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The relationship between self-criticism and suicide probability

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Abstract

The relationship of self-to-self relating and suicide has received attention in explanatory models of suicide. However, exploration of specific types of self-relationships, namely feelings of inadequacy (associated with perfectionism), self-attacking and the ability to be kind and nurturing towards the self has received limited attention in a suicidal population. The present study assessed the relative contribution of self-criticism to suicide probability, alongside established predictors of suicidal ideation; hopelessness, depression, defeat and entrapment. Participants completed measures of inadequacy, self-attacking, self-reassurance, defeat, entrapment, depression and hopelessness ($N = 101$). A correlation, regression and mediation analysis was undertaken. Results demonstrated that self-attacking has a direct relationship with suicide probability, alongside established predictors; entrapment and hopelessness. Depressive symptomology was not found to be a significant predictor of suicide probability in this population.

Addressing particularly hostile forms of self-criticism may be a promising area in terms of future research and clinical practice. Entrapment continues to be a significant predictor of suicide risk and interventions that target this experience should be explored.

KEYWORDS
compassion, self-attacking, self-criticism, self-esteem, suicide

1 | INTRODUCTION

Suicide is a major public health issue, impacting both on individuals and wider community members. Suicide rates have previously shown an overall decline (The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2017), however since 2018 rates have been increasing, particularly for males (Office of National Statistics [ONS], 2020). In a systematic review of risk factors for completed suicide, Franklin et al. (2017) found that reported risk factors rarely predicted suicidal thoughts and behaviours better than chance and that further work was needed to better identify predictors. Novel research is needed to understand the processes that lead to completed suicide and to develop interventions which can effectively reduce suicide probability. For definitional clarity, *Suicidal ideation* is defined in this paper as including thoughts of wanting to die, alongside specific thoughts about engaging in suicidal behaviour. The term *suicidal behaviour* is used to refer to potentially self-injurious actions where there is implicit or explicit evidence that the person intended to end their life. *Suicidality* will be used to describe the combination of suicidal thoughts and behaviour.

Established predictors of completed suicide include mood and substance misuse disorders, issues with impulse control and post-traumatic stress disorder (Nock et al., 2009). In terms of known sociodemographic characteristics linked to suicide, males are three

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times more likely to complete suicide than females (ONS, 2014), whereas females are more likely to make a suicide attempt. In the UK and Wales, Males aged 45–49 years had the highest suicide rate, of 22.5 per 100,000 (ONS, 2020). Other risk factors for completed suicide include being unmarried and with low levels of education, higher levels of poverty and unemployment and substance misuse (Hawton et al., 2009, 2012; Nock et al., 2013).

Alongside demographic risk factors, examination of psychological, interpersonal and cognitive factors in relation to suicidal thoughts and behaviours has been undertaken. This has included hopelessness (Britton et al., 2008; McClean et al., 2008), poor problem solving (Pollock & Williams, 1998) and interpersonal difficulties (Joiner, 2005), for a full review see O'Connor and Nock (2014).

Psychological models of suicide have highlighted the importance of self-criticism in the pathway from suicidal ideation to completed suicide. Suicide has been described as a way of escaping aversive self-awareness, following internalized experiences of failure (Baumeister, 1990). Evolutionary models such as those by Gilbert and Allan (1998) described suicide in terms of 'arrested flight', influenced by negative appraisals of the self and problem-solving difficulties. Suicide in these models is viewed as an extreme form of escape behaviour, a flight from unbearable internal pain, and an attempt to finally resolve seemingly unresolvable issues. Similarly, the 'Cry of Pain model' (Williams, 1997) suggests that ongoing stressors are a major factor in suicidal ideation and attempts, along with appraisal of stressors and their consequences in terms of defeat (or failed struggle), inflexible negative perceptions of self, a sense of arrested flight (entrapment) and perceived absence of rescue. Self-criticism may fulfil the role of an ongoing stressor in this context and also contribute to feeling of defeat, due to the unrelenting self-attacking that can occur in some clients.

More recently, O'Connor (2011), proposed an integrative model of suicide. The Integrated Motivational–Volitional Model (IMV) proposes a sequential process of motivational and volitional factors in the pathway to suicide attempts. The IMV model combines established psychological theories of suicide (such as Joiner et al., 2009) with other key variables and considers their impact on the pathway from distress to suicidal behaviours. Self-criticism in this model may impact on both the pre-motivational and motivational phase of suicidality. At these stages social defeat and 'threat to self-moderators' combine to move individuals along the spectrum of increasing suicidality.

Self-criticism has been described as an experience whereby a person's 'own self-evaluations and sense of self (internal world) become critical, hostile and persecuting.' (Gilbert & Proctor, 2006, p2). Self-criticism has been linked to self-harm, depression and psychopathology in a number of studies (Gilbert et al., 2004, 2010; Irons et al., 2006; O'Connor, 2007; Richter et al., 2009). It has been associated with a range of issues, including recollections of parental rejection, bullying in adolescence and child maltreatment and has a mediating role between negative early experiences, depressive symptoms and suicidal cognition (Castilho, Pinto-Gouveia, & Duarte, 2017; Campos et al., 2013; Glassman et al., 2007). Self-criticism has also been directly linked to suicide (Campos et al., 2013; Falgares et al., 2017; O'Connor & Noyce, 2008). Fazaa and Page (2003) found that self-critical individuals demonstrated increased levels of suicidal intent and completed suicide, and were more likely to attempt suicide due to 'intra-psychic stressors', such as failure to achieve a goal or career concerns, with the explicit motivation to escape.

Key Practitioner Messages

- Self-attacking is a significant predictor of suicide probability, this relationship is partially mediated by entrapment.
- Addressing hostile forms of self-criticism may be a promising area in terms of future research and clinical practice.

Explanatory models of self-criticism include the two-polarity model by Blatt (2008) which draws upon psychodynamic traditions and sees self-criticism as an aspect of a more internally focused versus interpersonal personality construction. The axis of criticism model by Shahar et al. (2015) again draws on psychodynamic theory, and suggests that tendencies towards self-criticism result from a combination of early experiences of criticism from parents or caregivers, combined with a lack of development of an authentic and individuated self. This study has drawn upon the cognitive-evolutionary model proposed by Gilbert et al. (2010) and Gilbert (2014) which suggests that self-criticism lies within a 'threat protection' system and has a function which motivates the individual to avoid loss of social rank within the social sphere.

Research using the cognitive-evolutionary model suggests that rather than a univariate construct, self-criticism may be better conceptualized as comprising two factors; feeling the self as inadequate and inferior (linked to self-correction), and self-attacking or self-hatred (HS), linked to a desire to attack or 'cut off' aspects of the self which are deemed unacceptable (Gilbert, 2014; Gilbert et al., 2004; Kupeli et al., 2013). These forms have been related to a number of negative mental health outcomes including self-harm, depression, anxiety and shame and were thus considered a potential correlate of suicide probability (Gilbert et al., 2010).

These different forms have been confirmed in independent factor analysis of the measure the Forms of Self-Criticism/attaching and Reassurance (FSCRS) by Castilho, Pinto-Gouveia, and Duarte (2017) and Kupeli et al. (2013). The two forms of self-criticism were discussed in a recent systematic review by Werner et al. (2019) who suggested that more research in this area was warranted to examine their specific effects, particularly in relation to more hostile forms of self-attacking.

1.1 | Self-criticism: Inadequacy and perfectionism

One form of self-criticism, inadequacy, has been conceptualized as a motivational strategy to avoid loss of social status; driving self-improvement in an attempt to combat feelings of incompetence (Gilbert, 2005; Gilbert et al., 2010). This form of self-criticism has been linked to self-correction and perfectionistic self-presentation, in

that an attempt is being made to buffer against feelings of external shame (perceived judgement from another). However, often this results in increased levels of self-criticism and negative internal experiences (Costa et al., 2016; Shahar, 2015). Perfectionism is a trait that has been of interest to suicide researchers, and a previous systematic review has suggested that 'self-critical evaluative concerns perfectionism' is linked to suicide (O'Connor, 2007). The current study seeks to understand the role that inadequacy may have in suicide probability, with particular reference to its impact on defeat and entrapment.

1.2 | Self-attacking and disgust

In contrast to the self-improvement/shame avoidance motivation underlying self-critical perfectionism, some self-critical individuals have been found to demonstrate high levels of self-attacking and feelings of disgust towards the self. Gilbert et al. (2004) and O'Connor (2011) both make reference to social rank theory in terms of self-attacking as an attempt to avoid loss of social status by self-punishment or literal removal of an unwanted or hated aspect of the self. This is linked to 'cutting off' and dissociating from an aspect of the self, rather than attempting to 'do better' in the eyes of another.

Self-attacking partially mediates the relationship between dysfunctional cognitions and depression (Simpson et al., 2010). Gilbert et al. (2010) found that self-attacking was significantly correlated with self-harm, depression and anxiety after controlling for self-criticism related to inadequacy. Self-attacking has also been linked to suicidal ideation in individuals with a diagnosis of schizophrenia (Joiner et al., 2001) and individuals engaging in non-suicidal self-injury (Xavier et al., 2016). Literature to date has not examined self-attacking in a clinical, suicidal population, which will be the focus of the current research.

Within the suicide literature and the IMV model of suicide (O'Connor & Kirtley, 2018), defeat and entrapment have been highlighted as two important areas associated with suicidal ideation (Slade et al., 2014; Taylor, Gooding, et al., 2010; Taylor, Wood, et al., 2010). Defeat in relation to suicide is described as 'a failed struggle related to loss of status or identity' (Taylor et al., 2011). Entrapment is linked to uncontrollable, unremitting and inescapable situations (Gilbert, 2005, 2006). The relationship between internalized self-criticism and social defeat is one potential mechanism whereby self-criticism impacts on suicidality. Similarly, there is emerging literature on the direct relationship of self-criticism to entrapment, through its role as an inescapable stressor (Martin et al., 2006; Sturman & Mongrain, 2005). Entrapment is increasingly seen as an important predictor of suicidal behaviour; (O'Connor & Portzky, 2018). For this reason, the present study will examine the potential mediating effects of defeat and entrapment in the relationship between self-criticism and suicide probability.

1.3 | The role of self-compassion in suicidality

One emerging factor within the self-criticism literature is the role of self-compassion, kindness and reassurance as a potential strategy that may mitigate the impact of self-criticism on a range of mental health difficulties. A recent meta-analysis by Kirby et al. (2017) examined the role of interventions aimed at increasing self-compassion across a range of populations (including those in psychological distress, with anxiety and with depression), a moderate effect size was found. Similarly compassion focused therapy based interventions have been shown to impact on self-criticism levels in individuals with social anxiety, Non-Suicidal Self-Injury (NSSI) and those accessing weight management support (Boersma et al., 2015; Duarte et al., 2017; Van Vliet & Kalnins, 2011).

Self-compassion/self-reassurance has demonstrated an impact on self-criticism levels in individuals with conditions related to suicide (such as depression and eating disorders and NSSI) and low levels of self-compassion have been related to increased suicidal ideation (Collett et al., 2016). It is therefore hypothesized that self-compassion/self-reassurance will have a relationship with self-criticism in suicidal individuals.

This study aimed to investigate the role of different forms of self-criticism (inadequacy and self-attacking) and their relationship to suicide probability. In order to understand the mechanisms underpinning this relationship, the potential role of defeat and entrapment will also be examined using a mediation analysis. Known correlates of suicide—depression, hopelessness, defeat and entrapment will be included. This is in line with current theoretical models of suicide, where defeat and entrapment are seen to play a key role in the pathway to suicidal thoughts and behaviours.

Hypothesis one makes the prediction that inadequacy will be significantly associated with suicide probability. Hypothesis two makes the prediction that self-attacking will be significantly associated with suicide probability. Hypothesis three proposes a mediating role of defeat and entrapment on the relationship between inadequacy and suicide probability. Hypothesis four predicts a mediating role of defeat and entrapment on the relationship between self-attacking and suicide probability.

2 | METHOD

2.1 | Inclusion criteria

Participants comprised of adults (over 18 years) who had self-reported suicidal ideation or behaviours in the preceding 12 months. They were also required to be in contact with mental health services at time of recruitment, have sufficient English language proficiency to complete self-report questionnaires and capacity to give informed consent. Exclusion criteria included individuals with organic brain disease or who were heavily intoxicated at the time of assessment.

2.2 | Procedure

Participants were recruited from mental health services across the North West of England and were identified by a relevant mental

health professional. These services included mental health inpatient wards, community mental health teams and crisis resolution and home treatment teams. Inpatient participants were recruited from the assessment session of a suicide prevention cognitive behavioural therapy trial (the RfPB funded INSITE trial, Haddock et al., 2016) and consent to use data collected within this trial was provided by all participants. Ethical approval was provided for this study, by the NHS ethics committee in the North West of England–Lancaster (IRAS reference number 170377).

3 | MEASURES

3.1 | Suicide probability

The Suicide Probability Scale (SPS; Cull & Gill, 1982).

The SPS is a 36-item self-report measure that generates three summary scores—a total weighted score, a normalized *T* score, and a Suicide Probability Score—that give an overall indication of suicide risk. Participants are asked to rate their experiences of suicidality on a 4 point Likert scale. There are four subscales within the measure which include known correlates of suicide; hopelessness, suicidal ideation, negative self-evaluation and hostility. Responses focus on the frequency of emotions and behaviours from 'none or a little of the time' to 'most or all of the time' (questionnaire did not specify a time period). Whilst this measure is well validated, there have been queries about the predictive power of any measures of suicide, and a suggestion that risk measures should not be relied upon as the sole predictors of suicide risk (Carter & Spittal, 2018). The SPS has an internal consistency of 0.93 and test–retest reliability of 0.92 (Cull & Gill, 1982). Studies have reported alpha coefficients of 0.92 and 0.90 (Gutierrez et al., 2001; Tatman et al., 1993). In the present study internal consistency was $\alpha = 0.86$.

3.2 | Depression and hopelessness

The Calgary Depression Scale for Schizophrenia (CDSS; Addington et al., 1990).

The CDSS is a nine-item interviewer administered scale measuring depression severity over the previous 2 weeks. Questions examine various symptoms associated with depression including early wakening, guilty ideas of reference and pathological guilt. It has good internal consistency ($\alpha = 0.82$) and test–retest validity, 0.83 (Addington et al., 2014). In the present study internal consistency was $\alpha = 0.72$.

The Beck Hopelessness Scale (BHS; Beck et al., 1974).

The BHS is a 20-item self-report scale which measures negative beliefs around three areas of hopelessness in the past week; feelings about the future, loss of motivation, future expectations. Beck et al. (1974) reported $\alpha = 0.93$. Durham (1982) found that reliability of BHS scores was 0.86 to 0.83 for psychiatric populations. In the present study internal consistency was $\alpha = 0.92$.

3.3 | Defeat and entrapment

The Defeat Scale (Gilbert & Allan, 1998).

The Defeat Scale is a 16 item self-report scale that examines perception of social rank and failed struggle over the past 7 days. Participants rate their agreement with statements associated with defeat on a four point Likert scale from never to always. The scale has previously been found to have an internal consistency of $\alpha = 0.93$–0.94 (Taylor et al., 2011). In the current study the internal consistency of this scale was $\alpha = 0.84$.

The Entrapment Scale (Gilbert & Allan, 1998).

The Entrapment scale is a 16-item self-report scale which examines motivation to escape on a five point Likert scale; the scale does not specify a timescale. It has previously been found to have an internal consistency of $\alpha = 0.95$ (Taylor, Gooding, et al., 2010). The internal consistency in this study was rated as $\alpha = 0.86$.

3.4 | Self-criticism and self-reassurance

The Forms of Self-Criticizing/Attacking and Self Reassuring Scale (FSCRS; Gilbert et al., 2004)

The FSCRS is a 22 item self-report scale that examines self-criticism and the ability to self-reassure when things go wrong. Participants answer items against a five point Likert scale ranging from 0 'not at all like me' to 4 'extremely like me'. Sub scales include 'inadequate self' which focuses on a sense of not being good enough or personal disappointment and 'hated self' which examines the level of self-attacking or desire to persecute the self. A final factor examines 'reassured self' which involves ideas around self-kindness and forgiveness of self. In a clinical sample the α for inadequate self was 0.87–0.89, for self-attacking was 0.83–0.86 and for reassured self was 0.85–0.87 (Baião et al., 2015). In the current study α for inadequate self was 0.83, hated self was 0.79 and reassured self was 0.86.

3.5 | Demographic data

Demographic data for age, gender, ethnicity, marital status and diagnosis (self-report) were collected from participants at the time of interview and was based on self-report.

3.6 | Data analyses

Following Cohen (1992), in order to ensure the number of participants to predictor variable ratio exceeded 10:1, that is, 10 participants per predictor variable, a minimum of 60 participants was required with five predictor variables (depression, hopelessness, defeat, entrapment and self-criticism variables). Additional analyses were planned for the self-criticism sub-domains of self-attacking, inadequacy and self-reassurance along with the previous four predictor variables. It was

hypothesized that an effect size of approximately $r = 0.4$ should be expected (this was calculated by taking the mean of three studies with a similar methodology; Enns et al., 2003; Gilbert et al., 2010; Gilbert & Miles, 2000). With 60 participants, results would have an 80% power to detect simple correlations of 0.4 or more between pairs of measures. Additional participants were recruited to allow for exploratory hypotheses to be carried out.

Tests for normality and identification of potential outliers were completed including tests for kurtosis, skewness and box plots to check for outliers. Initial bivariate correlations were carried out. Missing data were accounted for by taking an average of scores for that response in accordance with Tabachnick and Fidell (2007).

Assumptions necessary for conducting multiple regression modelling were tested, including independence of observations (Durbin–Watson statistic), checking of linear relationships, test for multicollinearity and significant outliers. Variables that had shown a significant relationship with suicide probability were selected for entry into multiple regression analyses for each of the self-criticism variables—inadequacy and self-attacking (hypotheses one and two).

Mediation analysis was then carried out using the Hayes (2013) PROCESS Macro for IBM SPSS version 23, which uses bootstrapping to generate confidence intervals through random resampling. In the mediation analyses, bootstrapping with 5000 resamples and 95% percentile based confidence intervals were calculated to examine the indirect effects of different forms of self-criticism on suicide probability via entrapment (hypotheses three and four).

4 | RESULTS

4.1 | Study characteristics

Of the 101 participants recruited 42% were male, 57% female, 1% transgender/other. In terms of ethnicity, 95% of the sample described themselves as white British and 5% as black British. Self-report diagnoses/mental health problem are shown in Table 1. Sixty-seven percent of participants were single, 9% married and 23% divorced. A proportion of the recruited participants were currently receiving treatment in an inpatient setting (41) and the rest were from community settings (60).

Table 2 details the descriptive statistics of variables, in terms of suicide probability 86% of participants scored above the clinical cut off of 80 found in other papers to indicate caseness (Bagge & Osman, 1998; Liang & Yang, 2010). Calgary Depression Scale score was 13.04, above the clinical cut off of 6 suggested by Addington et al. (2014). The sample scored in the moderate/severe range on Beck Hopelessness Scale. There are no clinical cut offs for either the defeat or entrapment scales, but a maximum score is 64 and participants scores on average 45.74 and 43.77, respectively. Similarly for the scores on the subscales of the FSCRS there are no clinical cut offs, however the maximum score for inadequacy sub scale is 36, with current participants scoring 28.61, for self-attacking the total score is 18 and current participants scored an average of 13.31, both of which seem at the upper end of scoring. For self-reassuring the maximum score is 32 and participants scored 9.46, this is towards the lower end of scoring.

Bivariate correlations between all variables are presented in Table 3. All variables were significantly related to suicide probability as measured by the SPS. The strongest relationship was between entrapment and suicide probability ($r = 0.63$). Both self-attacking and inadequacy were related to suicide probability to a similar degree ($r = 0.48$ and 0.47, respectively).

4.2 | The role of inadequacy in suicide probability—Hypothesis one

It was hypothesized that 'inadequacy' would be significantly associated with suicide probability. Inadequacy was associated with suicide probability ($r = 0.47$, $P < 0.01$) at a bivariate correlational level.

A multiple regression analysis was carried out to further explore the relationship between inadequacy and suicide probability. In the model that accounted for 53% of the variance ($R^2 = 0.53$, F [5, 94] $= 20.80$, $p < 0.001$), hopelessness and entrapment were both found to be significant predictors of suicide probability (hopelessness $\beta = 0.332$, $t = 2.87$, $p < 0.001$, entrapment $\beta = 0.393$, $t = 4.14$, $p < 0.001$), whereas depression, defeat and inadequacy were not (see Table 4 for results).

TABLE 1 Participants by self-reported diagnosis/mental health condition

Diagnoses	
Personality disorder	41
Depression	35
Psychosis	25
Anxiety	13
Bipolar disorder	12
Post-traumatic stress disorder	8
Unknown	8
Substance misuse	3
Eating disorder	2

TABLE 2 Descriptive statistics

	Mean	SD	Range
Suicide probability	96.47	18.17	54–131
Depression	13.04	5.36	1–26
Hopelessness	12.86	5.92	0.–20
Defeat	45.74	12.67	1–64
Entrapment	43.77	11.89	8–63
Self-attacking	13.31	5.37	0–20
Inadequacy	28.61	6.28	8–36
Self-reassurance	9.46	6.36	0–27

TABLE 3 Bivariate correlations of all variables

	Suicide probability	Depression	Hopelessness	Defeat	Entrapment	Inadequacy	Self-reassurance	Self-hatred
Suicide probability		0.42[a]	0.62[a]	0.54[a]	0.65[a]	0.40[a]	−0.34[a]	0.46[a]
Depression			0.60[a]	0.54[a]	0.43[a]	0.31[a]	−0.32[a]	0.34[a]
Hopelessness				0.74[a]	0.59[a]	0.34[a]	−0.51[a]	0.38[a]
Defeat					0.60[a]	0.37[a]	−0.47[a]	0.42[a]
Entrapment						0.40[a]	−0.28[a]	0.45[a]
Inadequacy							−0.49[a]	0.70[b]
Self-reassurance								−0.62[a]
Self-hatred								

[a]Correlation is significant at the 0.01 level (two-tailed).
[b]Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples.

TABLE 4 Multiple regression predicting suicidal probability (inadequate self)

	Unstandardized coefficients		Standardized coefficients
	B	Std. error	Beta
(Constant)	45.50	7	
Calgary depression scale	0.024	0.307	0.007
Beck hopelessness scale	1.019	0.355	0.332[a]
Entrapment scale	0.600	0.145	0.393[b]
Defeat	0.28	0.161	0.20
Inadequate self FSCRS	0.349	0.229	0.121

[a]Correlation is significant at the 0.05 level.
[b]Correlation is significant at the 0.001 level (two-tailed).

TABLE 5 Multiple regression predicting suicidal probability (self-attacking)

	Unstandardized coefficients		Standardized coefficients
	B	Std. error	Beta
(constant)	50.40	5.14	
Calgary depression scale	0.005	0.305	0.001
Beck hopelessness scale	1.021	0.352	0.33[a]
Entrapment scale	0.577	0.145	0.378[b]
Self-attacking FSCRS	0.545	0.274	0.161[a]

[a]Correlation is significant at the 0.05 level.
[b]Correlation is significant at the 0.001 level (two-tailed).

4.3 | The role of self-attacking in suicide probability—Hypothesis two

Hypothesis two proposed that the 'self-attacking' form of self-criticism would be significantly associated with suicide probability. Self-attacking was significantly associated with suicide probability ($r = 0.48$, $p < 0.01$).

A multiple regression analysis was carried out to further examine the relationship between levels of self-attacking and suicide probability (see Table 5). Self-attacking, hopelessness and entrapment were all found to be significant predictors of suicide probability (self-attacking $\beta = 0.16$, $t = 1.98$, $p = <0.05$; entrapment $\beta = 0.378$, $t = 3.98$, $p = 0.001$; hopelessness $\beta = 0.33$, $t = 2.90$, $P < 0.005$) in the model. Hypothesis two was therefore supported. Depression and defeat were not found to be significant predictors of suicide probability. The results of the regression found that the predictors accounted for 53% of the variance ($R^2 = 0.53$, F [5, 94] $= 21.47$, $p < 0.001$). See Table 5 below for results.

4.4 | Self-reassurance

Self-reassurance was related to suicide probability at a correlational level ($r = -0.34$, $p < 0.01$).

4.5 | The mediating role of entrapment in the relationship between inadequacy and suicide probability

Hypothesis three entailed a path analysis of the relationship between inadequacy and suicide probability and the possible mediating effects of defeat and entrapment. As defeat and inadequacy were not found to be significant predictors of suicide probability this analysis was not undertaken.

4.6 | The mediating role of entrapment in the relationship between self-attacking and suicide probability

Hypothesis four examined the mediating role of entrapment in the relationship between self-attacking and suicide probability. The relationship between self-attacking and suicide probability was partially mediated by entrapment ($\beta = 0.84$, bootstrap CI 0.42–1.31), see Figure 1 for results. As the gap between bootstrapped confidence intervals does not contain zero, that would suggest a significant mediating effect involving entrapment, though self-attacking remained significantly and directly linked to suicide probability.

5 | DISCUSSION

The present study aimed to test two main hypotheses; first, that feelings of inadequacy would be significantly related to suicide probability. Second, that experiences of self-attacking/self-hatred would be significantly related to suicide probability. The final two hypotheses aimed to explore the potential mediating effect of entrapment on this relationship.

Results suggest that self-attacking is a significant independent predictor of suicide probability, alongside established predictors of suicide; entrapment and hopelessness. The results did not support inadequacy as a significant predictor of suicide probability, above established predictors. The relationship between self-attacking and suicide probability remained significant when considering the mediating role of entrapment, and analysis demonstrated that entrapment had a partial mediating effect on the relationship between self-attacking and suicide probability.

This study's findings support recent work by O'Connor and Portzky (2018), which suggests that entrapment is an important factor in the progression from mental distress to suicidal behaviour. Previous research involving both systematic reviews and meta-analyses has suggested that entrapment is a key predictor of suicidal behaviour in both cross-sectional and prospective studies (Siddaway et al., 2015; Taylor et al., 2011). The findings add an additional dimension of self-attacking as an independent and significant predictor of suicide probability, which may have clinical implications (see discussion below).

One of the potential routes to increased suicide probability via self-attacking comes from research into childhood adversity and its resulting impact on self-criticism and shame. Research suggests that for highly self-critical individuals, adverse childhood experiences such as emotional and sexual abuse, physical neglect and perceived over-protectiveness of the early primary caregiver, increase levels of internalized self-criticism and shame (Castilho, Carvalho, et al., 2017; Campos et al., 2013; Glassman et al., 2007). This in turn exposes individuals to internal bullying, humiliation and social defeat (Gilbert et al., 2004, 2007) and increased sensitivity to threat signals. Self-threat has been described as a state 'where favourable views about oneself are questioned, contradicted, impugned, mocked, challenged or otherwise put in jeopardy' (Baumeister et al., 1996, p8). This definition is remarkably similar to the items on the FSCRS, where self-critical attitudes and behaviours include 'I feel beaten down by my own self-critical thoughts', 'I have a sense of disgust with myself' and 'I call myself names'. This internalized self-criticism and self-attacking may lead to increased feelings of entrapment as an individual is unable to escape the persecutory aspects of the self (Baumeister, 1990; Gilbert & Irons, 2005).

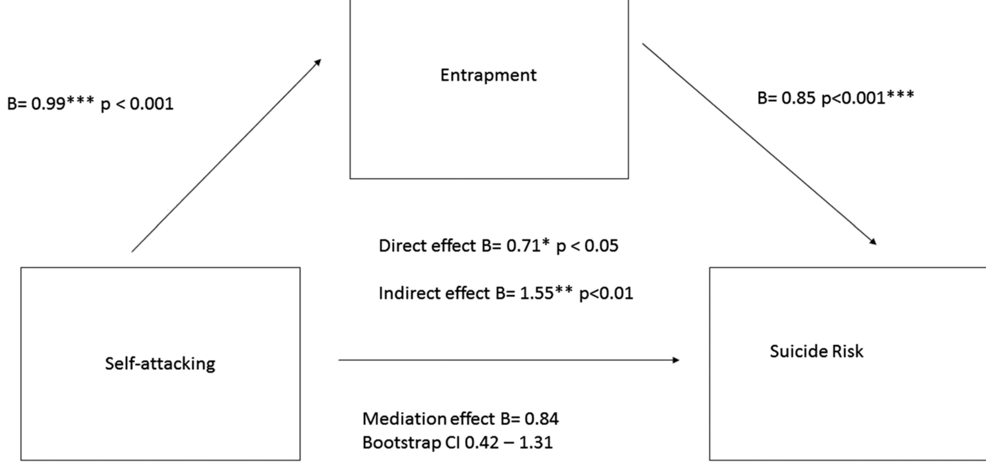

FIGURE 1 Mediation analysis of the role of entrapment in the relationship between self-attacking and suicide risk

It has been suggested that increased levels of internalized self-criticism and social perfectionism lead ultimately to social disconnection and experiences of thwarted belongingness (O'Connor & Noyce, 2008). Thwarted belongingness is a well evidenced construct in the interpersonal theory of suicide (Joiner et al., 2009) and involves the experience of alienation from family, friends or other valued groups. It has been hypothesized that experiences of thwarted belongingness moderate experiences of entrapment by isolating an individual and this leads to increased experiences of suicidal ideation and later behaviour (O'Connor, 2011; O'Connor et al., 2016). However, this has yet to be supported conclusively by evidence, and a recent study by Forkmann and Teismann (2017) suggested that thwarted belongingness did not moderate the relationship between entrapment and suicidal ideation.

A number of explanatory models of suicide incorporate ideas that relate to negative evaluations of the self (Johnson et al., 2008), escape from aversive self-awareness (Baumeister, 1990) and their relationship to increased levels of suicidality. Both the 'Cry of pain model' (Williams, 1997) and Gilbert and Allan's model of 'arrested flight' suggest that ongoing stressors are a major factor in suicidal ideation and attempts, along with appraisal of stressors and their consequences in terms of defeat (or failed struggle), inflexible negative perceptions of self, a sense of arrested flight (entrapment) and absence of rescue. In this context the hostile and aggressive internal environment of individuals with high levels of self-attacking may create an inescapable ongoing stressor, which may impact directly on suicidal thoughts, and a sense of ongoing entrapment. This inescapable threat may lead to suicide being seen as the only answer to ongoing internal attacks.

The cry of pain model was integrated with other key models of suicidality by O'Connor (2011), who outlined the Integrated Motivational-Volitional Model (IMV) of suicide. This model again highlighted the key areas of defeat and entrapment in suicidal rumination and behaviour. It proposed that the motivation to escape from defeating circumstances (in this context inescapable hostile self-attacking) drives a search for a solution to end the psychological pain being experienced (Shneidman, 1996). Self-criticism in this model may impact on both the pre-motivational phase of suicidality, increasing levels of social defeat and interacting with threat to self-moderators to move individuals from their experiences of emotional distress to increasing levels of suicidality.

5.1 | Clinical implications

Self-criticism has been associated with early childhood experiences of adversity, including neglect, maltreatment and feeling threatened (Pagura et al., 2006) alongside self-harm (Glassman et al., 2007). Thus, practitioners working in services where clients have experienced high levels of early adversity may wish to consider the role of self-attacking on client mental health. Assessment and consideration of self-criticism experienced by clients, alongside their experiences of feeling trapped, hopeless or unable to escape would be recommended in clinical practice. This would allow clinicians to target the specific antecedents of suicidal thoughts and behaviours with a view to preventing escalating levels of suicide probability. Sensitive exploration of early adversity, and its potential links to present day thoughts and experiences of self-attacking would be advised, as a recent paper by Irons and Lad (2017) has suggested that attempts to work using traditional exposure techniques in response to shame and self-criticism could lead to increased non-attendance or drop-out rates in therapy. Practitioners should also be aware that in a recent systematic review by Löw et al. (2020), high levels of self-criticism were associated with poorer treatment outcomes, particularly in high-risk client groups such as those with eating disorders.

A recent systematic review also found that self-compassion was associated with lower levels of suicidal ideation (Cleare et al., 2019). Although the evidence base is still emerging, approaches such as Compassion Focused Therapy (CFT) aim to develop healthy self-self-relating in highly self-critical individuals, with techniques that can be utilized to activate the attachment system and develop a more nurturing approach to the self (Gilbert & Irons, 2005; Gilbert et al., 2010; Irons & Beaumont, 2017; Welford, 2012). A recent review highlighted that CFT does have a positive impact on increasing self-compassion and on a range of mental health difficulties, particularly when delivered in group form and over 12 sessions (Craig et al., 2020). Compassion focused therapy based interventions have been shown to impact on self-criticism levels in individuals with social anxiety, Non-Suicidal Self-Injury (NSSI) and those accessing weight management support (Boersma et al., 2015; Duarte et al., 2017; Van Vliet & Kalnins, 2011), and thus may help to reduce suicide probability in individuals with high levels of self-attacking. Jameson (2014) suggested that a combination of Cognitive Analytic Therapy (CAT) and CFT could be a useful combination for those clients who struggle with the acceptance of compassion initially, given CAT's ability to map the role of past relationships on present experiences.

Targeting of self-critical cognitive processes is one possible avenue for clinicians to undertake in the reduction of suicide probability in clients. This might involve the integration of models which address self-critical thoughts into existing suicide prevention CBT protocols (CBT-SP; Mewton & Andrews, 2016; Stanley et al., 2009; Tarrier et al., 2013). CBT-SP have demonstrated effectiveness over condition specific models in the treatment of suicidal thoughts and behaviours. Evidence from the present study suggests that it is not enough to target depressive cognitions; other factors have better predictive power in terms of suicide probability and would make more efficient targets for symptom reduction.

Thwarted belongingness, a key facet of the interpersonal theory of suicide, has been linked to internalized criticism in the literature (O'Connor & Noyce, 2008); thus, interventions to address this experience may be helpful in reducing risk of suicide in highly self-critical individuals. Adaptations to interpersonal interventions such as psychodynamic interpersonal therapy (PIT) and interpersonal therapy (IPT) derived from the interpersonal theory of suicide have been implemented with positive results (Brown & Jager-Hyman, 2014; Van Orden et al., 2012).

5.2 | Limitations

One limitation of the study was that it was based on cross-sectional data and as such it is not possible for causal inferences to be made. The study is of a relatively small sample size and though sufficient as a minimum number of participants, could have benefitted from increased participants per predictor in the regression ($N = 25$) in line with recent recommendations by Jenkins and Quintana-Ascencio (2020), so findings should be considered tentative and warrant further exploration. The study did not include an ethnically diverse population so the findings may not be generalisable to other ethnic groups A strength of the study was that it did include a range of individuals from within the mental health population, with a diversity of diagnoses, inpatient and community settings.

6 | CONCLUSIONS

The results of this study suggest that the more severe and hostile form of self-criticism—self-attacking—is significantly and directly related to elevated levels of suicide probability. The results highlight the need for existing explanatory models of suicide to continue to incorporate self-self-relating as a key factor that may increase suicide probability. Future recommendations include longitudinal studies examining the role of self-attacking attitudes on suicidality and an exploration of the effectiveness of therapeutic interventions which target self-criticism in a suicidal population.

CONFLICT OF INTEREST

There are no conflict of interests to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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