 29$) were compared regarding DSH, CM, attitudes towards the self and attitudes towards self-harm.

Results: Females with DSH reported more emotional abuse and more self-hatred as compared to both comparison groups. The effect of emotional abuse was mediated by self-hatred. The DSH-group had significantly more positive attitudes towards DSH than the healthy comparison group.

Conclusion: Self-hatred and CM in the form of emotional abuse may be distinguishing characteristics of female patients with DSH in psychiatric settings. The present results are compatible with the hypothesis that emotional abuse leads to DSH via self-hatred, but the cross-sectional nature of the study precludes any causal conclusions. The clinical utility of the results is discussed.

KEYWORDS

attitudes, childhood maltreatment (CM), deliberate self-harm (DSH), non-suicidal self-injury (NSSI), self-concept

1 | INTRODUCTION

To inflict damage on oneself is seemingly against an evolutionary understanding of human behaviour. Still, it is common in the general population as well as in clinical samples (Bjärehed et al., 2012; Gillies

et al., 2018; Odelius & Ramklint, 2014). The interest among researchers and clinicians for this problem can be traced back to the early 1900's (Angelotta, 2015). Since then, various definitions have been used with differences in both the motivation of the behaviour and what type of self-destructive behaviours should be included. In

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this study we use the term deliberate self-harm (DSH) according to Hawton et al. (2002) who define DSH as a deliberate self-harming act with non-fatal outcome, such as self-cutting, jumping from a height, ingesting substances or medication in excess or ingesting a non-ingestible object or substance. In the literature, DSH is used as a more inclusive concept than non-suicidal self-injury (NSSI) (Nock & Favazza, 2009), among other things because it includes self-poisoning and does not exclude acts with suicidal intent. NSSI is defined as a deliberate destruction of one's body tissue without suicidal intent (Nock & Favazza, 2009). We chose to focus on DSH as defined by Hawton et al. (2002) in light of current research indicating that suicidal ideation and associated factors fluctuates considerably over short periods of time (Gee et al., 2020), making explicit motivation for a specific act of self-harm hard to assess, when asking retrospectively, such as in the current study. On the same note, some individuals engaging in NSSI do so with the hope or expectation that they will die sooner (Fox et al., 2019). In view of all this, we argue that studies of NSSI may still be relevant to the understanding of DSH.

Recent progress in research has provided valuable insights into the consequences and motivation for self-harm. Arguably, one of the more important findings is that NSSI seems to be a significant predictor for later suicide attempts (Mars et al., 2019). Some research even suggests that NSSI is a stronger predictor than previous suicide attempts when it comes to predict later suicide attempts (Ribeiro et al., 2016). With regard to the reasons for DSH, individuals commonly report emotional regulation and social communication as reasons for DSH (Edmondson et al., 2016). There is still much that is unknown regarding why some individuals engage in NSSI while others do not (Hooley & Franklin, 2018). Among the potential factors that may be involved, attitudes towards oneself as well as Childhood maltreatment (CM) (WHO, 2022) have gained particular interest.

1.1 | DSH and self-concept content

In social psychology, there is a long tradition of research on the self-concept, and a distinction has been made (Campbell et al., 1996) between self-concept contents and self-concept structure, with the former divided into knowledge components and evaluative components. Evaluative components include attitudes towards the self. In general individuals tend to have more positive than negative self-concept content. That is, people attribute more positive than negative traits to themselves (McConnell & Strain, 2007). That seems to be different for individuals who hurt themselves. For example, NSSI has been found to be associated with low self-esteem (Forrester et al., 2017) and high self-criticism (e.g., Fox et al., 2018; Glassman et al., 2007). In a research study by Cawood and Huprich (2011), the results demonstrated that NSSI is associated with DSM-IV-related personality disorder traits. In addition, low self-esteem partly or wholly independently mediated the relationship between borderline, antisocial, dependent, depressive, avoidant and negativistic traits and DSH.

Key Practitioner Message

- Our results indicate that some female patients who engage in self-harm have suffered more emotional abuse as children than those who do not self-harm.
- Female patients who engage in self-harm tend to report more self-hatred than those who do not self-harm.
- Female patients who self-harm have a more positive attitude to self-harm.

Furthermore, self-punishment is a common reason for DSH (Claes et al., 2012; Edmondson et al., 2016). The combination of a self-critical stance and a self-punishing behavioural pattern is in accordance with Hooley & Franklin's Benefits and Barriers model of (Hooley & Franklin, 2018). In this model, NSSI is seen as fulfilling a self-punishing function and a positive view on oneself is seen as a barrier for NSSI. A recent review by Boccagno and Hooley (2020) illustrated that self-criticism and self-punishing urges are associated with NSSI. More research is needed to understand the role of self-perceptions, however. Firstly, the terms used to describe negative self-concept content in previous research are interrelated and overlapping. Secondly, the causal direction is unclear: Is negative self-concept content a consequence of DSH or a cause for DSH; or is it bidirectional? Thirdly, self-concept content can be separated into distinct aspects of the self and some of these aspects may be more important than others. Boccagno and Hooley (2020) argue that further mapping of such content could increase the possibility to identify new treatment targets and improve both current assessments and treatments.

Gilbert et al. (2004) established an influential model regarding self-evaluations. In this model, Gilbert et al. assume that the self is continuously attacked by negative self-evaluations and simultaneously soothed with self-compassion as a way of defending the self from such evaluations. Gilbert et al. also suggest that the balance between these forms constitutes an important aspect of mental health. Thus, this model contains examples of negative and positive self-evaluations that can be seen as self-concept content as described by Boccagno and Hooley (2020), that is, negative beliefs or evaluations of the self. In total, three types of self-concept content are described in Gilbert et al.'s (2004) model: two negative and one positive. The first, Inadequate self, is based on self-criticism and a sense of inadequacy due to failures. The second, more pathogenic type, is named Hated self and is based on self-disgust and self-loathing. As the third and final type, a self-compassionate and forgiving form of content was identified and named Reassured self. Of these three forms, Gilbert et al. (2004) found Hated self to be most clearly associated with NSSI.

1.2 | Childhood maltreatment as a causal factor

According to the World Health Organization (WHO, 2022) CM is defined as all forms of emotional and physical ill-treatment, including

sexual abuse, neglect and exploitation that results in actual or potential harm to the child's dignity, development or health. Earlier research has suggested that CM is an important factor for the development of negative self-concept content. One example is Rose and Abramson's (1992) developmental model (Gibb et al., 2003). According to this model, children subjected to prolonged CM would eventually attribute these experiences to negative characteristics of themselves leading to a negative inferential cognitive style. This model highlights emotional maltreatment as of particular importance for the development of negative self-concept content, as compared to sexual or psychological maltreatment. Previous research has confirmed that adverse childhood experiences, including CM, are associated with various forms of adult psychopathology (Herzog & Schmahl, 2018) and that this is partly mediated by cognitive factors, such as negative cognitive styles (Aafjes van Doorn et al., 2020). Specifically, earlier studies have established that CM could lead to self-criticism in adulthood (Irons et al., 2006; Sachs-Ericsson et al., 2006; Wright et al., 2009). *Emotional abuse*, such as rejecting, degrading, terrorizing, isolating and denying of emotional needs (Gibb et al., 2003) is possibly the most common form of CM (Stoltenborgh et al., 2015) and seems to be of particular importance. Results suggest that this form of CM is more strongly associated with developing a negative cognitive style as compared to sexual or physical abuse (Gibb et al., 2003).

Various forms of CM have been suggested to be of crucial importance also for developing NSSI (e.g., Brown et al., 2018; Kaess et al., 2013; Li et al., 2019; Nock & Kessler, 2006) and self-injurious behaviours more generally (Yates, 2004). In a recent meta-analysis, Liu et al. (2018) described the evidence as clearly suggesting that multiple forms of CM independently and together predict NSSI. With regards to emotional abuse, Liu et al. (2018) concluded that its negative effects are potentially larger than other subtypes of abuse.

1.3 | CM, self-perception and DSH

While research has indicated that CM and negative self-concept content are important constructs for understanding the aetiology of DSH, less is known about whether negative self-concept content mediates the role of CM on DSH. Glassman et al. (2007) explored this in a community sample of adolescents with NSSI. The results from this study indicated that CM is associated with later NSSI and that this is mediated by self-criticism. Similarly, Smith et al. (2015) found that self-disgust partially mediated the association of previous sexual abuse with later NSSI. Wedig and Nock (2007) used a mixed community and clinical sample with similar results and Swannell et al. (2012) established self-blame as a mediator between CM and NSSI in an adult community sample. However, few studies have used clinical samples.

Considering the impact of CM on adult psychopathology in general (e.g., Herzog & Schmahl, 2018) studying clinical samples could help to explore whether negative self-concept content is a mediator important to DSH specifically or to psychopathology in a wider sense. To our knowledge, Low et al. (2000) and Muehlenkamp et al. (2011) are the only available studies having explored this in clinical samples. Low et al. (2000)

explored the association between previous sexual abuse and later DSH by comparing three groups of psychiatric patients (no self-harm, occasional self-harm and frequent self-harm). Muehlenkamp et al. (2011) studied female inpatients with eating disorders through assessing for previous CM and self-esteem. Both studies used a cross-sectional approach and indicated a possible pathway from one or more forms of CM to DSH through negative self-concept content.

Taken together, there seems to be an indication of a mediating relationship between CM, negative self-concept content and DSH supported by data and theory that applies in at least some populations. However, there are a limited number of studies, in particular studies exploring this relationship in comparable adult clinical samples. That is, are CM and negative self-concept content of specific importance for developing self-harming behaviour as compared to psychopathology in general?

1.4 | DSH and attitudes towards DSH

Beyond attitudes to oneself, attitudes towards DSH itself may also be of importance. In the Benefits and Barriers model of NSSI (Hooley & Franklin, 2018) negative associations to NSSI poses a barrier for self-harming behaviour. Thus, in line with this model, individuals with DSH may have more positive attitudes towards DSH as compared to those without DSH. Previous research has similarly demonstrated that holding a positive attitude towards DSH may pose a greater risk for DSH (Kenning et al., 2010; McAuliffe et al., 2003). Qualitative (Doyle, 2017) as well as experimental research (Knowles & Townsend, 2012; Nagy et al., 2021; Powers et al., 2021) has further indicated that individuals with DSH or NSSI have more positive attitudes towards self-harm which might play an important role for this behaviour. Similarly, aversion towards NSSI is negatively associated with lifetime frequency and recency of this behaviour (Franklin et al., 2014). It is unclear however, whether this applies in clinical samples. That is, do individuals with psychiatric disorders and DSH have more positive attitudes towards self-harm as compared to individuals with psychiatric disorders but without DSH and healthy controls? A further question is if the attitude towards self-harm is associated with the duration of DSH. Similarly, little is known whether these attitudes are related to self-reported functions of DSH.

Thus, this study investigates three hypotheses.

1. Individuals with psychiatric disorders and DSH have more self-reported CM and more negative self-concept content, that is, Hated-self or Inadequate-self, as compared to individuals with psychiatric disorders but without DSH, as well as healthy controls.
2. The relationship between CM and DSH is mediated partly by negative self-concept content, that is, Hated-self or Inadequate-self.
3. Individuals with psychiatric disorders and DSH have more positive explicit attitudes towards DSH as compared to individuals with psychiatric disorders but without DSH, as well as healthy controls.

Considering the high prevalence of DSH across various diagnoses in mental healthcare (Odelius & Ramklint, 2014), the current study aims

to focus on DSH as a transdiagnostic behaviour instead of studying separate diagnostic groups.

2 | MATERIALS AND METHODS

Ethical approval was provided by the regional ethical review board at Lund University (Reg. No. 2014/626).

2.1 | Sample

A convenience sample of psychiatric patients was recruited. Thirty-four participants with DSH (DSH-group) and 31 participants without DSH (NDSH-group) were included either through the intake procedure at a university hospital outpatient clinic or by referral from their treating clinicians. Twenty-nine healthy controls (HC-group) were recruited through posters at community centres, a gym, grocery store and a university campus. Since all recruited DSH participants were registered as females at birth, only females were recruited to the comparison groups. Inclusion criteria for all groups included being able to provide written and verbal consent and fluency in Swedish. Inclusion in the DSH-group required having self-harmed on at least three occasions over 6 months at some point in life, as well as at least once within the past 6 months. Individuals were excluded from participation in the HC and the NDSH-group if they had self-harmed on more than two occasions through life and/or self-harmed within the past 6 months. To our knowledge, there is no scientific consensus regarding how many episodes of DSH that should be considered clinically relevant. In the present study, we wanted to increase the understanding of individuals with psychiatric disorders where DSH was a clinically relevant part of their presentation. Thus, we chose to include individuals where DSH had been repetitive, continuous, and ongoing. Similarly, since DSH is common in young people in general (Zetterqvist et al., 2013), but even more so in young people with psychiatric disorders, we did not want to exclude individuals who had only one, or two occasions of DSH since a majority of individuals in Swedish psychiatric settings would fall into this category (Odelius & Ramklint, 2014) and thus, potentially make the comparison groups non-representative. Further, exclusion criteria for the HC-group included any past or current psychiatric disorder. Due to that the sampling also was done for other study purposes, the exclusion criteria for all participants were: current drug or alcohol dependency disorder, bipolar type 1, ADHD/ADD, autism, severe depression (defined as a score of 34 or more on the Montgomery Asberg Depression Rating Scale, MADRS) and psychotic disorders.

2.2 | Measures

2.2.1 | Diagnostic measures

The MINI International Neuropsychiatric Interview 6.0, MINI 6.0 (Sheehan et al., 1998) and the Structured Clinical Interview of the

DSM-IV 2, SCID-2 (First et al., 1997) were used for diagnostics. Diagnostic measures for DSM-5 were not available in Swedish when the study started. Results from these interviews were therefore adapted to the DSM-V.

2.2.2 | Rating scales

Level of depression was measured using the Montgomery Asberg Depression Rating Scale, MADRS (Montgomery & Åsberg, 1979). This scale consists of 10 items with a Likert scale ranging from 0–6. A total score between 34 and 60 indicates severe depression, 20 to 33 moderate depression and 7 to 19 mild depression (Snaith et al., 1986). The statistical properties of the Swedish version have been proven to be acceptable with an intraclass correlation (ICC) of 71% at 4 weeks and a Cronbach alpha of 0.87 (Cunningham et al., 2011). In the current study, item 9 was removed from the mediation analysis since this item asks about self-criticism. The MADRS total score was replaced by a composite score of items 1 through 8 and item 10. This total score is referred to as MADRS-X.

The Childhood Trauma Questionnaire, CTQ (Bernstein & Fink, 1998), is a commonly used questionnaire (Aafjes-van Doorn et al., 2020) assessing childhood trauma and neglect through 28 Likert items ranging from *never true* to *very often true*. The scale is meant to capture 5 aspects of trauma and neglect: Emotional abuse, Emotional neglect, Physical abuse, Physical neglect and Sexual abuse. The score within each aspect is transformed into 4 severity levels based on standardized norms provided by Bernstein and Fink (1998). The scale also contains items capturing minimizing tendencies. The scale has a Cronbach's alpha of 0.97 and correlation coefficients between therapist's perception and CTQ-scores span between 0.42 and 0.72 for the five aspects (Bernstein et al., 1997). The CTQ raw scores and total scale score were used to measure level and form of CM in the current study.

2.2.3 | Measures of DSH

The Inventory of Statements about Self Injury, ISAS (Klonsky & Glenn, 2009) was used to measure frequency and functions of DSH causing damage to the body tissue. ISAS has two sections. The first section investigates the life-time prevalence of 12 predefined DSH-episodes (e.g., cutting and hitting oneself, and an open item labelled 'other' where the participant could describe unlisted forms) through life as well as questions about age of onset, pain and impulsiveness aspects. The second section consists of 39 items where the respondent is asked to rate the accuracy of predetermined statements (*not relevant, somewhat relevant or very relevant*) providing 0, 1 or 2 points for each item with regard to the reason for DSH. The reasons are Affect regulation, Anti-dissociation, Anti-suicide, Marking stress, Self-punishment, Autonomy, Interpersonal boundaries, Interpersonal influence, Peer bonding, Revenge, Self-care, Sensation seeking and Toughness with total scores for each between 0 and 6 points. The ISAS has

been validated against other measures of psychopathology and has a Cronbach alpha of 0.84. The scale has been validated and translated to Swedish by Lindholm et al. (2011). Alongside ISAS, participants were asked supplemental questions to capture episodes of other self-harming behaviours and suicide attempts not captured by the ISAS, for example, jumping from heights, intoxication through medication and swallowing sharp objects. Finally, the participants were asked report any other self-harming behaviour that had not been assessed through previous questions. This was done to obtain a more accurate estimation of the total number of DSH-incidents through life.

2.2.4 | Attitude measures

The Lund Tolerance Towards Self-Harm Scale (LUTOSH; Nilsson et al., 2019) was used to measure attitudes towards self-harm. This scale consists of self-rated 5-item Likert items assessing the respondents view on DSH on a scale from 1 (*not at all true*) to 10 (*very true*). The total score ranges from 5–50 and a higher score corresponds to higher tolerance towards DSH. LUTOSH has a Cronbach's alpha of 0.72 and has been validated in a general population sample as well as in a sample with staff working in psychiatry.

The Forms of Self-Criticizing/Attacking and Self-Reassuring scale (FSCRS) (Gilbert et al., 2004) was used to measure level and type of self-concept content. The FSCRS has 22 items where the respondent is asked to indicate the accuracy (*not at all like me*, *a little bit like me*, *moderately like me*, *quite like me* and *extremely like me*) of statements when things go wrong for the respondent. Gilbert's et al. validation resulted in a model of two different factors of negative self-attitudes; FSCRS-Hated self and FSCRS-Inadequate self, as well as the factor FSCRS-Reassured self, for when things go wrong for them. The scale was validated against other measures of psychopathology and self-criticism, and the Cronbach's alpha for the three sub-factors is between 0.86 and 0.90. FSCRS has been translated to Swedish and validated by Lekberg and Wester (2012) with satisfactory results. For the purpose of this study, we used the original three factor model of the FSCRS in the analysis. FSCRS-Hated self was used for the mediation analysis.

2.3 | Statistical analysis

Data analysis was done in IBM SPSS Statistics 26. Skewness and kurtosis were calculated. Chi-square was used to assess differences in primary diagnosis between the DSH- and the NDSH-group. One-way ANOVA was used to compare group results for age, MADRS, MADRS-X, FSCRS, CTQ and LUTOSH. Tukey's post hoc analysis and Games-Howell post hoc tests depending on whether the results distributions were homogenous. Effect sizes were calculated through Cohen's *d*. A dummy variable of *self-harm* (self-harm present vs. self-harm not present) was constructed. Logistic regression was used to explore the association between CM and presence of DSH. Mediation analyses were done through PROCESS macro for SPSS with logistic

regression to explore the impact of CTQ-sub-scales on DSH mediated by FSCRS-Hated self. These analyses were also done with depression, MADRS-X, as a covariate. Spearman's *rho* was used to measure correlations between outcome variables. Spearman's *rho* was also used to analyse the association between LUTOSH and age of onset, intensity, and functions of DSH.

3 | RESULTS

3.1 | Tests of normality

The results for skewness and kurtosis were within the suggested limits of 2 and 7, respectively (Curran et al., 1996) except for CTQ-Sexual abuse, CTQ-Physical neglect, and CTQ-Physical abuse. A visual inspection of the distributions indicated non-normal distributions for CTQ and LUTOSH.

3.2 | Group comparisons

See Table 1 for distribution of primary diagnosis in the DSH- and the NDSH-group. There were significantly more individuals with BPD as a primary diagnosis in the DSH-group. As seen in Table 2 the NDSH-group was significantly older than the DSH-group ($p = 0.002$). There was no significant difference in level of depression between the two clinical groups according to either MADRS or MADRS-X. As seen in Table 2, the DSH group scored significantly higher than the healthy controls on both Hated Self and Inadequate Self, and significantly lower on Reassured Self. However, they scored significantly higher than the NDSH-group only on Hated Self, with a medium effect size ($d = 0.76$). Also, their scores were significantly higher than those of the healthy controls on all six measures of CM except Sexual Abuse. However, their scores were significantly higher than the NDSH-group

TABLE 1 Primary diagnoses in the DSH and the NDSH-group

	DSH	NDSH
<i>n</i>	34	31
Primary psychiatric diagnosis		
Borderline personality disorder	18	3*
Bipolar type 2	5	9
Major depressive disorder	8	6
Obsessive compulsive disorder	3	4
Posttraumatic stress disorder		2
Generalized anxiety disorder		2
Social phobia		2
Panic disorder		1
Body dysmorphic disorder		2

Note: M = mean; SD = standard deviation; DSH = deliberate self-harm group; NDSH = no deliberate self-harm group.

* $p < 0.05$.

TABLE 2 Results from analysis of variance regarding age, level of depression, attitudes and level of childhood maltreatment in the three study groups

	DSH	NDSH	HC	F	Post hoc comparison by Tukey/Welch
n	34	31	29		
Age, M (SD)	24.2 (5.4)	29.2 (7.4)	23.1 (3.1)	10.47	NDSH > DSH, HC
Depression, M (SD)					
MADRS,	18.2 (7.0)	17.9(5.4)	3.1 (2.7)	75.53	DSH, NDSH > HC
MADRS-X	16.7 (6.3)	15.5 (4.8)	2.3 (2.1)	74.63	DSH, NDSH > HC
Self-criticism and self-reassurance, M (SD)					
FSCRS-hated self	12.8 (5.2)	8.8 (5.2)	1.8 (2.4)	46.64	DSH > NDSH > HC
FSCRS-inadequate self	26.7 (6.9)	22.8 (8.6)	10.1 (6.9)	41.22	DSH, NDSH > HC
FSCRS-reassured self	6.0 (4.9)	10.0 (7.0)	20.8(6.5)	47.48	DSH < NDSH < HC
Tolerance towards self-harm, M (SD)					
LUTOSH	42.4 (6.0)	38.7 (7.5)	36.8 (7.4)	5.49	DSH > HC
Trauma and neglect, M (SD)					
CTQ-emotional abuse	12.4 (5.5)	9.2 (4.1)	6.3 (1.6)	17.09	DSH > NDSH > HC
CTQ-physical abuse	6.6 (2.4)	5.7 (1.6)	5.2 (0.6)	4.74	DSH > HC
CTQ-sexual abuse	6.6 (4.1)	6.6 (4.4)	5.1 (0.3)	1.80	
CTQ-emotional neglect	13.6 (5.8)	11.2 (4.8)	7.1 (2.4)	15.53	DSH, NDSH > HC
CTQ-physical neglect	8.7 (3.5)	7.3 (3.8)	5.5 (1.4)	8.10	DSH > HC
CTQ-Total score	47.9 (17.3)	39.9 (13.4)	29.2 (15.1)	15.73	DSH, NDSH > HC

Note: M = mean; SD = standard deviation; DSH = deliberate self-harm group; NDSH = no deliberate self-harm group; HC = healthy control group; HMADRS = Montgomery Asberg Depression Rating Scale; MADRS-X = MADRS item 1–8 and 10; FSCRS = The Forms of Self-Criticism/Attacking and Self-Reassurance scale; LUTOSH = Lund Tolerance Towards Self-harm Scale; CTQ = Childhood Trauma Questionnaire.

only on one of these subscales: Emotional abuse, again with a medium effect size ($d = 0.68$).

The DSH group reported significantly more positive attitudes towards self-harm, as measured by LUTOSH, than the healthy controls with a large effect size ($d = 0.83$). There was also a tendency, albeit non-significant, that the DSH-group had more positive attitudes towards self-harm ($p = 0.076$) in comparison with the NDSH-group.

3.3 | Self-harm patterns

The age of first self-harm episode in the DSH group, as measured by ISAS, ranged from 10 to 23 with a mean of 14 years. The mean number of years since onset of DSH was 9.7 (SD = 5.6). The most common form of DSH was obstructing wound healing (Total = 13,212), followed by cutting (Total = 3555) and grazing (Total = 2449). The mean number of reported DSH-episodes in this group was 834 (SD = 1463). The DSH-group reported Affect regulation (M = 5.2, SD = 1.2) as being the most common reason for self-harming followed by Self-punishment (M = 3.9, SD = 2.0) and Self-care (M = 2.4, SD = 1.9). LUTOSH tended to correlate with number of years since DSH-onset ($r_s = 0.37$, $p = 0.034$) and the Peer bonding function of ISAS ($r_s = 0.36$, $p = 0.038$).

In the NDSH-group, 19 individuals had no lifetime episode of self-harm seven individuals had one occasion and another five individuals had two DSH-episodes throughout the lifespan (M = 0.5,

SD = 0.8). Behaviours included were cutting (Total = 2), grazing (Total = 2) and pinching (Total = 2). The most commonly reported reason for self-harm was Affect regulation (M = 1.7, SD = 2.1) In the HC-group 26 individuals had no lifetime occasion of DSH. Two individuals had a single episode of DSH (cutting), and one participant had two episodes of DSH (pinching). Affect regulation (M = 1, SD = 1.7) was the most commonly reported reason for DSH in the HC-group.

3.4 | The association between CM and self-harm as mediated by self-hatred

CTQ-Emotional abuse correlated significantly with FSCRS-Hated self ($r_s = 0.47$; $p < 0.001$) and MADRS-X ($r_s = 0.50$; $p < 0.001$). FSCRS-Hated self-correlated significantly with MADRS-X ($r_s = 0.71$; $p < 0.001$). As seen in Table 3 and Figure 1, there was a direct effect of CTQ-Emotional abuse on self-harm with a log odds coefficient of 0.157 ($p = 0.01$) and an indirect significant mediation effect of FSCRS-Hated self with a log odds coefficient of 0.117 (CI: 0.058–0.217). Thus, the mediation effect was 43%. When level of depression (MADRS-X) was added as covariate, the direct effect of CTQ-Emotional abuse was 0.166 ($p = 0.01$) and the indirect effect was 0.042 (CI: –0.005–0.113) and thus no longer significant. The potential mediation effect of FSCRS-Hated self would then be 20%. See Figure 1 and Table 3 for detailed results of the mediation effect.

4 | DISCUSSION

The results of the current study confirmed hypothesis 1, that individuals with psychiatric disorders and DSH have experienced more CM and have more negative self-concept content than both clinical and healthy controls. As the recruitment resulted in an all-female group, the hypothesis was confirmed for females only. Thus, it is unclear if the results can be generalized to other than females. Based on other research in the field, we have no theoretical reason to believe that the results would not apply to other genders. On a similar note, Liu et al. (2018) concluded that the existing research gives no reason to believe that CM is differently associated to DSH as a function of gender. In the current study, the effects in relation to the NDSH-group were significant only on one form of CM, emotional abuse, and only on one form of self-critical content: self-hatred. In addition, and consistent with hypothesis 2, self-hatred showed a significant mediating effect between Emotional abuse and presence of DSH, but this was no longer significant after correcting for depression. Related to the concept of anger towards oneself, we also found that individuals with DSH reported self-punishment as the second most reported reason for the behaviour.

These results tap into the suggestions by Boccagno and Hooley (2020) by identifying distinguishing characteristics of self-concept in individuals with DSH. The results are in accordance with previous research indicating that negative self-views are associated with NSSI (Forrester et al., 2017; Fox et al., 2018) and that CM could be involved in the development of negative self-views and NSSI (Glassman et al., 2007). It is also in line with findings from Low

et al.'s (2000) and Muehlenkamp et al.'s (2011) studies with clinical participants, although there are some differences. Low et al. (2000) explored self-harm and self-esteem specifically for their association with sexual abuse, whereas Muehlenkamp et al. (2011) studied self-esteem, several forms of CM and NSSI in a population of female individuals with eating disorders, predominantly anorexia nervosa. Further, while Kaess et al. (2013) and Glassman et al. (2007) reported an association between NSSI and sexual abuse, Glassman et al. (2007) also reported an association between NSSI and physical neglect neither of which were found with DSH in the current study.

The current study examined multiple forms of CM and self-critical content in a population of female individuals with psychiatric disorders with and without DSH as well as in healthy individuals. Although there previously has been a particular interest in sexual abuse for the development for DSH (e.g., Gratz, 2003), recent research has highlighted that other forms of abuse may be of equal, or even of more importance (Liu et al., 2018). In the current study, the three study groups differed regarding one specific form of CM: emotional abuse. This specific form of abuse was most common in the DSH-group, followed by the NDSH-group. The HC-group had the lowest rate of emotional abuse. In accordance with other research (Kaess et al., 2013; Liu et al., 2018; Thomassin et al., 2016), this further highlights emotional abuse as a possible important form of CM for the development of DSH. With regards to the mediation effect, the results from the current study are similar to Glassman et al.'s (2007). That is, an effect was found for FSCRS-Hated self, as a mediator between CTQ-Emotional abuse and DSH, which however was no longer significant when correcting for level depression. It is worth noting that there is a clear tendency, albeit not statistically significant corrected effect. This leads us to believe that the effect is worth attention and that the lack of significance might be due to a limited sample size.

Regarding hypothesis 3, the current study could not confirm that individuals with psychiatric disorders and DSH had more positive explicit attitudes towards DSH compared to the NDSH-group. However, there was an observable clear difference in mean results between the DSH- and the NDSH-groups. There was also a significant difference in attitudes between individuals with DSH compared to healthy controls. Taken together, we believe that these results point in the same direction as previous studies (Franklin et al., 2014; Kenning et al., 2010; Knowles & Townsend, 2012). Many of these earlier studies have used community samples, mixed community and clinical samples as well as prison samples which limit the conclusion that

TABLE 3 Mediation analysis

	Log odds	95% CI	
		LL	UL
Emotional abuse			
Direct effect	0.16	0.037	0.277
Mediation effect	0.11	0.058	0.217
Emotional abuse corrected for MADRS-X			
Direct effect	0.166	0.038	0.294
Mediation effect	0.042	-0.005	0.113

Note: The impact of emotional abuse on deliberate self-harm mediated by hated self. $N = 94$. CI = confidence interval; MADRS = Montgomery Asberg Depression Rating Scale; MADRS-X = MADRS item 1–8 and 10.

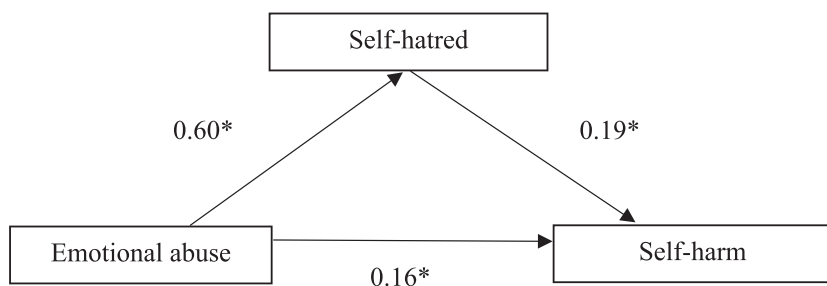


FIGURE 1 The direct and indirect mediation effect of emotional abuse and self-hatred on self-harm. * $p < 0.05$

can be drawn in a clinical setting. This could be one of the reasons why there was a lack of significant difference in the current study, when a comparison was made with a gender and age matched clinical control group. Worth noting is that attitudes towards self-harm were also positively associated with years since onset of DSH which could indicate that the attitudes become more positive with time.

Interestingly, attitudes towards self-harm tended to correlate with the peer bonding-function of ISAS. Related to these results, previous studies have indicated that adolescents can be socialized into self-injurious behaviours and that peer-group influence may be a factor in the development and perpetuation of DSH in adolescent girls (Prinstein et al., 2010). It can also be noted that some research suggests that adolescents with a negative self-concept have more peer friendships with DSH and that having more friends with DSH is associated with having DSH oneself (Claes et al., 2010). Taken together, the results from our study partly fit the Benefits and Barriers model (Hooley & Franklin, 2018) by highlighting that negative self-concept content and possibly positive attitudes towards DSH are associated with DSH. To increase our understanding of this interplay between self-attitudes, peer affiliation and attitudes towards DSH, longitudinal studies are required.

The role of sexual abuse in DSH and NSSI has drawn a lot of attention and there have been some contradictory results (Kaess et al., 2013; Klonsky & Moyer, 2008; Thomassin et al., 2016). In the current study, we found no significant difference between the three groups for this particular form of CM. This is in line with a recent meta-analysis by Liu et al. (2018) which concluded that other forms of CM such as emotional abuse are equally, or possibly even more associated with DSH. Compared to some other studies (e.g., Kaess et al., 2013; Muehlenkamp et al., 2011; Thomassin et al., 2016), the current study used a study group with a wide range of general psychiatric disorders but with a similar comparison group. Despite the fact that the groups that were compared in the present study contained individuals with BPD and PTSD, which both are statistically related to sexual traumatic experiences (de Aquino Ferreira et al., 2018; Gardner et al., 2019), both groups reported relatively low levels of sexual abuse as compared to the other forms of abuse. This is in line with previous research indicating sexual abuse as being less prevalent than other forms of abuse, making differences more difficult to detect in a small sample (Stoltenborough et al., 2015) and further accentuates the need for clinicians and researchers to be mindful of emotional abuse alongside sexual and physical abuse when treating individuals with DSH.

We perceive that the strength of this study is the use of an adequate clinical comparison group that is gender matched and similar in age and depressive symptoms, which we believe increases the clinical application of the results. Since DSH is common in the general population but even more so in young clinical populations, we wanted to study a population where DSH is a significant part of the individual clinical presentation. Thus, we included individuals with current, repetitive and continuous DSH, operationalized as three or more episodes of DSH, in the DSH group. Individuals with one or two episodes were thus included in the control groups. A different approach would

be to exclude all individuals with any form of previous DSH from the control groups. However, approximately half of individuals in clinical psychiatric settings have a history of some form of DSH (Odellius & Ramklint, 2014). We perceived that this approach would exclude too many individuals and make the control group non-representative for the purpose of our study. It is our impression that there has been a lack of clinical study groups in previous studies. Forrester et al.'s (2017) meta-analysis for example, found that previous clinical study populations were limited to a group of homeless individuals, individuals referred to gender identity clinics and female inpatients at an eating disorder clinic.

Another strength with the current study is the use of a comprehensive trauma questionnaire, CTQ, covering various forms of trauma and abuse. This is of further importance for the clinical utility of the results. There are multiple existing scales that have been used to measure various components of negative self-concept content (e.g., Blatt et al., 1976; Rose & Rimes, 2018; Thompson & Zuroff, 2004). In the current study, where the study groups would be composed of individuals with psychiatric disorders, we wanted to focus on severely negative self-attitudes. We therefore relied on Gilbert et al.'s (2004) FSCRS as we perceive that self-hatred as measured by this scale has face validity, as well as clinical utility in a psychiatric context. The FSCRS measures self-criticism following a difficult or challenging situation, which makes it different from many other measurements of self-criticism (Rose & Rimes, 2018). We deemed this approach to be suitable considering the focus on DSH in the current article, since this behaviour is commonly used following internal or external difficult situations (e.g., Hooley & Franklin, 2018; Steinhoff et al., 2020). Recently, Halamová et al. (2018) suggested a two-factor model based on reviewing and analysing data from previous studies that used FSCRS, in particular for community samples. It is not clear, however, which of the two models are best suited for clinical samples (Biermann et al., 2021). We chose to use the original three factor version, since the dimension FSCRS-Hated self, which is likely to be the most clinically relevant one, is missing in the two-factor model.

There are a few findings of the present study that could be of importance for clinicians working with this population. Firstly, it is our impression that emotional abuse, as compared to sexual or physical abuse, more often is overseen when assessing individuals with psychiatric disorders. This study highlights the potential detrimental effects of emotional abuse specifically. Thus, we would suggest clinicians to screen individuals for this as part of their routine assessment procedure. If history of emotional abuse is present, it might be helpful to extra mindful of DSH, especially if the individual is presenting severe negative self-views. Similarly, we suggest clinicians to include evaluations of individual attitudes in their clinical assessment. Specifically, if positive attitudes towards DSH and severe negative self-evaluations are present, there is a higher risk that the individual may be engaged in DSH. Finally, there is still a need to improve treatments for self-hatred and we therefore urge clinicians to try to explore and develop novel approaches towards this end since self-hatred, according to this study, might be of particular importance for suffering in this population.

4.1 | Limitations

There are several limitations with the current study. One limitation is that the generalizability of the results is hampered due to sampling. Firstly, all participants were young or middle-aged females meaning that no conclusion regarding males or older females can be drawn. It is thus unclear whether the results would apply to other genders than females.

Secondly, the two clinical study groups differed in terms of age and clinical diagnoses. More specifically, BPD was more prevalent in the DSH-group as compared to the NDSH-group. Since a bulk of research has established that BPD is associated with a negative self-concept (Winter et al., 2017) it is not unlikely that this is part of the explanation of the results. However, negative self-concept is a feature also in other disorders that were present in the NDSH group, such as posttraumatic stress disorder (Sharhabani-Arzy et al., 2005), obsessive compulsive disorder (Chou et al., 2018; Kiverstein et al., 2019), bipolar disorder (Stange et al., 2015) and major depressive disorder (Rosenfarb et al., 1998). One option could be to correct the analysis for the impact of current borderline symptoms on the results. This is difficult because of the nature of BPD where self-criticism and self-harm are common as symptoms. Commonly used questionnaires on borderline symptomatology include several items on self-criticism and self-harm (Bohus et al., 2009; Pfohl et al., 2009). We chose a different stance with regards to controlling for depression since Glassman et al. (2007) found that the mediation effect ended up non-significant after controlling for depressive symptoms. This also meant removing merely one item from the MADRS. Despite controlling for depression, our overall aim with the current study was to focus on relevant transdiagnostic constructs in lieu of psychiatric diagnoses, which is in line with an RDoC approach (National Institute of Mental Health, 2020). Nonetheless, a true case by case matching of psychiatric diagnosis could have been more favourable for the generalizability of the results. We deemed this too difficult to achieve due to the wide definition of self-harm chosen as well as the clinical setting, where only more severe psychopathology is treated.

Thirdly, the study groups were limited with regards to the psychiatric disorders included. Individuals with ADHD, BPD type 1 or psychotic disorders were excluded. This means that no conclusions about individuals with these disorders can be drawn. Finally, the study groups are small in general, which further limits the conclusions that can be drawn from the study.

Another limitation is the cross-sectional design of the study, although shared by many previous studies in this field (Bocchagnò & Hooley, 2020). Even if the results indicated a mediation between CM, self-hatred and DSH they are far from establishing a true causal relationship which a different study design could explore. A longitudinal design with adequate sampling would be required. This approach could also enrich our understanding of the development of attitudes towards self-harm and its implications.

Finally, in the current study we chose to use DSH as definition of self-harm. Previous research has used both this definition as well as the narrower definition of NSSI. This is an important limitation with regards to the comparisons that can be made to previous results.

5 | CONCLUSION

Individuals with psychiatric disorders and DSH report more emotional abuse and more self-hatred than individuals with psychiatric disorders but without DSH and healthy individuals. CM is associated with DSH and this is partly mediated by self-hatred. There is an indication that individuals with DSH have more positive attitudes towards self-harm as compared to individuals with psychiatric disorders but without DSH, and significantly more positive attitudes as compared to healthy individuals. Further longitudinal research is needed to disentangle the mechanisms that cause DSH.

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DATA AVAILABILITY STATEMENT

Not applicable because no consent to share exists towards participants.

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REFERENCES

- Aafjes-van Doorn, K., Kamsteeg, C., & Silberschatz, G. (2020). Cognitive mediators of the relationship between adverse childhood experiences and adult psychopathology: A systematic review. *Development and Psychopathology*, 32(3), 1017–1029. <https://doi.org/10.1017/S0954579419001317>
- Angelotta, C. (2015). Defining and refining self-harm: A historical perspective on non-suicidal self-injury. *The Journal of Nervous and Mental Disease*, 203(2), 75–80. <https://doi.org/10.1097/NMD.000000000000243>
- Bernstein, D. P., & Fink, L. (1998). *Childhood trauma questionnaire: A retrospective self-report manual*. The Psychological Corporation.
- Bernstein, D. P., Ahluvalia, T., Pogge, D., & Handelsman, L. (1997). Validity of the childhood trauma questionnaire in an adolescent psychiatric population. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(3), 340–348. <https://doi.org/10.1097/00004583-199703000-00012>
- Biermann, M., Bohus, M., Gilbert, P., Vonderlin, R., Cornelisse, S., Osen, B., Graser, J., Brüne, M., Ebert, A., Kleindienst, N., & Lyssenko, L. (2021). Psychometric properties of the German version of the forms of self-criticizing/attacking and self-reassuring scale (FSCRS). *Psychological Assessment*, 33(1), 97–110. <https://doi.org/10.1037/pas0000956>
- Bjärehed, J., Wångby-Lundh, M., & Lundh, L.-G. (2012). Nonsuicidal self-injury in a community sample of adolescents: Subgroups, stability, and associations with psychological difficulties. *Journal of Research on Adolescence*, 22(4), 678–693. <https://doi.org/10.1111/j.1532-7795.2012.00817.x>
- Blatt, S. J., DAfflitti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology*, 85(4), 383–389. <https://doi.org/10.1037/0021-843X.85.4.383>

- Boccagno, C. E., & Hooley, J. M. D. (2020). Understanding the self in non-suicidal self-injury: A conceptual review and framework for future research. <https://doi.org/10.31234/osf.io/cnsj6>
- 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, R. C., Heines, S., Witt, A., Braehler, E., Fegert, J. M., Harsch, D., & Plener, P. L. (2018). The impact of child maltreatment on non-suicidal self-injury: Data from a representative sample of the general population. *BMC Psychiatry*, 18, 181. <https://doi.org/10.1186/s12888-018-1754-3>
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. L., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70, 141–156. <https://doi.org/10.1037/0022-3514.70.1.141>
- Cawood, C. D., & Huprich, S. K. (2011). Late adolescent nonsuicidal self-injury: The roles of coping style, self-esteem, and personality pathology. *Journal of Personality Disorders*, 25(6), 765–781. <https://doi.org/10.1521/pedi.2011.25.6.765>
- Chou, C.-Y., Tsoh, J., Vigil, O., Bain, D., Uhm, S. Y., Howell, G., Chan, J., Eckfield, M., Plumadore, J., Chan, E., Komaiko, K., Smith, L., Franklin, J., Vega, E., Delucchi, K., & Mathews, C. A. (2018). Contributions of self-criticism and shame to hoarding. *Psychiatry Research*, 262, 488–493. <https://doi.org/10.1016/j.psychres.2017.09.030>
- Claes, L., Houben, A., Vandereycken, W., Bijttebier, P., & Muehlenkamp, J. (2010). Brief report: The association between non-suicidal self-injury, self-concept and acquaintance with self-injurious peers in a sample of adolescents. *Journal of Adolescence*, 33(5), 775–778. <https://doi.org/10.1016/j.adolescence.2009.10.012>
- Claes, L., Soenens, B., Vansteenkiste, M., & Vandereycken, W. (2012). The scars of the inner critic: Perfectionism and nonsuicidal self-injury in eating disorders. *European Eating Disorders Review*, 20(3), 196–202. <https://doi.org/10.1002/erv.1158>
- Cunningham, J. L., Wernroth, L., von Knorring, L., Berglund, L., & Ekselius, L. (2011). Agreement between physicians' and patients' ratings on the Montgomery-Åsberg depression rating scale. *Journal of Affective Disorders*, 135(1–3), 148–153. <https://doi.org/10.1016/j.jad.2011.07.005>
- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1), 16–29. <https://doi.org/10.1037/1082-989X.1.1.16>
- de Aquino Ferreira, L. F., Queiroz Pereira, F. H., Neri Benevides, A. M. L., & Aguiar Melo, M. C. (2018). Borderline personality disorder and sexual abuse: A systematic review. *Psychiatry Research*, 262, 70–77. <https://doi.org/10.1016/j.psychres.2018.01.043>
- Doyle, L. (2017). Attitudes toward adolescent self-harm and its prevention: The views of those who self-harm and their peers. *Journal of Child and Adolescent Psychiatric Nursing: Official Publication of the Association of Child and Adolescent Psychiatric Nurses, Inc*, 30(3), 142–148. <https://doi.org/10.1111/jcap.12186>
- Edmondson, A. J., Brennan, C. A., & House, A. O. (2016). Non-suicidal reasons for self-harm: A systematic review of self-reported accounts. *Journal of Affective Disorders*, 191, 109–117.
- First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., & Benjamin, L. S. (1997). *Structured clinical interview for DSM-IV Axis II Personality Disorders (SCID-II)*. American Psychiatric Press, Inc.
- Forrester, R. L., Slater, H., Jomar, K., Mitzman, S., & Taylor, P. J. (2017). Self-esteem and non-suicidal self-injury in adulthood: A systematic review. *Journal of Affective Disorders*, 221, 172–183. <https://doi.org/10.1016/j.jad.2017.06.027>
- Fox, K. R., Ribeiro, J. D., Kleiman, E. M., Hooley, J. M., Nock, M. K., & Franklin, J. C. (2018). Affect toward the self and self-injury stimuli as potential risk factors for nonsuicidal self-injury. *Psychiatry Research*, 260, 279–285. <https://doi.org/10.1016/j.psychres.2017.11.083>
- Fox, K. R., Wang, S. B., Boccagno, C., Haynos, A. F., Kleiman, E., & Hooley, J. M. (2019). Comparing self-harming intentions underlying eating disordered behaviors and NSSI: Evidence that distinctions are less clear than assumed. *The International Journal of Eating Disorders*, 52(5), 564–575. <https://doi.org/10.1002/eat.23041>
- Franklin, J. C., Lee, K. M., Puzia, M. E., & Prinstein, M. J. (2014). Recent and frequent nonsuicidal self-injury is associated with diminished implicit and explicit aversion toward self-cutting stimuli. *Clinical Psychological Science*, 2(3), 306–318. <https://doi.org/10.1177/2167702613503140>
- Gardner, M. J., Thomas, H. J., & Erskine, H. E. (2019). The association between five forms of child maltreatment and depressive and anxiety disorders: A systematic review and meta-analysis. *Child Abuse & Neglect*, 96, 104082. <https://doi.org/10.1016/j.chiabu.2019.104082>
- Gee, B. L., Han, J., Benassi, H., & Batterham, P. J. (2020). Suicidal thoughts, suicidal behaviours and self-harm in daily life: A systematic review of ecological momentary assessment studies. *Digital Health*, 6. <https://doi.org/10.1177/2055207620963958>
- Gibb, B., Alloy, L., Abramson, L., & Marx, B. (2003). Childhood maltreatment and maltreatment-specific inferences: A test of Rose and Abramson's (1992) extension of the hopelessness theory. *Cognition and Emotion*, 17(6), 917–931. <https://doi.org/10.1080/02699930244000237>
- Gilbert, P., Clarke, M., Hempel, S., Miles, J. N. V., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology*, 43, 31–50. <https://doi.org/10.1348/014466504772812959>
- Gillies, D., Christou, M. A., Dixon, A. C., Featherston, O. J., Rapti, I., Garcia-Anguita, A., Villasis-Keever, M., Reebye, P., Christou, E., Al Kabir, N., & Christou, P. A. (2018). Prevalence and characteristics of self-harm in adolescents: Meta-analyses of community-based studies 1990–2015. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(10), 733–741. <https://doi.org/10.1016/j.jaac.2018.06.018>
- Glassman, L. H., Weierich, M. R., Hooley, J. M., Deliberto, T. L., & Nock, M. K. (2007). Child maltreatment, non-suicidal self-injury, and the mediating role of self-criticism. *Behaviour Research and Therapy*, 45(10), 2483–2490. <https://doi.org/10.1016/j.brat.2007.04.002>
- Gratz, K. L. (2003). Risk factors for and functions of deliberate self-harm: An empirical and conceptual review. *Clinical Psychology: Science and Practice*, 10(2), 192–205. <https://doi.org/10.1093/clipsy.bpg022>
- Halamová, J., Kanovský, M., Gilbert, P., Troop, N. A., Zuroff, D. C., Hermanto, N., Petrocchi, N., Sommers-Spijkerman, M., Kirby, J. N., Shahar, B., Krieger, T., Matos, M., Asano, K., Yu, F., Basran, J., & Kupeli, N. (2018). The factor structure of the forms of self-Criticising/Attacking & Self-Reassuring Scale in thirteen distinct populations. *Journal of Psychopathology and Behavioral Assessment*, 40(4), 736–751. <https://doi.org/10.1007/s10862-018-9686-2>
- Hawton, K., Rodham, K., Evans, E., & Weatherall, R. (2002). Deliberate self harm in adolescents: Self report survey in schools in England. *BMJ: British Medical Journal*, 325(7374), 1207–1211. <https://doi.org/10.1136/bmj.325.7374.1207>
- Herzog, J. I., & Schmahl, C. (2018). Adverse childhood experiences and the consequences on neurobiological, psychosocial, and somatic conditions across the lifespan. *Frontiers in Psychiatry*, 9, 420. <https://doi.org/10.3389/fpsy.2018.00420>
- Hooley, J. M., & Franklin, J. C. (2018). Why do people hurt themselves? A new conceptual model of nonsuicidal self-injury. *Clinical Psychological Science*, 6(3), 428–451. <https://doi.org/10.1177/21677026177456pao41>

- Irons, C., Gilbert, P., Baldwin, M. W., Baccus, J. R., & Palmer, M. (2006). Parental recall, attachment relating and self-attacking/self-reassuring their relationship with depression. *The British Journal of Clinical Psychology*, 45(3), 297–308. <https://doi.org/10.1348/014466505x68230>
- Kaess, M., Parzer, P., Mattern, M., Plener, P. L., Bifulco, A., Resch, F., & Brunner, R. (2013). Adverse childhood experiences and their impact on frequency, severity, and the individual function of nonsuicidal self-injury in youth. *Psychiatry Research*, 206(2–3), 265–272. <https://doi.org/ludwig.lub.lu.se/10.1016/j.psychres.2012.10.012>
- Kenning, C., Cooper, J., Short, V., Shaw, J., Abel, K., & Chew-Graham, C. (2010). Prison staff and women prisoners views on self-harm; their implications for service delivery and development: A qualitative study. *Criminal Behavior and Mental Health*, 20(4), 274–284. <https://doi.org/10.1002/cbm.777>
- Kiverstein, J., Rietveld, E., Slagter, H. A., & Denys, D. (2019). Obsessive compulsive disorder: A pathology of self-confidence? *Trends in Cognitive Sciences*, 23(5), 369–372. <https://doi.org/ludwig.lub.lu.se/10.1016/j.tics.2019.02.005>
- 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 and Behavioral Assessment*, 31(3), 215–219. <https://doi.org/10.1007/s10862-008-9107-z>
- Klonsky, E. D., & Moyer, A. (2008). Childhood sexual abuse and non-suicidal self-injury: meta-analysis. *The British Journal of Psychiatry: The Journal of Mental Science*, 192(3), 166–170. <https://doi.org/10.1192/bjp.bp.106.030650>
- Knowles, S. E., & Townsend, E. (2012). Implicit and explicit attitudes toward self harm: Support for a functional model. *Journal of Behavior Therapy and Experimental Psychiatry*, 43(2), 730–736. <https://doi.org/10.1016/j.jbtep.2011.10.007>
- Lekberg, A. & Wester, S. (2012). Självkritik eller självuppmuntran? Hur vi beter oss mot oss själva vid motgångar: En utvärdering av instrumenten FSCRS och FSCS. Masters thesis. Department of Psychology, Lund University, Lund, Sweden. Masters thesis. Available at: <https://lup.lub.lu.se/luur/download?func=downloadFile&recordId=2827165&fileId=2827214>
- Li, X., Zheng, H., Tucker, W., Xu, W., Wen, X., Lin, Y., Jia, Z., Yuan, Z., & Yang, W. (2019). Research on relationships between sexual identity, adverse childhood experiences and non-suicidal self-injury among rural high school students in less developed areas of China. *International Journal of Environmental Research and Public Health*, 16(17), 3158. <https://doi.org/10.3390/ijerph16173158>
- Lindholm, T., Bjärehed, J., & Lundh, L. G. (2011). Functions of nonsuicidal self-injury among young women in residential care: A pilot study with the Swedish version of the inventory of statements about self-injury. *Cognitive Behaviour Therapy*, 40(3), 183–189. <https://doi.org/10.1080/16506073.2011.565791>
- Liu, R. T., Scopelliti, K. M., Pittman, S. K., & Zamora, A. S. (2018). Childhood maltreatment and non-suicidal self-injury: A systematic review and meta-analysis. *The Lancet. Psychiatry*, 5(1), 51–64. [https://doi.org/10.1016/S2215-0366\(17\)30469-8](https://doi.org/10.1016/S2215-0366(17)30469-8)
- Low, G., Jones, D., MacLeod, A., Power, M., & Duggan, C. (2000). Childhood trauma, dissociation and self-harming behaviour: A pilot study. *British Journal of Medical Psychology*, 73, 269–278. <https://doi.org/10.1348/000711200160363>
- Mars, B., Heron, J., Klonsky, E. D., Moran, P., O'Connor, R. C., Tilling, K., Wilkinson, P., & Gunnell, D. (2019). Predictors of future suicide attempt among adolescents with suicidal thoughts or non-suicidal self-harm: A population-based birth cohort study. *The Lancet Psychiatry*, 6(4), 327–337. [https://doi.org/10.1016/S2215-0366\(19\)30030-6](https://doi.org/10.1016/S2215-0366(19)30030-6)
- McAuliffe, C., Corcoran, P., Keeley, H. S., & Perry, I. J. (2003). Risk of suicide ideation associated with problem-solving ability and attitudes toward suicidal behavior in university students. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 24(4), 160–167. <https://doi.org/ludwig.lub.lu.se/10.1027//0227-5910.24.4.160>
- McConnell, A. R., & Strain, L. M. (2007). Content and structure of the self-concept. In C. Sedikides & S. J. Spencer (Eds.), *The self* (pp. 51–73). Psychology Press.
- Montgomery, S. A., & Åsberg, M. (1979). A new depression scale designed to be sensitive to change. *British Journal of Psychiatry*, 134, 382–389. <https://doi.org/10.1192/bjp.134.4.382>
- Muehlenkamp, J. J., Claes, L., Smits, D., Peat, C. M., & Vandereycken, W. (2011). Non-suicidal self-injury in eating disordered patients: A test of a conceptual model. *Psychiatry Research*, 188(1), 102–108. <https://doi.org/10.1016/j.psychres.2010.12.023>
- Nagy, L., Shanahan, M., & Baer, B. (2021). An experimental investigation of the effects of self-criticism and self-compassion on implicit associations with non-suicidal self-injury. *Behaviour Research and Therapy. Advanced Online Publication.*, 139, 103819. <https://doi.org/10.1016/j.brat.2021.103819>
- National Institute of Mental Health (NIMH; 2020). Research domain criteria, <https://www.nimh.nih.gov/research/research-funded-by-nimh/rdoc/index.shtml>
- Nilsson, M., Hellström, C., Albin, V., Westrin, Å., Lundh, L.-G., & Westling, S. (2019). Measuring tolerance towards self-harm: Introducing the Lund tolerance towards self-harm scale (LUTOSH). *Stigma and Health.*, 5, 315–322. <https://doi.org/10.1037/sah0000199>
- Nock, M. K., & Favazza, A. R. (2009). Nonsuicidal self-injury: Definition and classification. In M. K. Nock (Ed.), *Understanding nonsuicidal self-injury: Origins, assessment, and treatment* (pp. 9–18). American Psychological Association. <https://doi.org/10.1037/11875-001>
- Nock, M. K., & Kessler, R. C. (2006). Prevalence of and risk factors for suicide attempts versus suicide gestures: Analysis of the National Comorbidity Survey. *Journal of Abnormal Psychology*, 115, 616–623. <https://doi.org/10.1037/0021-843X.115.3.616>
- Odelius, C., & Ramklint, M. (2014). *Nationella självskadeprojektet. En nationell kartläggning av förekomsten av självskadande beteende hos patienter inom barn & ungdoms- och vuxenpsykiatrien*. Uppsala universitet.
- Pfohl, B., Blum, N., St John, D., McCormick, B., Allen, J., & Black, D. W. (2009). Reliability and validity of the borderline evaluation of severity over time (BEST): A self-rated scale to measure severity and change in persons with borderline personality disorder. *Journal of Personality Disorders*, 23(3), 281–293. <https://doi.org/10.1521/pedi.2009.23.3.281>
- Powers, J. T., Brausch, A. M., & Muehlenkamp, J. J. (2021). Explicit and implicit measurement of nonsuicidal self-injury in the prediction of concurrent and prospective self-injury. *Suicide & Life-Threatening Behavior*. Advance online publication, 51, 665–672. <https://doi.org/10.1111/sltb.12734>
- Prinstein, M. J., Heilbron, N., Guerry, J. D., Franklin, J. C., Rancourt, D., Simon, V., & Spirito, A. (2010). Peer influence and nonsuicidal self injury: Longitudinal results in community and clinically-referred adolescent samples. *Journal of Abnormal Child Psychology*, 38(5), 669–682. <https://doi.org/10.1007/s10802-010-9423-0>
- Ribeiro, J. D., Franklin, J. C., Fox, K. R., Bentley, K. H., Kleiman, E. M., Chang, B. P., & Nock, M. K. (2016). Self-injurious thoughts and behaviors as risk factors for future suicide ideation, attempts, and death: A meta-analysis of longitudinal studies. *Psychological Medicine*, 46(2), 225–236. <https://doi.org/10.1017/S0033291715001804>
- Rose, A. V., & Rimes, K. A. (2018). Self-criticism self-report measures: Systematic review. *Psychology and Psychotherapy: Theory, Research and Practice*, 91(4), 450–489. <https://doi.org/ludwig.lub.lu.se/10.1111/papt.12171>
- Rose, D. T., & Abramson, L. Y. (1992). Developmental predictors of depressive cognitive style: Research and theory. In D. Cicchetti & S. L. Toth (Eds.), *Rochester symposium on developmental psychopathology* (pp. 323–349). University of Rochester Press.

- Rosenfarb, I. S., Becker, J., Khan, A., & Mintz, J. (1998). Dependency and self-criticism in bipolar and unipolar depressed women. *British Journal of Clinical Psychology, 37*(4), 409–414. <https://doi-org.ludwig.lub.lu.se/10.1111/j.2044-8260.1998.tb01398.x>
- Sachs-Ericsson, N., Verona, E., Joiner, T., & Preacher, K. J. (2006). Parental verbal abuse and the mediating role of self-criticism in adult internalizing disorders. *Journal of Affective Disorders, 93*(1–3), 71–78. <https://doi.org/10.1016/j.jad.2006.02.014>
- Sharhabani-Arzy, R., Amir, M., & Swisa, A. (2005). Self-criticism, dependency and posttraumatic stress disorder among a female group of help-seeking victims of domestic violence in Israel. *Personality and Individual Differences, 38*(5), 1231–1240. <https://doi-org.ludwig.lub.lu.se/10.1016/j.paid.2004.08.006>
- Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. C. (1998). The Mini-international neuropsychiatric interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *The Journal of Clinical Psychiatry, 59*(Suppl 20), 22–33.
- Smith, N. B., Steele, A. M., Weitzman, M. L., Trueba, A. F., & Meuret, A. E. (2015). Investigating the role of self-disgust in nonsuicidal self-injury. *Archives of Suicide Research: Official Journal of the International Academy for Suicide Research, 19*(1), 60–74. <https://doi.org/10.1080/13811118.2013.850135>
- Snaith, R. P., Harrop, F. M., Newby, D. A., & Teale, C. (1986). Grade scores of the Montgomery-Åsberg depression and the clinical anxiety scales. *The British Journal of Psychiatry, 148*, 599–601. <https://doi.org/10.1192/bjp.148.5.599>
- Stange, J. P., Hamilton, J. L., Burke, T. A., Kleiman, E. M., O'Garro-Moore, J. K., Seligman, N. D., Abramson, L. Y., & Alloy, L. B. (2015). Negative cognitive styles synergistically predict suicidal ideation in bipolar spectrum disorders: A 3-year prospective study. *Psychiatry Research, 226*(1), 162–168. <https://doi.org/10.1016/j.psychres.2014.12.042>
- Steinhoff, A., Bechtiger, L., Ribeaud, D., Eisner, M., & Shanahan, L. (2020). Stressful life events in different social contexts are associated with self-injury from early adolescence to early adulthood. *Frontiers in Psychiatry, 11*, 487200. <https://doi.org/10.3389/fpsy.2020.487200>
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review, 2015*(24), 37–50. <https://doi.org/10.1002/car.2353>
- Swannell, S., Martin, G., Page, A., Hasking, P., Hazell, P., Taylor, A., & Protani, M. (2012). Child maltreatment, subsequent non-suicidal self-injury and the mediating roles of dissociation, alexithymia and self-blame. *Child Abuse & Neglect, 36*(7–8), 572–584. <https://doi.org/10.1016/j.chiabu.2012.05.005>
- Thomassin, K., Shaffer, A., Madden, A., & Londino, D. L. (2016). Specificity of childhood maltreatment and emotion deficit in nonsuicidal self-injury in an inpatient sample of youth. *Psychiatry Research, 244*, 103–108. <https://doi-org.ludwig.lub.lu.se/10.1016/j.psychres.2016.07.050>
- Thompson, R., & Zuroff, D. C. (2004). The levels of self-criticism scale: Comparative self-criticism and internalized self-criticism. *Personality and Individual Differences, 36*(2), 419–430. [https://doi-org.ludwig.lub.lu.se/10.1016/S0191-8869\(03\)00106-5](https://doi-org.ludwig.lub.lu.se/10.1016/S0191-8869(03)00106-5)
- Wedig, M. M., & Nock, M. K. (2007). Parental expressed emotion and adolescent self-injury. *Journal of the American Academy of Child & Adolescent Psychiatry, 46*(9), 1171–1178. <https://doi.org/10.1097/chi.0b013e3180ca9aaf>
- Winter, D., Bohus, M., & Lis, S. (2017). Understanding negative self-evaluations in borderline personality disorder—a review of self-related cognitions, emotions, and motives. *Current Psychiatry Reports, 19*(3), 17. <https://doi.org/10.1007/s11920-017-0771-0>
- World Health Organization (WHO). (2022). Violence against children. https://www.who.int/health-topics/violence-against-children#tab=tab_2
- Wright, M. O., Crawford, E., & Del Castillo, D. (2009). Childhood emotional maltreatment and later psychological distress among college students: The mediating role of maladaptive schemas. *Child Abuse & Neglect, 33*(1), 59–68. <https://doi.org/10.1016/j.chiabu.2008.12.007>
- Yates, T. M. (2004). The developmental psychopathology of self-injurious behavior: Compensatory regulation in posttraumatic adaptation. *Clinical Psychology Review, 24*, 35–74. <https://doi.org/10.1016/j.cpr.2003.10.001>
- Zetterqvist, M., Lundh, L. G., Dahlström, O., & Svedin, C. G. (2013). Prevalence and function of non-suicidal self-injury (NSSI) in a community sample of adolescents, using suggested DSM-5 criteria for a potential NSSI disorder. *Journal of Abnormal Child Psychology, 41*(5), 759–773. <https://doi.org/10.1007/s10802-013-9712-5>

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