The Role of Perfectionism and Autobiographical Memory in a Sample of Parasuicide Patients

An Exploratory Study

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Abstract. The main objective of this study was to investigate the relationship between social perfectionism, overgeneral autobiographical memory recall, and psychological distress (hopelessness, depression/anxiety, and suicidal ideation) in a sample of parasuicide patients. Forty patients who had been admitted to a Scottish hospital following an episode of deliberate self-harm participated in the study. The participants completed the autobiographical memory task and a battery of self-report measures (multidimensional perfectionism, hopelessness, depression/anxiety, and suicidal ideation). The results showed that repetitive self-harmers were more overgeneral in their recall of positive autobiographical memories than were first-time self-harmers. Hierarchical regression analyses showed that socially prescribed perfectionism interacted with overgeneral recall of both positive and negative memories to predict suicidal ideation/depression. The findings are discussed in relation to previous research.

Keywords: suicidal, perfectionism, overgeneral memory, repetition, depression

Introduction

In recent decades there has been increased interest in the role of personality and cognitive factors in the understanding of psychological distress (Brezo, Paris, & Turecki, 2006; Chioqueta & Stiles, 2005; Grucza, Przybeck, & Cloninger, 2005; Schotte & Clum, 1982). As a result, research within these areas has highlighted the importance of including personality and cognitive factors in the development of effective predictive models of suicidality (e.g., Baumeister, 1990; Pollock & Williams, 2004). Such research represents a shift in how the etiology and course of suicidality is viewed. The emphasis is no longer solely on understanding suicide and self-harm in terms of a biomedical model which stresses the role of underlying pathology (Michel & Valach, 2001). Rather, biopsychosocial suicidologists propose that suicidal behavior is the outcome of a complex interaction of circumstances, in which psychological variables are acknowledged to play a key role (e.g., Abramson et al., 2000; O'Connor & Sheehy, 2000; Van Heeringen, Hawton, & Williams, 2002).

Indeed, two psychological models of suicidality, in particular, have received considerable attention. First, Baumeister (1990), in his model of suicide as escape from self, proposed that suicidal behavior is the final stage of a chain of events and decisions which are initiated by the individual's perception that they failed to meet rigid standards. Second, the Cry of Pain Model (Williams, 1997; Williams & Pollock, 2001) views suicidal behavior as a behavioral response to a stressful situation that has three components acting together to increase suicidal risk: (1) the presence of defeat, (2) no escape, and (3) no rescue. Williams and Pollock (2001), O'Connor (2003) and O'Connor (2007) have argued that the judgments regarding defeat, escape, and rescue are determined, at least in part, by personality (e.g., perfectionism) and cognitive factors (e.g., autobiographical memory).

Perfectionism and Suicide Risk

We believe that perfectionism, a relatively stable personality trait, is a useful factor to include in the Cry of Pain framework as it is particularly concerned with sensitivity to signals of defeat (O'Connor, 2007), while certain per-

fectionism dimensions have consistently been implicated in increased hopelessness, depression, and subsequent suicidal behavior (Adkins & Parker, 1996; Hewitt & Flett, 1991; Hunter & O'Connor, 2003; O'Connor et al., 2007; O'Connor, O'Connor, O'Connor, Smallwood, & Miles, 2004). In particular, socially prescribed perfectionism, the main focus of the present study, defined as the belief that others hold unrealistic and exaggerated expectations of us that must be met in order to gain acceptance and approval, has been shown to be related to suicidality (O'Connor, 2007; Rasmussen, 2004)[1].

Moderators of Perfectionism

Consistent with the cry of pain model, there is growing support in the literature for the argument that the vulnerability associated with perfectionism may be activated by the presence of moderating factors (O'Connor & O'Connor, 2003). To date, however, little research has investigated the potential exacerbating or buffering effect of state-like cognitions (e.g., autobiographical memory or future thinking) on the relationship between perfectionism and psychological distress. The few examples include studies within our research group that have shown that the socially prescribed perfectionism-suicide risk relationship is strengthened (i.e., moderated) by the inability to think positively about the future (Hunter & O'Connor, 2003; O'Connor et al., 2007). Such findings highlight the importance of understanding further information processing biases/deficits that may strengthen or attenuate the detrimental relationship between socially prescribed perfectionism and suicidality. Therefore, in the present study, we turned our attention to autobiographical memory, another cognitive factor that is implicated in suicide risk (e.g., Williams et al., 2007).

Overgeneral Autobiographical Memory and Suicide Risk

Psychological research indicates that impairment in the ability to recall *specific* autobiographical memories is a clinically significant phenomenon (Williams et al., 2007). Indeed, Williams and Broadbent (1986) showed that depressed suicide attempters, when compared to hospital controls, were significantly more likely to recall *overgeneral* memories from their past (i.e., summaries of experiences rather than specific instances), and this was particularly the case in response to positive cue words (e.g., to the word *birthday* an overgeneral response might have been *"I have never enjoyed birthdays"*). Marx, Williams, and Claridge

(1992) argued that overgeneral memory results in impaired problem-solving as the individual is unable to recall previous successful problem solutions, and consequently, recovery from depression is delayed. However, autobiographical memory deficits not only affect problem-solving through the accessibility to previous problem solutions, but they also affect the process of establishing positive future thoughts (Williams et al., 1996). Given the relationship between autobiographical memory and future thinking, it is reasonable to propose that autobiographical memory may moderate the perfectionism-suicide risk relationship in a similar manner as positive future thinking.

Therefore, on the basis of these previous research findings, we wished to extend our knowledge of personality and cognitive factors implicated in the cry of pain model, by testing whether an information processing bias such as overgeneral autobiographical memory recall would moderate the relationship between socially prescribed perfectionism and psychological distress in a suicidal population.

Aims

The present paper had two main aims: (a) to examine the relationship between socially prescribed perfectionism, overgeneral recall of autobiographical memory, and psychological distress in a parasuicide sample; and (b) to test whether there were any differences in overgeneral autobiographical memory recall and trait perfectionism between first-time and repetitive self-harmers. Indeed, to our knowledge, this is the first study to look at autobiographical memory in first timers and repeaters. We formulated the second aim based on three rationales

1. Self-harm history is the best predictor of completed suicide (Maris, 1992; Skegg, 2005).
2. Past research indicates that repetitive self-harmers report higher levels of psychological distress than first-time self-harmers (e.g., MacLeod et al., 2004; Malone et al., 2000; O'Connor et al., 2007; Van Heeringen, 2001).
3. There has been a call to acknowledge the complexity of suicidal behavior and investigate differences between suicidal subgroups (Leenaars et al., 1997).

Consistent with the cry of pain model, we hypothesized that those individuals who reported high levels of socially prescribed perfectionism and who were also overgeneral in their recall of autobiographical memories would report higher levels of psychological distress (Hypothesis 1). In addition, given that impaired *positive* future thinking is particularly pernicious in suicidality, we posited that positive overgeneral memories would be more strongly implicated in suicidality. Second, we hypothesized that repetitive self-

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[1] The literature on self-oriented perfectionism (self-standard setting) and other oriented perfectionism (expectations of others) and how they relate to suicide risk is mixed (see O'Connor (2007) for a review of the perfectionism-suicidality link).

harmers, when compared to first-time self-harmers (i) would be more overgeneral in their recall of autobiographical memories (Hypothesis 2), and (ii) would report higher levels of socially prescribed perfectionism (Hypothesis 3).

Method

Participants

All patients who presented to a Glasgow general hospital (Scotland), and were admitted overnight for medical treatment, following an episode of deliberate self-harm between February and July of 2005 were considered for inclusion in the study. However, patients who did not meet the following criteria were not invited to participate in the study: (i) participants who were unfit for interview, (ii) those from whom we could not obtain informed consent, (iii) prisoners, and (iv) those participants for whom English was not their first language. Therefore, this did not represent a consecutive sample; rather, it reflects the practical limitations of recruiting via a general hospital. Some 8% of the participants who were approached declined to take part in the study. In total, 40 self-harm patients completed the study (17 men and 23 women) with a mean age of 38 years (SD = 10.6, ranging from 18 to 60 years). There were no sex differences in age, $t(38)$ = 1.183, ns, marital status (χ^2 = 2.15, df = 1, ns), and first-time versus repeater status (χ^2 = .02, df = 1, ns). Thirty-eight out of the forty participants were admitted following an overdose (95%), which suggests the findings are broadly generalizable to general hospital admissions, as research has consistently demonstrated that approximately 90% of all parasuicide admissions via accident and emergency departments tend to be cases of overdose (e.g., Hawton, Fagg, Simkin, & Mills, 1994). In addition, 23 of the participants were repeat suicide attempters (57%), which is consistent with the literature showing that between 40–50% of all parasuicide admissions are repeat episodes (Platt, Hawton, Kreitman, Fagg, & Foster, 1988).

Measures

Autobiographical Memory Recall

The Autobiographical Memory Task (AMT; Williams & Broadbent, 1986) requires participants to recall specific autobiographical memories in response to positive (happy, smile, glorious, excited, pleased) and negative (hopeless, sad, failure, rejected, grief) cue words. The memories are subsequently coded according to the framework suggested by Williams and Dritschel (1992): (i) specific – A memory is specific when it describes a particular event which happened within the space of one day (e.g., beach: "I remember going for a walk on the beach with my boyfriend on my

birthday"), or (ii) overgeneral – A memory is overgeneral when it lacks a temporal component and when it describes an event which happened over an extended period of time or which happened often (e.g., beach: "I go for walks with my dog on the beach"). The categorization of the memory responses was scored by two independent raters, with concordance rates of between r = .74 and r = .95 for the different cue words.

Suicidal Ideation

The Suicide Probability Scale (SPS; Cull & Gill, 1988) is a measure of suicide risk potential in both clinical and nonclinical populations. The scale consists of 36 statements which are collated along four subscales: (i) hopelessness, (ii) suicidal ideation, (iii) negative self-assessment, and (iv) hostility. However, only the suicidal ideation subscale was employed in the present study. The statements are evaluated by way of four responses: *none or a little of the time*, *some of the time*, *good part of the time*, and *most or all of the time*, and are scored in the direction of increasing suicide risk such that a high score on a scale indicates a higher level of assessed risk. The suicidal ideation subscale is aimed at establishing an individual's reported thoughts or behaviors associated with suicide. The scale contains 8 items that range in focus from establishing the specificity of suicide plans (e.g., "I have thought of how to do myself in"), to determining the meaning of suicidal thoughts and behavior within a social context (e.g., "In order to punish others I think of suicide"). The internal reliability for the suicidal ideation scale in the present sample was good (Cronbach's α = .83).

Hopelessness

The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) is a 20 item true-false scale. The scale uses statements such as "I look forward to the future with hope and enthusiasm" in order to yield information regarding an individual's negative expectations of the future. Participants are asked to indicate agreement or disagreement with these statements, and higher scores represent more feelings of hopelessness. Hopelessness is characterized by expectations that negative consequences will be encountered in the future, and a feeling of having no control over future events. Cronbach's α in the current study was good (α = .91).

Depression/Anxiety

The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) is a 14-item self-report measure which contains two 7-item Likert-type subscales; one for

anxiety and one for depression. The HADS is scored by summing the ratings for the items to yield a total score. Items are scored from 0 to 3, with a higher score indicating a higher level of depression or anxiety. An example of an anxiety statement is "I can sit at ease and feel relaxed"; this item is responded to by way of the following possibilities: *definitely* (0), *usually* (1), *not often* (2), *not at all* (3). An example of a depression statement is: "I still enjoy the things I used to enjoy," which is answered with the following responses: *definitely as much* (0), *not quite as much* (1), *only a little* (2), *and hardly at all* (3). The HADS has good psychometric properties and is a good screening tool for depression and anxiety in both the general population and in health settings (Bjelland, Dahl, Haug, & Neckelmann, 2002). The internal consistency for this study was .79 for depression and .71 for anxiety.

Perfectionism

The Multidimensional Perfectionism Scale (MPS-H; Hewitt & Flett, 1991) is a 45-item measure of perfectionism which consists of three theoretically distinct scales (self-oriented, other-oriented, and socially prescribed perfectionism), each of which is assessed by 15 questions. *Self-oriented perfectionism*, which is the need for high personal achievement and perfection, is measured by way of statements such as "One of my goals is to be perfect in everything I do." *Other-oriented perfectionism*, which is defined as the need for others to achieve perfection, is measured by statements such as "I have high expectations for people who are important to me." Finally, *socially prescribed perfectionism* (social perfectionism) describes the need to meet the perceived expectations and standards of others, and is measured by statements such as "People will probably think less of me if I make a mistake." Respondents are asked to rate the statements on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The MPS is reliable and valid (e.g., Flett, Hewitt, Blankstein, & Dynin, 1994). All of the perfectionism dimensions had good internal consistency in the current study (Self: $\alpha = 90$; Other: $\alpha = 79$; Social: $\alpha = .88$).

Self-Harm History

All patients were asked whether they had previously self-harmed. If they said *yes* they were asked to indicate how many times as well as the method of self-harm. Only individuals who had not *previously* engaged in DSH at any stage in their life were coded as first-timers ($N = 17$). All others were coded as repetitive self-harmers ($N = 23$). Within the repetitive self-harmers, 9 had self-harmed 1–2 times before the current episode of DSH, while 14 had self-harmed three or more times before.

Procedure

Preinterview

Ethical permission to carry out the study was obtained from the NHS Local Ethics Committee and from the University of Stirling, Department of Psychology Ethics Committee. All patients had been admitted to an acute receiving ward within the Glasgow Royal Infirmary where they were assessed by the psychiatric liaison team before being invited to take part in the study.

Interview

After a brief introduction, participants were asked if they would be interested in taking part in a research study carried out by the University of Stirling. Furthermore, they were informed that participation did not form part of their psychiatric assessment, that participation would be confidential, and that they could withdraw at any stage, without this having any effect on their subsequent treatment. Participants were provided with an information sheet about the study and were asked to sign a consent form. Before commencing the experimental tasks, all participants were asked to provide general demographic information.

To reduce contamination, the Autobiographical Memory Task was always administered first, followed by the self-report measures. However, the presentation order of the self-report measures was counterbalanced to control for transfer effects.

Statistical Analysis

A description of the sample (correlations, means, and standard deviations) and any differences in psychological well-being and recall of overgeneral memories as a function of group (i.e., first-time vs. repetitive self-harm history) are reported first. Next, we conducted a series of regression analyses to test for interactions between memory recall and trait perfectionism levels in the prediction of psychological distress (hopelessness, depression/anxiety, and suicidal ideation). As this is the first study to explore these relationships, we based the sample size on similar studies in the field (e.g., Hunter & O'Connor, 2003; MacLeod, Pankhania, Lee, & Mitchell, 1997).

Results

Descriptive Statistics

Zero-order correlations for the first-time and repetitive DSH participants (together with means and standard deviations) for all the variables are presented in Table 1. For both the first-time and repetitive DSH participants, depres-

Table 1. Zero-order correlations, means and standard deviations for all the variables.

		1	2	3	4	5	6	7	8	9
1	Depression	–	.732***	.306	.436*	.127	.069	.397*	.218	–.067
2	Anxiety	.843***	–	.445*	.559**	–.052	–.184	.376*	.380*	–.128
3	Hopelessness	.385	.292	–	.750***	–.032	–.065	.102	.042	.074
4	Suicide ideation	.740***	.500*	.085	–	.103	–.182	.236	.070	.043
5	Self	.610**	.593*	.033	.381	–	.650***	.665***	–.120	–.066
6	Other	.272	.166	.018	.076	.399	–	.525***	–.218	–.312
7	Social	.352	.311	.275	.108	.563*	.525*	–	.040	–.217
8	Positive overgeneral	.010	.243	.177	.084	–.028	.098	–.011	–	.179
9	Negative overgeneral	–.083	.232	.235	–.157	–.080	–.153	–.143	.767***	–
	Mean –F[a]	13.06	12.59	10.71	24.24	73.06	51.12	60.18	2.12	2.76
	(SD)	(4.02)	(4.49)	(6.62)	(8.98)	(19.51)	(16.80)	(21.61)	(1.36)	(1.64)
	Mean –R[b]	13.48	14.43	13.70	26.17	63.83	57.04	60.83	3.09	3.39
	(SD)	(3.99)	(3.26)	(5.01)	(8.26)	(21.50)	(15.89)	(15.30)	(1.00)	(1.08)

Note. $*p < .05$, $**p < .01$, $***p < .001$, Repetitive self-harmers above the diagonal; first-time self-harmers below the diagonal. [a]F = First-time self-harmers; [b]R = Repetitive self-harmers. Self = Self-oriented perfectionism; Other = Other-oriented perfectionism; Social = Socially prescribed perfectionism.
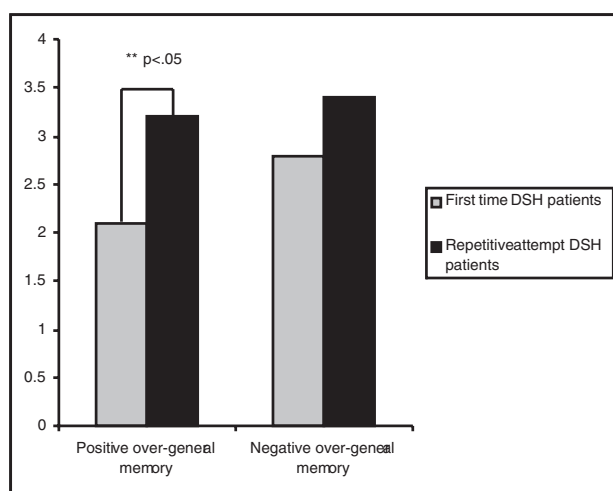

Figure 1. Mean number of overgeneral autobiographical memories produced by first-time and repetitive DSH participants.

sion was found to be significantly positively correlated with anxiety and suicidal ideation, while it was also positively correlated with hopelessness for the repetitive DSH patients. Only self-oriented perfectionism was positively correlated with depression and anxiety for the first time DSH patient group, whereas social perfectionism was positively associated with depression and anxiety for the repetitive DSH patients. Overgeneral recall of positive memories was significantly positively correlated with overgeneral recall of negative memories, but neither of the memory variables was correlated with any other variable.

We conducted independent *t*-tests to examine whether the repeaters differed from the first-time DSH participants on any of the outcome (suicide ideation, hopelessness, depression/anxiety) and 'predictor' variables (self-oriented, other oriented, socially prescribed perfectionism, autobiographical memory recall), but no significant differences were found except for autobiographical memory recall, as summarized below[1].

Autobiographical Memory Recall

The analysis of the number of overgeneral memories recalled showed that repetitive DSH patients were significantly more overgeneral in their recall of positive memories, $t(38) = –2.60$, $p < .05$, but not negative memories compared to first-timers, $t(38) = –1.46$, *ns*; see Figure 1.

Tests for the Moderating Effects of Autobiographical Memory on the Social Perfectionism-Psychological Distress Relationship

To investigate whether the overgeneral recall of memories moderated the relationship between trait perfectionism and psychological distress (depression, hopelessness, & suicidal ideation), a series of hierarchical regressions were conducted (Cohen & Cohen, 1983). To maximize statistical power, these analyses were conducted with the sample as a whole; consequently, we did not look at differences between first-time and repeated attempters. To control for the effects of self-harm history, self-harm status was entered at the first step of each regression. Consistent with Aiken and West (1991), we mean-centered all the predictor variables

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[1]   We did not conduct analyses by sex given that this was a small scale exploratory study.

Table 2. Hierarchical regression analyses testing the moderating effects of overgeneral memory recall on the relationship between socially prescribed perfectionism and psychological distress among DSH participants.

	Variable	R^2	Final β	t	Variable	R^2	Final β	t
	Predicting suicide ideation				*Predicting depression*			
Step 1	DSH status	.013	.114	.707	DSH status	.003	.053	.328
Step 2	Social	.041	.166	1.031	Social	.138	.368	2.413
Step 3	Positive	.046	.081	.459	Negative	.138	−.011	−.068
Step 4	Positive × social	.220	.442	2.790**	Negative × social	.231	.307	2.054*

Note. *p < .05, **p < .01, DSH status: Number of previous deliberate self-harm attempts, Positive = Overgeneral recall of positive memories, Negative = Overgeneral recall of negative memories, Social = Socially prescribed perfectionism.
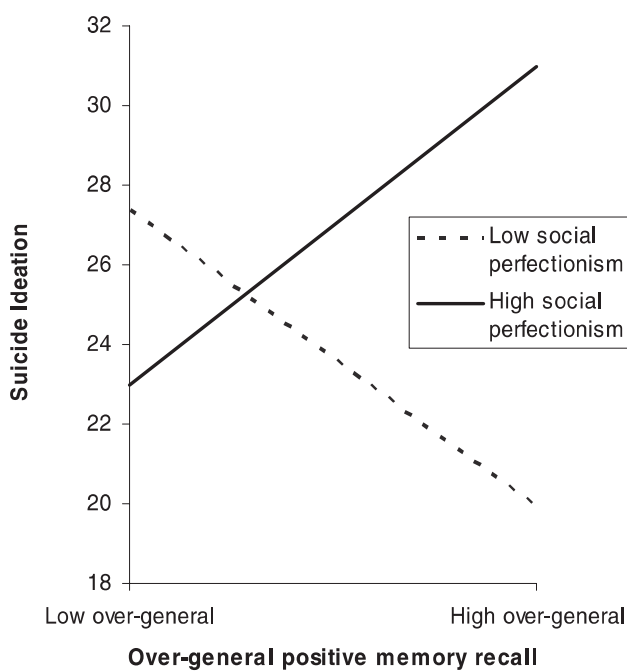

Figure 2. The moderating relationship between socially prescribed perfectionism and overgeneral recall of *positive* autobiographical memories in the prediction of suicide ideation.
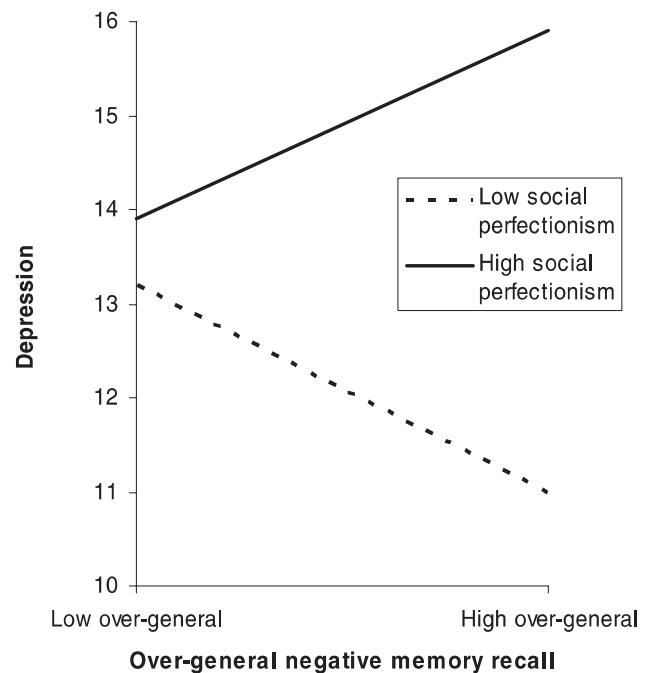

Figure 3. The moderating relationship between socially prescribed perfectionism and overgeneral recall of *negative* autobiographical memories in the prediction of depression.

prior to these analyses, and entered one of the perfectionism dimensions (i.e., self-oriented, other-oriented, or socially prescribed perfectionism) in the second step of each regression[1]. At step three, the mean number of overgeneral memories recalled by the participants (either positive or negative) was entered with the relevant multiplicative term (e.g., socially prescribed perfectionism × overgeneral positive memories) entered in the fourth step to test for an interaction.

In the first regression analysis (Table 2) we investigated the effects of socially prescribed perfectionism and positive overgeneral memory recall to predict psychological dis-

tress. This analysis revealed that the number of overgeneral positive memories interacted with social perfectionism to predict suicidal ideation (β = .44, *t*(39) = 2.79, *p* < .01), but not depression (β = .24, *t*(39) = 1.66, *ns*), anxiety (β = .22, *t*(39) = 1.46, *ns*) or hopelessness (β = .10, *t*(39) = −.55, *ns*). To follow-up the significant interaction, the regression lines of best fit were plotted at high (one standard deviation above the mean) and low (one standard deviation below the mean) levels of social perfectionism and overgeneral memory recall. Consistent with Aiken & West's (1991) guidelines for post-hoc testing, follow-up tests were conducted to establish whether the regression lines differed signifi-

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[1] Although we are primarily interested in socially prescribed perfectionism, we also conducted moderating analyses for self-oriented and other-oriented perfectionism. However, as these did not yield any significant effects, they are not included here (these findings are available from the corresponding author).

cantly from zero. These tests established that the high (β = .56, $t(39)$ = 2.53, $p < .05$) but not the low (β = –.57, $t(39)$ = –1.98, ns) lines differed significantly from zero. In short, high levels of social perfectionism interacted with high levels of overgeneral positive autobiographical memory recall to predict high levels of suicidal ideation compared with those low on these measures (Figure 2).

Next, we conducted the same analysis using negative autobiographical memories (Table 2) and socially prescribed perfectionism, and an interaction effect was found in the prediction of depression (β = .31, $t(39)$ = 2.05, $p < .05$; Figure 3), but not anxiety (β = .23, $t(39)$ = 1.50, ns), suicidal ideation (β = .26, $t(39)$ = 1.64, ns), or hopelessness (β = –.24, $t(39)$ = –1.54, ns). Once again, to probe the significant interaction further, the regression slopes at high and low levels of social perfectionism were calculated to determine whether they differed significantly from zero. These analyses revealed that neither the high (β = .28, $t(39)$ = 1.40, ns) nor the low (β = –.33, $t(39)$ = –1.52, ns) lines differed significantly from zero, albeit the trends are in the predicted directions.

Discussion

The central aims of this study were (i) to investigate whether overgeneral autobiographical memory moderated the detrimental relationship between socially prescribed perfectionism and psychological distress, and (ii) to establish whether there was any difference in the levels of overgeneral memory recall as well as trait perfectionism when comparing first-time DSH patients with repetitive DSH patients. In brief, we found evidence to support a moderating role for overgeneral autobiographical memory recall on the relationship between socially prescribed perfectionism and suicidal ideation and depression (Hypothesis 1). Interestingly, and consistent with past research (e.g., O'Connor et al., 2007), we found that positive memories in particular served this purpose. The data were also suggestive of a similar role for negative memory recall. In addition, as predicted, we found that repetitive DSH patients were significantly more overgeneral in their recall of positive, but not negative, memories (Hypothesis 2); however, we did not find any differences between the two patients groups in terms of their levels of perfectionism (Hypothesis 3).

The proliferation of research on suicidality highlights the importance of developing our understanding of factors relevant to the identification and treatment of potentially suicidal individuals. The purpose of this study was to investigate components of an integrative psychological model (the cry of pain model), which posits that suicidal behaviors are usefully conceptualized by examining the relationship between personality and cognitive factors. Indeed, Williams (1996) suggested that particular attention should be directed at individuals, (i) who are sensitive to feelings of failure, and (ii) who are likely to equate failure with a

sense of entrapment (e.g., perfectionists). One of the main conclusions which can be drawn from the present study is very supportive of this line of reasoning: Socially prescribed perfectionists, who were overgeneral in their recall of positive autobiographical memories, reported significantly higher levels of suicide ideation. This finding suggests that a particularly important escape mechanism is the ability to recall specific positive events from the past. Such a finding is of importance as past research has shown that a restricted ability to recall specific autobiographical memories may have detrimental effects on current problem-solving strategies (Evans, Williams, O'Loughlin, & Howells, 1992; Goddard, Dritschel, & Burton, 1996), while also affecting the ability to consider the future in positive terms (O'Connor, Connery, & Cheyne, 2000; Williams et al., 1996).

Overgeneral thinking is central to cognitive theories of depression (e.g., Beck, 1976), and this connection has consistently been shown to extend to autobiographical memory retrieval (Brittlebank, Scott, Williams, & Ferrier, 1993; Evans et al., 1992; Goddard et al., 1996; Williams & Broadbent, 1986; Williams & Dritschel, 1988, 1992; Williams & Scott, 1988). Researchers suggest that a deficit in retrieval of specific memories is the factor that underlies poor problem-solving (Evans et al., 1992; Goddard et al., 1996; Williams & Broadbent, 1986), as the lack of specific information in the memory database, which is essential to the production of effective problem-solving strategies, results in only the upper layer of the database being accessed, thereby compromising the quality of strategies being generated (Kaviani, Rahimi-Darabad, & Naghavi, 2005).

More specifically, in relation to parasuicide, research suggests that parasuicide patients are poor at recalling specific autobiographical memories, and that this lack of specificity is a risk factor for repetition of parasuicide (Evans et al., 1992; Kuyken & Brewin, 1995; Sidley, Callam, Welles, Hughes, & Whitaker, 1999). Interestingly, and in support of such suggestions, the outcome of our study showed that repetitive DSH patients were significantly more overgeneral in their recall of positive overgeneral memories than were the first time DSH patients.

Although the present study yielded several interesting findings, it must be acknowledged that this was an exploratory study based on a statistically small sample, and therefore any interpretation of the results must bear this limitation in mind. Specifically, we acknowledge that other relationships, with smaller statistical effect sizes, may emerge in a larger sample. It is also important to acknowledge that although the present sample was comprised of medically serious self-harmers, we did not measure suicidal intent; therefore, we would urge the assessment of suicidal intent in future research. In addition, the study suffers from the standard limitations of correlational research. Although regression techniques are extremely useful, they cannot replace experimental manipulation and control, and discussion of causality is limited by the lack of a prospective component or experimental manipulation. In addition, it

would also be useful to investigate whether the effects of autobiographical memory and perfectionism differ as a function of sex. Nonetheless, the present findings, despite being based on a small sample, highlight a number of issues which warrant further research, in a more highly powered sample, in the future.

In conclusion, this is the first study to investigate the relationship between perfectionism and autobiographical memory in a suicidal population. The findings of this study support the theoretical framework of the cry of pain model that proposes suicidal behavior may result from the combination of feelings of defeat (e.g., the perfectionist being unable to achieve the perceived standards) and a feeling of entrapment deriving from a perceived inability to escape from an intolerable situation (e.g., the inability to generate possible solutions to the situation is affected by the lack of specific autobiographical memories being recalled). In summary, our findings point to the fruits of integrating personality and cognitive factors toward a better understanding self-harm and suicide.

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