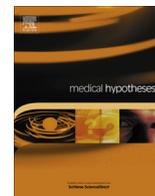


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Self-cutting versus intentional overdose: Psychological risk factors

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ABSTRACT

Individuals who present to emergency departments with self-harm are at elevated risk of further self-harm and suicide, and these risks are yet higher among patients who self-cut. Repetitive self-injury has previously been explained using a behaviourist approach focussing on operant conditioning, but we propose that the increased risk of self-harm repetition among those who present with self-cutting is at least partly mediated by pre-existing psychological risk factors. Several studies show that those who present with self-cutting differ from intentional overdose patients on demographic, psychiatric and social factors, but, based on findings from community-based studies, we hypothesise that there may be additional psychological differences that may also be associated with increased repetition risk. We conducted a small-scale cohort study of 29 self-harm patients presenting to A&E and compared theoretically-derived psychological variables between 8 self-cutting and 21 overdose patients. Those presenting with self-cutting scored significantly higher on hopelessness and lower on non-reactivity to inner experience and generally had a more vulnerable profile than those presenting with overdose. These findings support our hypothesis that the association between self-cutting and prospective repetition is at least partly due to pre-existing psychological vulnerabilities that increase both the likelihood of engaging in self-cutting as a method of self-harm and the likelihood of subsequent repetition of self-harm. Existing evidence suggests that self-cutting is a risk factor for repetition of self-harm, and it is possible that reducing and preventing repetition among these patients can be achieved by implementing psychological interventions to reduce hopelessness and increase tolerance of emotional distress.

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Introduction/background

Self-harm is a significant health problem, in terms of health services burden and associated suicide risk, with suicide rates up to 30 times higher among those presenting with self-harm compared with the general population [1]. Rates of hospital-presenting self-harm vary greatly within and between countries, but rates in developed countries fall around 150 and 200 per 100,000 [2–5]. However, rates of self-harm in the community are many times higher as the majority of those who engage in self-harm do not seek treatment [6]. Self-harm is strongly associated with psychosocial vulnerability and psychiatric morbidity [7] and a presentation to an emergency department with self-harm represents a valuable opportunity to address existing difficulties and prevent further harm or death. A median of 16% of those presenting to hospital with self-harm will re-present with self-harm in the year after an index episode [8]. Repetition of self-harm indicates on-going distress and confers increased risk of further non-fatal self-harm

and suicide [9,10]. Recent systematic reviews [11,12] have synthesised the evidence on risk factors for repetition and have identified dozens of studies examining epidemiological and psychiatric risk factors. Despite the promise they hold for intervention development, psychological risk factors for repetition have been examined less often in empirical studies. However, there is emerging evidence of an association between prospective repetition and baseline levels of hopelessness, social problem-solving, impulsivity, and autobiographical memory [13–16].

Self-cutting presentations represent approximately 20% of all presentations of self-harm [3,5,17,18]. The terms self-cutting refers to intentional self-harm using a sharp object and incorporates varying levels of severity, bodily sites, implements, and suicidal intent. Self-cutting presentations most often involve the use of razors, knives, and glass with cutting most often occurring on the forearm or wrist [19], may be deep or more superficial [20], and suicidal intent may fall anywhere along a continuum [21]. Several recent high-quality large-scale studies of prospective repetition have reported that presenting with self-cutting as a method of self-harm in an index episode confers an increased risk of self-harm repetition [5,22–24]. Moreover, there is emerging evidence that those who present with self-cutting are at elevated risk of

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subsequent suicide [25]. In terms of risk assessment, self-cutting has unique advantages in terms of flagging repetition risk as it can be recognised easily and quickly by front-line staff in emergency department settings. Staff attitudes towards self-harm in general are often stigmatising [26], but self-cutting seems to be particularly undertreated [23] and maligned as “attention-seeking” in healthcare settings [27]. Such attitudes appear to stem from a behaviourist paradigm in which undesirable behaviours are punished or ignored to discourage repetition of the behaviour, an assumption that is echoed in some explanatory theories of self-injury. What is less often acknowledged is the fact that those who present with self-cutting are at increased risk of repetition of self-harm and suicide in the future [5,22–25]. Rather than being a group including patients who are “undeserving” of appropriate care, those who present with self-cutting represent a group at higher risk of adverse outcomes, but the reasons for such adverse outcomes are not clear.

The hypothesis/theory

The association between self-cutting and prospective repetition among emergency department presentations is one that has only recently come to the attention of researchers, and possible explanations for the association are lacking. One theorised mechanism for the association comes from the behaviourist principle of reinforcement, such that the effects of a self-harm episode help to maintain the behaviour [28]. However, it is clear that, while self-cutting may have an initial positive effect of reducing tension, depersonalisation or other undesirable psychological states, it is certainly not “rewarded” in healthcare settings: those who present with self-cutting are less likely to receive admission or assessment than those who present with overdose [23] and some of the negative experiences of care in the emergency department seem to apply particularly to the treatment of self-cutting [29]. Another possible mechanism is that the association between self-cutting and repetition is at least partly due to certain psychological vulnerabilities among those who present with self-cutting. If these are the same vulnerabilities that place a person at higher risk of repetition, then it could be that the association between self-cutting and repetition is at least partly mediated by psychological vulnerability. Arising from this hypothesis, it is predicted that patients presenting with self-cutting would have higher scores on traits and states associated with self-harm repetition [such as hopelessness, aggression, impulsivity, sensitivity to defeat] and lower scores on protective factors [such as problem-solving, mindfulness, specificity of autobiographical memory, and positive future fluency]. Fig. 1 models the hypothesised interplay between psychological vulnerability, method used for self-harm, effects of self-harm episode, and likelihood of subsequent repetition among self-harm patients.

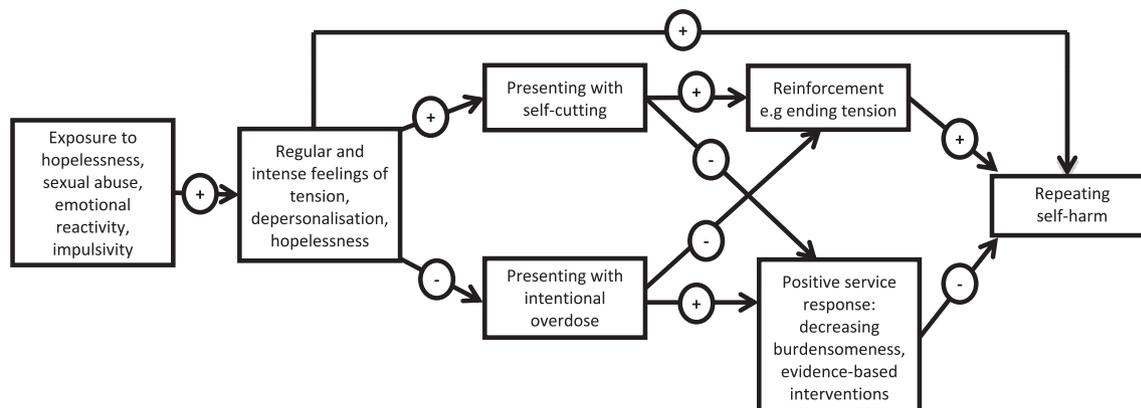


Fig. 1. Model of the associations among psychological variables, method of self-harm, and outcomes of a self-harm presentation.

Evaluation of the hypothesis/idea

Existing evidence indicates some psychological differences between self-cutting patients and overdose patients. Two studies have reported lower suicidal intent scores among those presenting with self-cutting compared with those presenting with intentional overdose [21,30]. Sorketti and Zuraida [31] compared patients presenting with self-cutting and those presenting with intentional overdose and found higher rates of major depression in the former. An Australian study [32] found that those who presented with self-cutting were less likely to receive a diagnosis of depression after presentation.

Several community-based studies have compared adolescents reporting self-cutting to those reporting overdose. In contrast with findings of higher suicide risk among those who present with self-cutting, Hawton, Harris and Rodham [33] found that, compared with those who reported engaging in intentional overdose, adolescents who reported engaging in self-cutting more seldom wished to die and their self-harm was more often impulsive. However, there were no differences on measures of depression, anxiety, impulsivity, self-esteem, or coping strategies. Tolmunen, Rissanen, Hintikka, Maaranen, Honkalampi, Kylmä et al. [34] found that adolescents who self-cut reported higher levels of dissociation than those engaging in other forms of self-harm. In a community sample of Finnish adolescents [35], social isolation, daily smoking and substance misuse were associated with a history of self-cutting but not self-harm. However, school-based studies are of limited representativeness to hospital-based samples, because they are younger, and generally have better psychosocial functioning. The ideal way to examine psychological differences between those who present with self-cutting and those who present with overdose would be a cohort study of self-harm patients, which would measure psychological variables soon after presentation and repetition of self-harm in the period after presentation. Because of the lack of existing evidence in this area, we undertook a small-scale empirical study of the hypothesis, examining whether there were psychological differences between those who present with self-cutting and those who present with overdose and whether these factors were also risk factors for prospective repetition.

Empirical data

Sampling and recruitment

The current study recruited patients presenting to two emergency departments in Cork City with intentional overdose or deliberate self-cutting, regardless of severity or level of suicidal intent [36]. To be included, patients had to be deemed by the recruiter [crisis nurse, assessment nurse or liaison psychiatrist] to be

capable of comprehending the nature of the study and weighing the decision to participate. Recruitment took place through crisis nurses and out-of-hours liaison psychiatry services in Cork, Ireland, between October 2010 and May 2012. Staff members were asked to distribute an informational letter and a local resource information pack to eligible patients and details of willing patients were forwarded to the research team. Eligible patients were contacted by telephone 5–7 days after discharge and invited to take part in an interview at a location of their choosing [median 16 days after presentation]. Recruiting eight self-cutting and 21 overdose patients conferred 80% power to detect an effect size of 1.2 or more.

Procedure

Baseline interviews were conducted at a location of the participant's choice, at a university meeting room [$n = 15$; 52%], the participant's home [$n = 10$; 34%], or a neutral location, such as a community centre in the participant's neighbourhood [$n = 4$; 14%]. Interviews lasted a median of 90 min [range: 50–330 min]. The interview was comprised of a number of psychometric questionnaires and cognitive tasks. Three months after the initial interview, patients were contacted by telephone to arrange a follow-up interview. The follow-up interview schedule was identical to the baseline schedule, except that questions about previous self-harm were limited to the preceding three months. If there had been no repetition of self-harm during the follow-up, the Beck Suicide Intent Scale was omitted. Ethical approval was granted by the Clinical Research Ethics Committee, University College Cork.

Measures

For the most part, the variables selected for inclusion in the current study were derived from Van Heeringen's [37] psychobiological model of suicidal behaviour, many of which are linked to repetition and/or method of self-harm in extant research. We recorded the method[s] of self-harm used in the index episode [self-cutting or intentional overdose], whether or not alcohol was involved in the index act, and hospital management of the index episode [no admission, general admission, psychiatric admission]. Suicidal intent was measured using the Suicide intent scale [38], a 15-item semi-structured interviewer rating scale with a range of scores from 0–30. The scale's internal consistency in the current sample was adequate ($\alpha = 0.80$). Depression was measured using the Beck Depression Inventory-II [39], a self-report questionnaire based on the DSM-IV diagnostic criteria for depression, such as those concerning sleep, appetite and concentration. The BDI-II contains 21 items (marked on a four-point scale from 0 to 3), which are summed to give a total score. The Inventory's internal consistency in the current sample was high ($\alpha = 0.91$). Hopelessness was measured using the widely-used 20-item Beck Hopelessness Scale [40]. This scale is a self-report questionnaire consisting of items relating to views of the future, which are positively (e.g. "I have great faith in the future") and negatively worded (e.g. "My future seems dark to me"), with response categories limited to true and false. Possible scores range from 0 to 20. The inventory's internal consistency in the current sample was high ($\alpha = 0.91$). In keeping with Van Heeringen's [37] model, defeat was operationalised as attentional bias towards negative emotional stimuli and was assessed using a modified emotional Stroop test [41]. Specificity of autobiographical memory is theorised by Van Heeringen [37] to underlie problem-solving deficits observed in self-harm patients, and was measured using the Autobiographical Memory Test (AMT: Williams & Dritschel, 1988). In the current sample, the internal consistency of the total scale was acceptable ($\alpha = 0.70$). Aggression was measured using the Buss–Perry aggression questionnaire-short form [42]. The internal consistency of the scale in the current sample was high ($\alpha = 0.86$).

Impulsivity was measured using an abbreviated 15-item version [15,43] of the 30-item Barratt impulsiveness scale [11,44]. In the current sample, the BIS demonstrated acceptable internal consistency ($\alpha = 0.81$). The Five Facet Mindfulness Questionnaire [45] was developed by combining a number of existing mindfulness questionnaires. In order to minimise response burden on participants, just three of the five subscales of the FFMQ were used in the current study. "Non-reactivity to inner experience", "non-judging of experience", and "acting with awareness" were deemed to be relevant to the current study so these scales were included in the interview schedule. The internal consistency of these 23 items in the current study was good ($\alpha = 0.81$). The modified future fluency test [46] was used in the current study to assess how many positive events participants are able to identify as occurring over the next week, year and 5–10 years. The Means Ends Problem-Solving procedure [47] presents subjects with a challenging situation in vignette-form and requires them to detail the steps the protagonist can take reach in order to reach a specified resolution. Relevant means are summed to give a total score, and a relevancy ratio can also be used. Because the developers demonstrated a one-factor structure and that it is not necessary to use all the vignettes, a shorter version of the MEPS was used in the current study, with four [vignettes 2, 4, 6, and 8 [47]] vignettes being administered.

Statistical analysis

The normality of the distributions of variables for the whole sample and for the follow-up sample was examined using the Shapiro–Wilk test. Independent samples *t* tests, Mann Whitney *U* tests, and chi square tests were used as appropriate to compare those presenting with self-cutting to those presenting with overdose and to compare the baseline scores of those who went on to repeat and those who did not go on to repeat during follow-up. The absolute stability of psychological variables was assessed using paired *t* tests and Wilcoxon signed rank tests and the relative stability of psychological variables was assessed using Pearson's *r* and Spearman's rho as appropriate [48]. All tests were two-sided and all analyses were conducted using IBM SPSS 20.

Results

Baseline sample

Of the 132 patients who were invited to take part by hospital staff, 84 (63.6%) agreed to have their details forwarded to the research team. Among the patients for whom we had contact details, the most common reasons for non-participation were that patients were non-contactable (53.6%) or not interested (35.7%). Twenty-nine patients (28.2%; mean age = 33.34 years, SD = 11.84) completed the baseline interview, of whom 12 [41.4%] were male. Comparing the 29 participants who took part and the 103 who did not, there were no significant differences in gender (55.3% versus 58.6% female) or method of self-harm (22.3% versus 27.6% self-cutting).

Upon presenting with the index episode of self-harm, 18 of the 29 participants received general admission and six participants received psychiatric admission. The characteristics of the baseline sample are summarised in Table 1, which compares the baseline characteristics of those who presented with intentional overdose ($n = 21$) to those who presented with self-cutting ($n = 8$). Fig. 2 illustrates the overall pattern of risk factors and protective factors within self-cutting and overdose patient groups. Compared with those who presented with overdose, those who presented with self-cutting scored significantly lower on the FFMQ subscale "non-reactivity to inner experience" and significantly higher on the Beck Hopelessness Scale. There were associations that ap-

Table 1
Baseline scores on variables by method of index self-harm episode [self-cutting versus overdose].

Normally distributed variables	Self-cutting		Overdose		Effect size [<i>d</i>]	<i>p</i>
	<i>n</i>	Mean [SD]	<i>n</i>	Mean [SD]		
Age	8	34.50 [14.82]	21	33.05 [10.90]	0.11	0.77
Beck Depression Inventory II	8	29.63 [11.75]	21	23.71 [13.97]	0.41	0.30
Barrett Impulsivity Scale-15	8	41.38 [8.52]	21	40.05 [8.61]	0.14	0.71
Total MEPS means	8	6.12 [4.88]	17	8.94 [4.10]	−0.63	0.15
<i>Buss Perry aggression questionnaire-SF</i>						
Anger	8	3.58 [1.50]	20	3.97 [1.61]	−0.23	0.57
Hostility	8	3.67 [0.99]	20	3.97 [1.16]	−0.25	0.53
Physical	8	3.13 [1.81]	20	2.78 [1.56]	0.20	0.62
Verbal	8	2.75 [1.42]	20	3.25 [1.42]	−0.33	0.41
<i>Five Facet Mindfulness Questionnaire</i>						
Act aware	8	25.75 [5.75]	19	21.16 [6.67]	0.68	0.10
Non-react	8	13.75 [4.10]	19	19.58 [4.51]	−1.23	<0.01
Non-judge	8	21.75 [6.14]	19	20.11 [8.86]	0.19	0.64
Future fluency task	8	6.13 [4.19]	17	5.59 [2.21]	0.17	0.74
<i>Beck Suicide Intent Scale</i>						
Objective	8	4.87 [2.53]	21	6.29 [3.26]	−0.42	0.28
Subjective	8	9.25 [3.11]	21	8.71 [3.95]	0.13	0.73
Total	8	14.13 [4.09]	21	15.00 [6.63]	−0.13	0.67
<i>Modified emotional Stroop task</i>						
Low stimulation[−]	8	0.79 [2.04]	19	1.94 [2.95]	−0.62	0.14
<i>Autobiographical memory task</i>						
Positive	7	0.57 [0.29]	18	0.59 [0.29]	−0.05	0.90
Non-normally distributed variables	<i>n</i>	Median [interquartile range]	<i>n</i>	Median [interquartile range]	Effect size [<i>r</i>]	<i>p</i>
Beck Hopelessness Scale	8	14.00 [7.00–16.80]	20	5.5 [3.00–13.50]	−0.39	0.04
MEPS relevancy ratio	8	0.91 [0.29–1.0]	17	0.9 [0.81–1.00]	−0.12	0.55
Total	7	0.60 [0.50–0.60]	18	0.60 [0.48–0.80]	−0.10	0.60
Negative	7	0.6 [0.4–0.6]	18	0.6 [0.4–0.8]	−0.24	0.27
<i>Modified emotional Stroop task</i>						
High stimulation[−]	8	0.20 [−.98–1.70]	18	−0.20 [−1.52–1.95]	−0.07	0.72
Low stimulation[+]	8	−0.50 [−1.78–3.50]	18	−0.20 [−0.95–2.18]	−0.09	0.66
High stimulation[+]	8	0.10 [−1.42–1.86]	18	−0.65 [−2.75–0.45]	−0.21	0.28
Categoric variables	<i>n</i>	<i>n</i> [%] with factor	<i>n</i>	<i>n</i> [%] with factor	χ^2	<i>p</i>
Psychiatric admission	8	2 [25.0%]	21	4 [19.0%]	0.13	0.72
Alcohol involved	8	6 [75.0%]	21	10 [47.6%]	1.76	0.19
Male sex	8	4 [50.0%]	21	8 [38.1%]	0.34	0.56
Previous self-harm	8	7 [87.5%]	21	15 [71.4%]	0.82	0.37

MEPS = Means Ends Problem-solving procedure.

proached statistical significance ($p < 0.15$) between self-cutting and lower total means scores on the MEPS, higher scores on the FFMQ subscale “acting with awareness”, and lower attentional bias on the Stroop negative low stimulation task.

Situation at follow-up

Nineteen participants [65.5%] were successfully contacted and were willing to take part in a follow-up interview three months after the baseline interview. Reasons for non-participation in the follow-up were that the participants were non-contactable ($n = 9$) or felt that they did not wish to revisit the index episode ($n = 1$). Those who were lost to follow-up did not differ significantly from those who were followed up on any of the baseline variables.

At the follow-up interview, five (26.3%) of the participants reported repeating self-harm since the index episode, of whom three repeated once, one repeated twice and one repeated four times. For the first repeated episode in each case, four of the participants used the same method as the index act and one participant switched method to self-cutting from overdose. None of the participants presented to hospital with their repeated episodes; one participant presented to their general practitioner for treatment. Table 2 compares the baseline characteristics of those who went on to repeat during follow-up to those who did not. Repeaters scored significantly lower on “non-judging of

inner experience” from the FFMQ and less likely to have a history of previous self-harm and were more likely to have received psychiatric admission during the index presentation. There were borderline significant ($p < 0.15$) associations between repeating and higher baseline scores on depression and hopelessness. Fig. 3 illustrates the overall pattern of risk factors and protective factors within those who repeated and those who did not repeat self-harm. There were consistently lower scores on baseline protective factors among those who went on to repeat, while the relationship between repetition and risk factors was less striking. At follow-up, repeaters had significantly higher mean scores than non-repeaters on both depression (38.40 (SD = 10.96) versus 12.36 (SD = 10.96); $t = 4.04$, $p < 0.01$) and hopelessness (11.80 (SD = 3.70) versus 5.64 (SD = 5.24); $t = 2.40$, $p = 0.03$).

The results of the empirical study support the hypothesis that those who present with self-cutting differ significantly on psychological variables from those who present with intentional overdose, and that the psychological differences are vulnerabilities that confer increased risk of repetition. Hopelessness was significantly higher among those who presented with self-cutting; hopelessness has been identified as a key psychological risk factor for repetition in a meta-analysis by McMillan, Gilbody, Beresford, and Neilly [13]. Non-reactivity to inner experience was lower among those who self-cut; such a tendency could be associated with a lower threshold for emotional distress, and reflects the

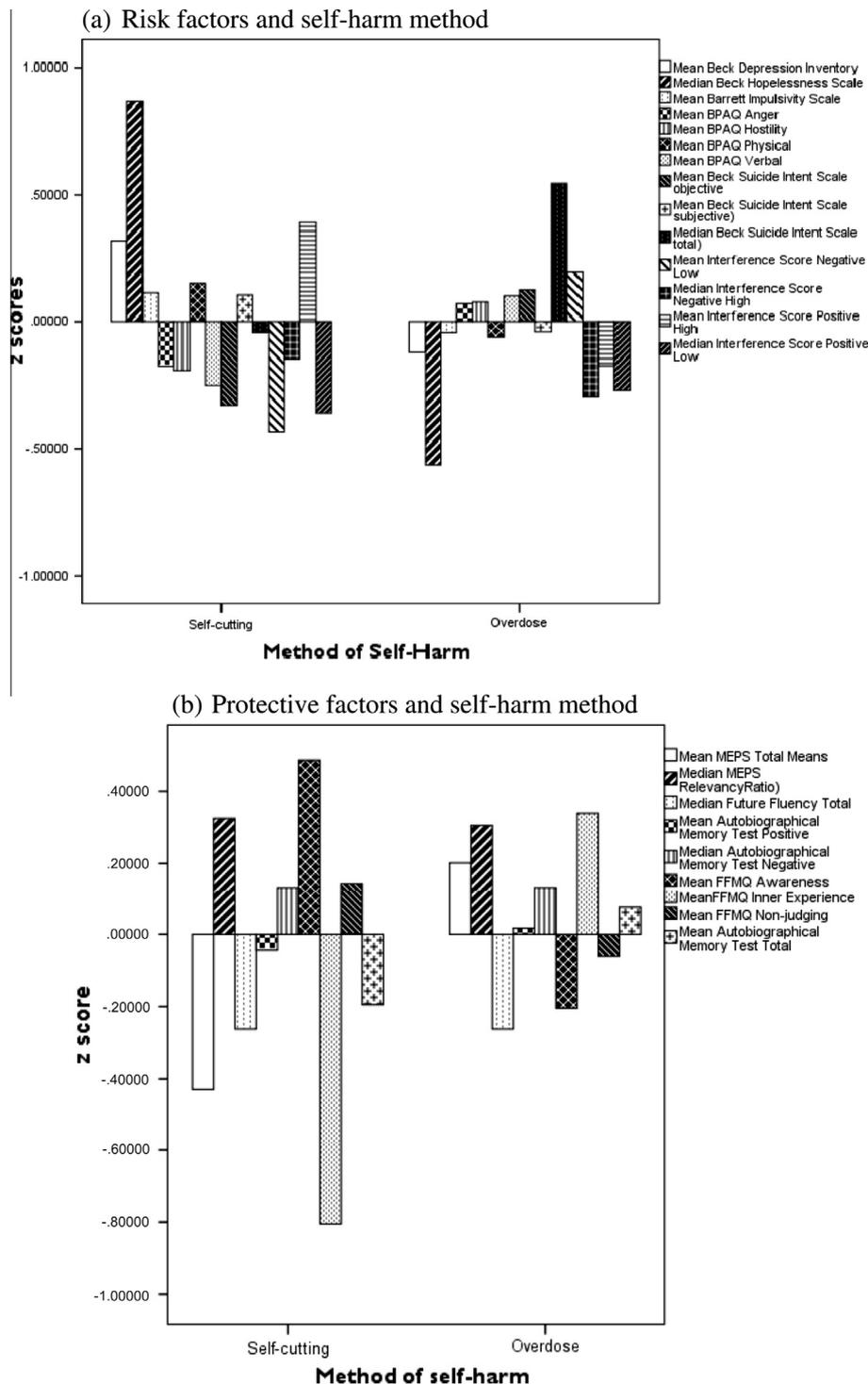


Fig. 2. Mean/median z scores for baseline [a] risk factors and [b] protective factors and method of self-harm.

finding in a school-based study that those who self-cut were more likely to have thought about self-harm for less than an hour before engaging in it [33]. Other variables [depression, impulsivity, problem-solving, previous self-harm, subsequent self-harm] acted in the expected direction, such that those who presented with self-cutting had higher vulnerability and lower resilience. In keeping with other follow-up studies of self-harm patients, those who repeated in the three months after presentation scored lower on protective factors and higher on risk factors than non-repeaters.

Consequences of the hypothesis and discussion

Our empirical findings add to a body of evidence of differences between overdose and self-cutting patients in terms of characteristics and outcome, with a novel focus on psychological risk and protective factors. The study's prospective design allowed for the follow-up of patients during a period of the highest risk of repetition [5,23]. Focussing on a clinical sample ensured the inclusion of those at high risk of suicide and also allowed for the timely measure of constructs. The study was the first to compare those

Table 2
Baseline scores on variables by prospective repetition of self-harm.

Normally distributed variables	Repeat		No repeat		Effect size [d]	p
	n	Mean [SD]	n	Mean		
Age	5	33.40 [11.87]	14	37.43 [11.51]	–0.32	0.51
Beck Depression Inventory II	5	37.20 [14.29]	14	23.21 [13.07]	0.97	0.06
Barrett Impulsivity Scale-15	5	42.20 [5.12]	14	38.57 [7.32]	0.49	0.33
Total MEPS means	4	8.00 [7.25]	12	8.75 [2.90]	–0.16	0.76
<i>Buss Perry aggression questionnaire-SF</i>						
Anger	5	4.00 [1.56]	13	3.86 [1.48]	0.10	0.85
Hostility	5	3.60 [1.11]	13	3.92 [1.13]	–0.27	0.59
Physical	5	2.47 [1.10]	13	2.56 [1.56]	–0.06	0.90
Verbal	5	2.53 [0.99]	13	2.82 [1.46]	–0.20	0.69
<i>Five Facet Mindfulness Questionnaire</i>						
Act aware	4	20.00 [9.49]	13	22.92 [5.27]	–0.42	0.43
Non-react	4	16.50 [6.14]	13	18.38 [4.11]	–0.37	0.48
Non-judge	4	13.25 [8.54]	13	21.46 [6.17]	–1.10	0.05
<i>Beck SIS</i>						
Objective	5	6.40 [3.71]	14	5.93 [2.56]	0.15	0.76
Subjective	5	8.80 [1.92]	14	9.21 [3.96]	–0.11	0.83
<i>Modified emotional Stroop task</i>						
Low stimulation [–]	4	1.78 [3.95]	13	0.10 [2.11]	0.41	0.35
High stimulation [+]	4	–1.00 [5.53]	13	–2.07 [3.24]	0.25	0.63
Non-normally distributed variables	n	Median	n	Median	Effect size [r]	p
Beck SIS Total	5	15.00 [10.5–10.0]	14	18.00 [9.50–19.50]	–0.01	0.96
Beck Hopelessness Scale	4	13.50 [7.00–17.50]	14	6.00 [3.75–15.25]	–0.36	0.13
Future fluency task	4	3.50 [1.50–7.00]	12	5.00 [4.00–7.50]	–0.34	0.21
MEPS relevancy ratio	4	0.86 [0.37–1.00]	12	0.92 [0.88–1.00]	–0.14	0.60
<i>Autobiographical memory test</i>						
Total	5	0.50 [0.30–0.55]	12	0.60 [0.53–0.78]	–0.41	0.17
Positive	5	0.40 [0.20–0.60]	12	0.60 [0.60–0.80]	–0.38	0.16
Negative	5	0.40 [0.30–0.70]	12	0.60 [0.45–0.75]	–0.17	0.51
<i>Modified emotional Stroop task</i>						
High stimulation[–]	4	2.45 [–2.33–8.13]	13	0.10 [–1.40–1.15]	–0.08	0.79
Low stimulation [+]	4	1.60 [–2.40–8.83]	13	–0.30 [–1.65–1.30]	0.22	0.36
Categorical variables	n	n [%] with factor	n	n [%] with factor	Chi	p
Self-cutting involved	5	2 [40.0%]	14	4 [28.6 %]	0.22	0.64
Psychiatric admission	5	3 [60.0%]	14	2 [14.3%]	3.97	0.05
Alcohol involved	5	3 [60.0%]	14	8 [57.1%]	0.01	0.91
Male sex	5	1 [20.0%]	14	5 [35.7%]	0.42	0.52
Previous self-harm	5	3 [60.0%]	14	14 [100.0%]	6.26	0.01

SIS = Suicide Intent Scale; MEPS = Means Ends Problem-Solving procedure.

presenting with self-cutting to those presenting with overdose on these theoretically-derived psychological measures. An additional strength is that the study incorporated self-reported repetition, which would have been undetected if hospital records had been relied upon.

There is growing evidence that repeated self-cutting is not solely attributable to borderline personality disorder and trauma [49]. Given that, in our sample, those presenting with self-cutting had higher levels of hopelessness than those presenting with overdose at baseline, it is plausible that the association between self-cutting and prospective repetition seen in several large-scale studies [5,23,24] may be related to hopelessness, a consistent predictor of repetition among those presenting to hospital with self-harm [13]. However, the small sample size in our empirical study precluded direct testing of this hypothesis and further research is required to directly test the mediating effect of psychological variables on the association between self-cutting and repetition. Those who self-cut also scored lower on the “non-reactivity to inter experience” subscale of the Five Facet Mindfulness Questionnaire. Lower distress tolerance has been theorised to be related to “non-suicidal” self-injury in particular [28], in that self-injury is seen as an emotional regulation strategy that facilitates experiential avoidance. The lower levels of tolerance towards distressing inner experiences among those who self-cut may reflect the immediate

experiential effects of self-cutting compared with intentional overdose. Conversely, the participants who had presented with self-cutting scored slightly higher on the “acting with awareness” subscale of the FFMQ than those presenting with overdose, suggesting that any reduced mindfulness may be specific to certain components of the construct. Several cognitive treatments for self-harm include strategies to increase mindfulness [50–52], and it would be of interest to examine whether these interventions are differentially effective depending on the method of self-harm an individual engages in. Similarly, given the lower scores on the Means Ends Problem-Solving Procedure among those presenting with self-cutting in the current study, it might also be that problem-solving interventions for self-harm may be differentially effective in this group of patients. Considering the increased risk of further fatal and non-fatal repetition among those presenting with self-cutting, it is encouraging that the differences noted in the current study seem to be related mostly to mutable constructs, that may be attenuated through psychological interventions. The findings also suggest that a negative behaviourist approach to interactions with self-harm patients is not likely to be effective in reducing self-harm behaviour, and indeed may serve to increase their risk of self-harm by increasing feelings of burdensomeness and decreasing perceived social support. Instead, care should be taken to ensure a supportive approach incorporating evidence-based interventions for self-harm.

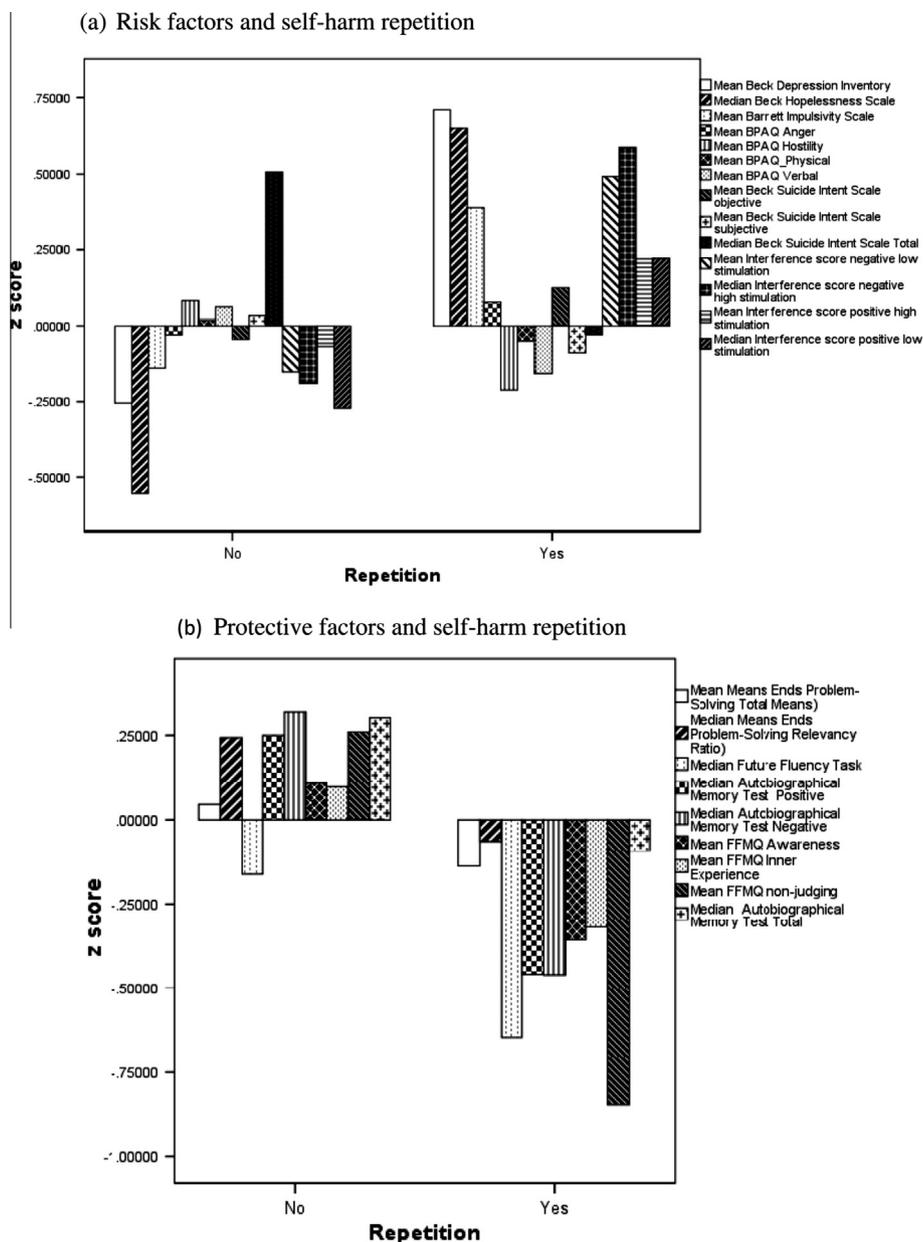


Fig. 3. Mean/median z scores for baseline [a] risk factors and [b] protective factors and prospective repetition of self-harm.

Conflict of interest statement

All authors declare that they have no conflict of interest.

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