Resilience as positive coping appraisals: Testing the schematic appraisals model of suicide (SAMS)

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A B S T R A C T

Aims: The Schematic Appraisals Model of Suicide (SAMS) suggests that positive self-appraisals may be important for buffering suicidal thoughts and behaviours, potentially providing a key source of resilience. The current study aimed to explore whether positive self-appraisals buffered individuals from suicidality in the face of stressful life events.
Method: 78 participants who reported experiencing some degree of suicidality were recruited from a student population. They completed a battery of questionnaires including measures of suicidality, stressful life events and positive self-appraisals.
Results: Positive self-appraisals moderated the association between stressful life events and suicidality. For those reporting moderate or high levels of positive self-appraisals, raised incidence of stressful life events did not lead to increases in suicidality.
Discussion: These results support the SAMS framework, and suggest that positive self-appraisals may confer resilience to suicide. Positive self-appraisals may be a promising avenue for further resilience research, and an important area to target for suicide interventions.

Suicide is an increasing public health concern. In the past 45 years, rates have shown a 60% increment, and it is now thought to account for around 1 million deaths worldwide per year (World Health Organization, 2009). In particular, there appears to be a need to understand suicide amongst young adults, for whom it may represent the single leading cause of death[1] (Griffiths, Rooney, & Brock, 2005). Completed suicide can be seen as part of a spectrum of suicidality, which comprises of a range of thoughts and behaviours, including suicidal ideation, plans, gestures and attempts.[2] It is this spectrum of thoughts and behaviours that psychological

models of suicide aim to explain (Johnson, Gooding, & Tarrier, 2008; Williams, 1997) and which clinical interventions usually target (Tarrier & Gooding, 2007). A recent framework, the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008), suggests that positive self-appraisals may be important for buffering individuals against suicidality, and may thus represent a key source of resilience. This study aimed to examine whether positive self-appraisals could buffer the effect that negative life events have on suicidality in a group of young adults.

There is a wide literature showing that the way in which individuals appraise situations and events can affect levels of stress and depression (Birchwood, Iqbal, & Upthegrove, 2005; Gross & John, 2003; Lazarus & Folkman, 1984; Rooke & Birchwood, 1998). Despite this, few studies have directly investigated the way in which negative appraisals affect suicidality (Esposito & Clum, 2002; Rudd, Rajab, & Dahm, 1994) and even fewer have examined the role of positive appraisals (Clum & Febbraro, 1994; Esposito & Clum, 2002). One possible reason for this is that socio-cognitive models of suicide, understandably, tend to focus on maladaptive psychological processes (Schotte & Clum, 1987; Williams, 1997). However, a recently proposed theoretical framework, the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008) has taken a somewhat divergent approach. Instead of describing the pathway into suicidality, it focuses on the individual's appraisal system and processes thought to affect this. This appraisals-based structure has

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[1] It must be noted that the estimation of suicide rates is difficult due to the interpretation of deaths by coroners and the potential classification of unexplained accidents as suicides. Furthermore, the quantification of the impact of suicide amongst young people partly reflects low mortality rates in young people.

[2] Under some circumstances these may be dissociated (Kessler, Berglund, Borges, Nock, & Wang, 2005), but research suggests that they tend to covary and cluster together (Hawton et al., 1998; Osman et al., 2001), with suicidal thoughts putting individuals at risk for later suicide attempt and completed suicide (Funahashi et al., 2000; Mann, Waternaux, Haas, & Malone, 1999). This supports the view that suicidal thoughts and behaviours form a single factor or continuum (Johnson et al., 2008; Smith, Calkins, & Keane, 2006).

the benefit of allowing for the identification of potentially protective mechanisms which may confer resilience.

The SAMS suggests that two types of appraisal are relevant to suicidality (please see Fig. 1). First, it suggests that situation appraisals are important and that when stressful events are appraised as defeating and entrapping, for example, the likelihood of suicidality increases. In addition to the situation appraisal system, the model suggests a key role for a self-appraisal construct, which is thought to impact on all other pertinent cognitive processes. Whilst this suggests that negative self-appraisals may be particularly pernicious, it also proposes that positive self-appraisals may be especially protective, providing a source of resilience. Of particular interest, the model suggests that positive self-appraisals may directly impact the situation appraisals system. However, the SAMS does not explain the mechanisms by which positive self-appraisals may have their impact. As stressful situations are known to influence appraisals (for a review, please see Lazarus & Folkman, 1984), one possibility is that self-appraisals could reduce the likelihood that stressful events will be negatively appraised, leading to suicidality (see Fig. 1). Thus, the present research aimed to both test the SAMS proposal that positive self-appraisals may have a key protective effect, and explore a potential buffering mechanism. Specifically, it sought to examine whether positive self-appraisals would confer resilience to stressful life events, reducing the likelihood that stress would lead to suicidality.

Just as theoretical research into suicidality has failed to explore resilience, epidemiological studies have tended to focus on risk factors rather than protective factors. The study of risk has successfully highlighted a range of factors which are associated with suicidality such as unemployment (van Heeringen, 1994), family disruption, history of abuse (Fergusson, Beautrais, & Horwood, 2003; Fergusson, Woodward, & Horwood, 2000) and stressful life events (Beautrais, Joyce, & Mulder, 1997; Cavanagh, Owens, & Johnstone, 1999; Heikkinen, Aro, & Lönnqvist, 1994). However, this risk based approach is limited to identifying large groups of people, the vast majority of whom will not attempt suicide. Hence, it is unable to explain why some individuals in the at-risk group will die by suicide, when others appear protected (Bolton, Gooding, Kapur, Barrowclough, & Tarrier, 2007). Resilience, or buffering factors, may account for these variations, because they moderate the impact that risk factors have on suicidal thoughts and behaviours. The presence of buffering factors would be expected to attenuate the effect of stressful life events for those with high resilience compared to those with low resilience.

Studies examining resilience to suicide have often studied direct linear relations between variables (Perkins & Jones, 2004; Ristkari et al., 2005). This approach has been successful in identifying factors inversely associated with suicidality, but it has not clarified whether these factors can act as a buffer. To ascertain that a factor is a buffer, it is necessary to demonstrate that it moderates the likelihood that the presence of a stressor or risk factor predicts suicidality. For example, for someone with low resilience, it would be expected that there would be a strong association between life stress and suicidality, but for someone with high resilience, this relationship would be expected to be weaker. The majority of resilience to suicide research has only demonstrated negative associations between risk factors and suicide. Although this has often been interpreted as evidence of a protective or buffering effect, it may simply be that such factors reflect a reduced presence of risk.

The main aim of this study was to examine whether positive self-appraisals buffered the impact of negative life events in the development of suicidality in a student sample with i. some degree of suicidal ideation and ii. a range of suicidal ideation. This was explored by testing whether scores on a measure of positive self-appraisals moderated the association between recently experienced stressful life events, and suicidality.

A corollary aim was to examine whether positive self-appraisals were more protective than other psychological processes and factors thought to be adaptive. This was important, as although the SAMS suggests a key role for positive self-appraisals, it may be that these simply reflect the presence of adaptive coping and beliefs, and are not in themselves protective. Thus, in addition to positive self-appraisals, the study also explored the possibility that coping strategies and beliefs may moderate the impact of stressful life events. In particular, broadminded coping style (Fredrickson & Joiner, 2002), reappraising emotion regulation style (Gross & John, 2003) and survival and coping related reasons for living (Linehan, Goodstein, Nielsen, & Chiles, 1983) were explored. Broadminded coping style is known to boost positive affect over time (Fredrickson & Joiner, 2002) and could be expected to help individuals avoid the negative appraisals associated with suicide. Similarly, a reappraising emotion regulation style has been associated with reduced negative affect in the face of stressful experiences (Egloff, Schmukle, Burns, & Schwerdtfeger, 2006) and may also positively impact the appraisals system, protecting against suicidal cognitions. In addition to coping strategies, the study explored survival and coping related reasons for living (Linehan et al., 1983). These beliefs have often been found to inversely predict suicidality (Connell & Meyer, 1991; Strosahl, Chiles, & Linehan, 1992), and it is possible that a high level of these beliefs may reduce the development of suicide related appraisals.

These aims were investigated by administering questionnaires of these positive psychological factors together with measures of suicidality and life events to a group of students who reported some lifetime prevalence of suicidality. As the study aimed to investigate suicidality amongst young adults, students represented an age-appropriate group. However, on the basis of previous research it was not expected that a majority of the target group would report having experienced suicidal thoughts (Fergusson et al., 2000). Therefore, it was important to recruit a sample experiencing some degree of suicidal thoughts and behaviours. Accordingly, the study was advertised as research into suicide, and participants were later screened to include only those reporting some previous suicidal ideation or behaviour.

To summarise, the study had two main predictions. First, it was predicted that positive self-appraisals would moderate the association between stressful life events and suicidality. Second, it was predicted that broadminded coping, reappraising emotion regulation style and survival and coping related reasons for living would also show a moderating impact on the association between life events and suicidality.
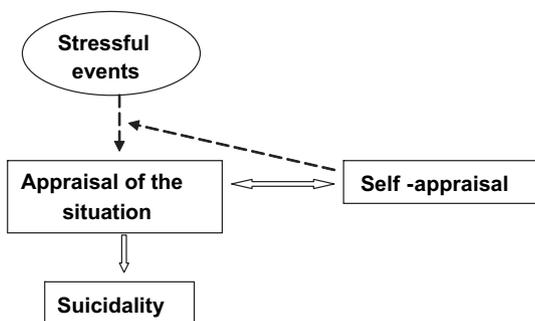

Fig. 1. The Schematic Appraisals Model of Suicide (SAMS) suggests that negative situation appraisals lead to suicidality. Positive self-appraisals are thought to impact these situation appraisals, potentially by reducing the likelihood that stressful events will be interpreted negatively.

Method

Participants and procedure

An initial sample of 150 of students from a university in the north-west of England (16 male, Mage = 19.37, SD = 3.74) responded to a poster advertising research into suicide. They participated in exchange for course credits. As the main research question aimed to explore suicidality amongst those with some past or present level of suicidality, participants responding 'no' or 'never' to each item on the Suicidal Behaviours Questionnaire (SBQ-R; Osman et al., 2001) were screened from the sample. On this basis, 78 participants met inclusion criteria (13 male, Mage = 19.62, SD = 4.48). Their scores ranged from 4, indicating minimal prevalence of suicidal ideation, to 16, which was near the maximum possible score of 18. This range indicated a wide variation of scores according to the measure.

Participants completed measures of suicidal behaviour, potential sources of resilience and life events at one time point. To ensure stressful life events were reliably recorded, two separate measures were used. These were the Life Events Scale for Students (LESS; Clements & Turpin, 1996) and the Recent Life Change Questionnaire (RLCQ; Miller & Rahe, 1997).

Measures

Suicidal Behaviours Questionnaire – revised (SBQ-R; Osman et al., 2001)

This 4 item questionnaire aims to measure lifetime prevalence of suicidal thoughts and behaviours, recent suicidality and future likelihood of suicide attempt. Examples of questions are "Have you ever thought about or attempted to kill yourself?" and "How often have you thought about killing yourself in the past year?" Total scores provide an indication of where an individual lies on the continuum of suicidality, with possible scores ranging from 3 to 18. The questionnaire has been found to be an effective research tool amongst clinical and non-clinical groups, with an alpha reliability ranging from .76 to .88 (Osman et al., 2001).

Life Events Scale for Students (LESS; Clements & Turpin, 1996)

This 36 item scale lists stressful events relevant to students. Events on the scale include "Getting kicked out of college" and "Major arguments with parents". Each event listed has been given a weighting based on how stressful it is perceived to be (Clements & Turpin, 1996) and participants are required to mark whether they have experienced these events in the past 12 months. Scores are calculated by summing the total weightings of items checked. Test–retest reliability of individual items was .61 over 6 months (Clements & Turpin, 1996).

Recent Life Change Questionnaire (RLCQ; Miller & Rahe, 1997)

The updated version of the Recent Life Change Questionnaire lists 74 stressful life events, each of which has been given a weighting based on previous research. Events listed reflect five domains of health, work, home and family, personal and social, and financial. Items include "Death of a parent" and "Change of political beliefs". Participants are required to mark whether they have experienced these events in the preceding 12 months, and the weightings of items checked are summed to give an overall score of life stress. Test–retest reliability of the full scale has been found to be .85 over 1 year (Sobell et al., 1988).

Reappraisal subscale of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003)

This 6 item subscale measures the extent to which participants use cognitive reappraisal as an emotion regulation strategy.

Example items are "When I want to feel more positive emotion, I change the way I'm thinking about the situation" and "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm". Participants indicate the extent to which they agree with each item by assigning it a value ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Gross and John (2003) found the alpha coefficient for the reappraisal subscale was .79.

Cognitive Analysis Subscale of the Coping Responses Inventory (CRI; Moos, 1988)

The CRI asks participants to think of a problem they have experienced in the previous month, and to report the extent to which they used certain coping strategies in response to this. The Cognitive Analysis Subscale of this inventory has previously been used as a measure of broadminded coping (Fredrickson & Joiner, 2002). Items include "Try to step back from the situation and be more objective" and "Try to find some personal meaning in the situation". Participants respond by marking A ("No"), B ("Yes, once or twice"), C ("Yes, sometimes"), D ("Yes, fairly often") or E ("Not applicable"). Coefficient alphas for the scale's internal reliability were found to be .79 (Fredrickson & Joiner, 2002).

Survival and Coping Beliefs subscale of the Reasons for Living Inventory (RFL; Linehan et al., 1983)

The 48-item RFL aims to measure reasons individuals may hold for staying alive. The Survival and Coping Beliefs subscale of the inventory has emerged as the most reliable inverse predictor of suicidality (Connell & Meyer, 1991; Linehan et al., 1983; Strosahl et al., 1992). It consists of 24 items including, "I have a love of life" and "I am too stable to kill myself." Participants respond by indicating how important each item is to them as a reason to stay alive, from 1 ("Not at all important") to 6 ("extremely important). Its coefficient alpha is .92 (Osman et al., 1993).

Resilience Appraisals Scale (RAS)

As suggested by the SAMS, three types of positive self-appraisals may be particularly important in buffering individuals from suicidal thoughts in the face of stressful life events (Johnson et al., 2008). These are appraisals of the individual's ability to cope with emotions, solve problems, and gain social support. As the authors were aware of no known questionnaire which measures these three types of appraisals, 12 items were developed reflecting these areas. Four of these assessed emotion coping appraisals, four assessed situation coping appraisals, and four assessed social support appraisals. Items are displayed in Table 1. Responses were rated on a 5 point scale from 'strongly disagree' to 'strongly agree'.

Table 1
Items from the Resilience Appraisals Scale (RAS).

Item	Subscale
1. If I were to have problems, I have people I could turn to	Social Support
2. My family or friends are very supportive of me	Social Support
3. In difficult situations, I can manage my emotions	Emotion Coping
4. I can put up with my negative emotions	Emotion Coping
5. When faced with a problem I can usually find a solution	Situation Coping
6. If I were in trouble, I know of others who would be able to help me	Social Support
7. I can generally solve problems that occur	Situation Coping
8. I can control my emotions	Emotion Coping
9. I can usually find a way of overcoming problems	Situation Coping
10. I could find family of friends who listen to me if I needed them to	Social Support
11. If faced with a set-back, I could probably find a way round the problem	Situation Coping
12. I can handle my emotions	Emotion Coping

To test the proposed three-factor structure of the scale, a confirmatory factor analysis was conducted with data from a pilot sample. Participants were 118 students from Manchester University (15 male, Mage = 21.60, SD = 1.87) not included in the main study, who completed the 12-item RAS. The analysis was conducted using the Analysis of Moment Structures (AMOS) version 6 statistical software package. The chi-squared test was non-significant, $\chi^2(51, n = 118) = 55.12, p = 0.322$, indicating good fit. At .43, the SRMR was <.09, and the CFI of .10 was >.95. This met recommended combinational rules designed to minimise type 1 and type II error (Hu & Bentler, 1999), and supported a three-factor structure to the data. Alpha reliabilities were .88 for the overall scale, .93 for the social support subscale, .92 for the situation coping subscale, and .92 for the emotion coping subscale.

Analysis strategy

Initially, correlation analyses were carried out to explore associations between key variables. Hierarchical regression analyses were then conducted to examine whether each of the potential resilience factors moderated the association between life events and suicidality. In the first step of these, life events scores were entered. In the second step, scores on the potential resilience measure (positive self-appraisals, broadminded coping, emotion regulation style or reasons for living) were entered. In the third step, the interaction term between the life events score and the possible resilience factor was entered. At each step, standardized variables were used (Frazier, Tix, & Barron, 2004). If the final step added significant predictive variance to the regression model, it indicated a moderating effecting of the resilience factor on the association between life stress and suicidality. Note that correlations are not interpretable in the presence of an interaction. As there were two life events scales and four potential resilience variables in the study, eight regression analyses were conducted in total.

Results

Descriptive statistics and correlations

Zero-order correlations, means and standard deviations for the variables are presented in Table 2. Life events were not found to correlate with suicidality according to either the Life Events Scale for Students or the Recent Life Change Questionnaire. Of the variables thought to potentially moderate the relationship between life events and suicidality, both positive self-appraisals according to the RAS and scores on the Reasons for Living Inventory were found to correlate with suicidality.

Regression analyses

Positive self-appraisals, suicidality and life events

As can be seen in Table 3, the only key variable which moderated the association between life events and suicidality was positive self-appraisals measured according to the Resilience Appraisals Scale (RAS). When life events were measured according to the Life Events Scale for Students (LESS), positive self-appraisals significantly predicted suicidality in addition to life events scores, $\beta = -.443$. There was also an interaction between positive self-appraisals and life events, $\beta = -.304$, revealing a moderating impact of self-appraisals on life events. From Fig. 2 it can be seen that for those with high or moderate scores on the RAS, raised levels of stressful life events did not lead to increases in suicidality.

The same pattern was found when life events were measured according to the Recent Life Change Questionnaire (RLCQ). Again, positive self-appraisals predicted suicidality in addition to stressful life events, $\beta = -.441$, and also in interaction with life events $\beta = -.273$. As displayed in Fig. 3, positive self-appraisals moderated the impact of stressful life events upon suicidality. For those with high or moderate levels of positive self-appraisals according to the RAS, higher levels of stressful live events did not lead to increased suicidality.

Broadminded coping, reappraising emotion regulation style and survival and coping related reasons for living

As can be seen from Table 3, neither Broadminded Coping nor Emotion Regulation Style explained variance in levels of suicidality in addition to, or in interaction with life events scores according to the LESS or the RLCQ. Reasons for Living did predict suicidality in addition to life events according to both the LESS, $\beta = -.373$, and the RLCQ $\beta = -.377$, but did not moderate life events measured by either scale.

Discussion

The main aim of the study was to explore whether positive self-appraisals buffered young adults against the development of suicidality in the face of stressful life events. A corollary aim was to examine whether positive self-appraisals were more protective than other adaptive psychological processes and factors. Specifically, these were broadminded coping, reappraising emotion regulation style and survival and coping related reasons for living. These aims were investigated by using moderation regression analyses, which examined whether these potentially protective factors interacted with stressful life events to predict suicidality. The key finding was that positive self-appraisals interacted with stressful life events, such that those with moderate or high levels of

Table 2
Means, standard deviations[a] and correlations for variables.

	Untransformed	Transformed	2	3	4	5	6	7
	Mean	Mean[b]						
1.Suicidality (SBQr)	5.95 (2.41)	.84 (.039)	.17	.17	−.45***	−.22	.04	−.39***
2.Student Life Events (LESS)	270.01 (118.95)	16.04 (3.58)		.40***	−.05	−.09	−.03	−.14
3.Stressful Life Events (RLCQ)	445.71 (161.41)	20.75 (3.93)			−.08	−.02	.03	−.09
4.Positive Self-Appraisals (RAS)	44.93 (7.56)	5.11 (.93)				.36**	−.06	.45***
5.Emotion Regulation (ERQ)	26.47 (5.14)						.18	.16
6.Broadminded Coping (CRI)	3.08 (.66)	2.32 (.80)						.05
7.Reasons for Living (RFL)	100.46 (21.36)	5.97 (1.79)						

**p < 0.01. ***p < 0.001. SBQr = Suicidal Behaviours Questionnaire, LESS = Life Events Scale for Students, RLCQ = Recent Life Change Questionnaire, RAS = Resilience Appraisals Scale, ERQ = Reappraisal subscale of the Emotion Regulation Questionnaire, CRI = Cognitive Analysis subscale of the Coping Responses Inventory, RFL = Reasons for Living Inventory.
[a] Standard deviations appear in parentheses below the means.
[b] The variables SBQr, LESS, RLCQ, RAS, CRI and RFL were transformed to bring skew into acceptable levels. Where transformations have been conducted, correlations have been reported for transformed variables only.

Table 3
Hierarchical regression analyses predicting suicidality as measured by the SBQr.

Moderator variable	Step	Variable entered	β	SE β	Total R^2	$\triangle R^2$
Positive Self-Appraisals (RAS)	1	LESS	.192	.115	.036	
	2	LESS	.169	.103	.230	.194***
		RAS	−.443***	.103		
	3	LESS	.026	.110	.311	.081**
		RAS	−.474***	.098		
		LESS × RAS interaction	−.304**	.104		
Positive Self-Appraisals (RAS)	1	RLCQ	.171	.113	.030	
	2	RLCQ	.137	.102	.221	.192***
		RAS	−.441***	.103		
	3	RLCQ	.103	.101	.266	.045*
		RAS	−.380**	.105		
		RLCQ × RAS interaction	−.273*	.129		
Emotion Regulation (ERQ)	1	LESS	.170	.113	.029	
	2	LESS	.150	.112	.066	.037
		ERQ	−.194	.112		
	3	LESS	.141	.113	.075	.009
		Reappraisal	−.183	.113		
		LESS × ERQ interaction	.106	.126		
Emotion Regulation (ERQ)	1	RLCQ	.172	.113	.03	
	2	RLCQ	.169	.111	.072	.043
		ERQ	−.207	.111		
	3	RLCQ	.155	.114	.076	.004
		Reappraisal	−.193	.114		
		RLCQ × ERQ interaction	−.065	.116		
Broadminded Coping (CRI)	1	LESS	.170	.113	.029	
	2	LESS	.171	.114	.031	.002
		CRI	.041	.114		
	3	LESS	.167	.115	.035	.004
		CRI	.054	.116		
		LESS × CRI interaction	.066	.117		
Broadminded Coping (CRI)	1	RLCQ	.172	.113	.03	
	2	RLCQ	.171	.114	.03	.001
		CRI	.031	.114		
	3	RLCQ	.177	.115	.033	.002
		CRI	.029	.114		
		RLCQ × CRI interaction	.046	.115		
Reasons for Living (RFL)	1	LESS	.170	.113	.016	
	2	LESS	.117	.107	.143	.136**
		RFL	−.373**	.107		
	3	LESS	.118	.108	.131	.000
		RFL	−.375**	.109		
		LESS × RFL interaction	.013	.109		
Reasons for Living (RFL)	1	RLCQ	.172	.113	.017	.030
	2	RLCQ	.138	.106	.149	.141**
		RFL	−.377**	.106		
	3	RLCQ	.163	.112	.143	.005
		RFL	−.362**	.108		
		RLCQ × RFL interaction	−.067	.097		

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$. LESS = Life Events Scale for Students, RLCQ = Recent Life Change Questionnaire, RAS = Resilience Appraisals Scale, ERQ = Reappraisal subscale of the Emotion Regulation Questionnaire, CRI = Cognitive Analysis Subscale of the Coping Responses Inventory, RFL = Reasons for Living Inventory.

Suicidality (SBQr) on Life Events (LESS)

Life Events (LESS) : 0.026
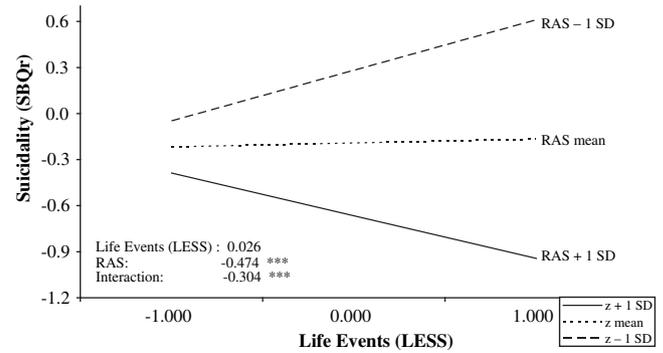RAS: −0.474 ***
Interaction: −0.304 ***

Fig. 2. Level of positive self-appraisals as measured by the RAS moderate the relationship between Life Events measured by the LESS and suicidality measured by the SBQr. Those scoring one standard deviation below the mean on the RAS show a stronger positive relationship between life events and suicidality than those scoring either at the mean, or above the mean on the RAS.

These findings support the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008), which suggests that positive self-appraisals may provide a source of resilience. Although previous research has indicated a role for the self-concept in suicide, exploring aspects such as self-esteem (Fergusson et al., 2003) and emotional wellbeing (Borowsky, Ireland, & Resnick, 2001), this is the first study to explore the SAMS concept of the self-appraisal. Furthermore, although alternative suicide frameworks may imply or make reference to self-related aspects (Williams, 1997), the SAMS gives the self-appraisal a particularly prominent role. By demonstrating a buffering impact of positive self-appraisals upon suicidality in the face of stressors, the current findings support this central role of self-appraisals.

The model also suggests that the self-appraisal may have a direct impact upon the situation appraisal, although the mechanisms which underlie this association are not described. The current findings suggest that positive self-appraisals reduce the likelihood that stressful events will lead to suicidality. As stressful events are closely associated with the forming of negative appraisals (Lazarus & Folkman, 1984), one possibility is that positive self-appraisals reduce the likelihood that stressful events will be

Suicidality (SBQr) on Life Events (RLCQ)

Life Events (RLCQ) : 0.103
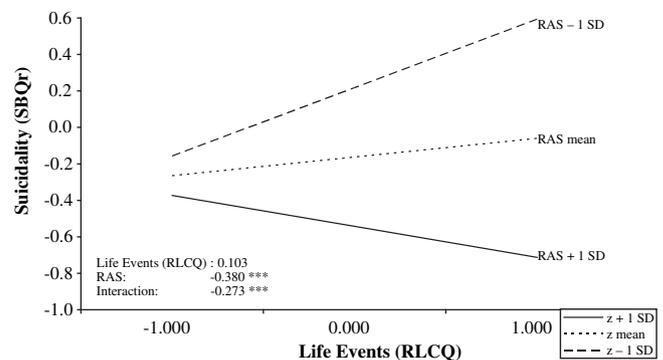RAS: −0.380 ***
Interaction: −0.273 ***

Fig. 3. Level of positive self-appraisals as measured by the RAS moderate the relationship between Life Events measured by the RLCQ and suicidality measured by the SBQr. Those scoring one standard deviation below the mean on the RAS show a stronger positive relationship between life events and suicidality than those scoring either at the mean, or above the mean on the RAS.

positive self-appraisals did not experience increased suicidality even at elevated levels of stress. The second finding was that broadminded coping, reappraising emotion regulation style and survival and coping related reasons for living did not moderate the impact of stressful life events.

negatively appraised (see Fig. 1). Thus, these findings may also extend the SAMS model, providing an explanation of the mechanism which underlies the association between the self-appraisal and the situation appraisal. However, as no explicit measure of situation appraisals was included, this speculation is tentative and will need to be explored by further research.

In addition to supporting the SAMS model, these findings may offer an avenue for further research into resilience to suicidality. To date few studies have explored resilience to this problem and those which have, have often simply explored factors which are inversely correlated with suicide (Perkins & Jones, 2004; Ristkari et al., 2005). This does not determine that a factor is acting as a buffer, and it may be that it only represents an absence of risk. Our results suggest that positive self-appraisals are not only inversely related to suicidality, but that they also moderate the impact of stressful life events, a known risk factor, upon suicide. Specifically, for those scoring high on positive self-appraisals, stressful life events did not lead to increased levels of suicidal thoughts and behaviours. This indicates that positive self-appraisals can exist alongside risk and weaken its impact.

Conversely, broadminded coping, reappraising emotion regulation style and survival and coping related reasons for living did not show this show this same moderating effect. This suggests that these aspects do not buffer the impact of stressful life events on suicidality, and may not meet the criteria for a resilience factor. These findings may appear counterintuitive, as previous research has suggested that a reappraising emotion regulation style and broadminded coping have a positive effect on emotions and coping (Egloff et al., 2006; Fredrickson & Joiner, 2002), and that survival and coping related reasons for living are inversely associated with suicidality (Strosahl et al., 1992). However, no previous research has studied these coping strategies in relation to suicidality and it may be that, although they can boost affect, they do not have a significant impact on the appraisals system linked to suicide. Similarly, although survival and coping related reasons for living have been inversely associated with suicidality, it may be that they do not have a buffering impact, and tend to co-occur with low levels of suicidal thoughts. It is difficult to draw conclusions on the basis of these results in terms of their implications for these coping strategies and beliefs, but they do underscore the importance of the findings concerning positive self-appraisals. Firstly, they suggest that positive self-appraisals are not simply a reflection of coping strategies or positive beliefs, but may be an aspect of interest in themselves. Secondly, they serve to highlight the importance of the moderating impact of self-appraisals, and suggest that appraisals may be an important factor to study in relation to suicidality.

The findings regarding positive self-appraisals may also explain variations in the research into the association between life events and suicide. Whilst a number of studies have suggested that stressful life events precipitate suicide in several populations, the strength of this association varies widely between studies and samples (Beautrais, 2000; Beautrais et al., 1997; Cavanagh et al., 1999; Heikkinen et al., 1994). Indeed, amongst some populations it has been suggested that this association is weak or even non-existent (Bolton et al., 2007). The current findings suggest that positive self-appraisals moderate this association, and that for those with a low level of these appraisals there is a strong association between life events and suicidality. However, for those with a moderate or high level of positive self-appraisals, this relationship appears to be considerably weakened or even reversed. These findings suggest that future research into the relationship between life events and suicidality should account for the impact of positive self-appraisals.

The main clinical implication of this study concerns the finding that positive self-appraisals buffer the impact of negative life events

in the development of suicidality. Potentially, positive self-appraisals may have their impact by reducing the likelihood that stressful events will be negatively appraised. Often, individuals who are experiencing suicidality appraise their current circumstances as both defeating and entrapping (O'Connor, 2003; Rasmussen et al., in press). Although these appraisals are important to address directly, the current findings suggest that therapies should also focus on the individual's self-appraisal, as these types of appraisals may have an indirect effect. Thus, positive self-appraisals may have an impact on current suicidality, and may help to prevent against suicidality in future.

The findings also emphasise the particular importance of three types of self-appraisal in the prevention of suicidality. Specifically, the items on the Resilience Appraisals Scale reflect appraisals concerning the individual's ability to cope with difficult situations, emotions, and to gain social support. In a recently developed intervention for suicidality amongst individuals with psychosis, Tarrier and Gooding (2007) have suggested that the self-concept can be improved through the use of techniques such as positive data logging, where clients record examples of times when they demonstrate positive qualities. The current findings suggest that in particular, these techniques should focus on the development of positive appraisals concerning the client's belief in their coping ability, with reference to problem solving, emotion tolerance and access to social support.

There were four main limitations to the study. The first was the use of a student sample, which may limit the transferability of findings to other populations, particularly clinical populations. However, the sample used was age-appropriate for the study of young adults, for whom suicide represents a substantial health concern (Griffiths et al., 2005). Furthermore, all individuals in the study reported some degree of present or past suicidality. Previous research has suggested that individuals who have experienced even mild suicidal thoughts or behaviours are at increased risk of subsequent suicidality (Kerr, Owen, & Capaldi, 2008). These findings indicate that they may form a qualitatively distinct group from those who have never had suicidal thoughts (Lau, Segal, & Williams, 2004), and findings may be relevant for other at-risk groups.

The second concerned the cross-sectional nature of the research, which limits the extent to which findings can be interpreted as evidence of a protective impact of positive self-appraisals. However, the firm theoretical basis of the research and the significant moderating impact found cross-sectionally strongly support a buffering impact of positive self-appraisals. In order for this to be confirmed, it will be necessary to demonstrate that positive self-appraisals can predict levels of suicidality over time when controlling for risk factors such as stressful life events.

Third was the use of a new questionnaire, the Resilience Appraisals Scale (RAS), to measure positive self-appraisals. This scale was based on the recently proposed Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008), and concerned appraisals of the individual's ability to cope with problematic situations, their own emotions and their ability to gain social support. As the authors knew of no questionnaire with items reflecting these three areas, it was necessary to develop one for the purposes of the study. The measure had strong theoretical foundations, and its factor structure was supported by confirmatory factor analysis and the high internal reliability of its subscales.

Fourth was the measurement of suicidality using a tool which looked at suicidality over the past year and also over the lifetime. As stressful life events were measured over only the past year, this may limit the extent which stress can be viewed causally. However, restricting the measure of stress to the preceding year was necessary to reduce distortions in retrospective recall of events. Furthermore, the study aimed to explore an explanatory style

which prevents negative events being interpreted in a manner conducive to suicidality. This explanatory style could be expected to be stable over the course of the lifetime, and this pattern should be found regardless of time restrictions. Nevertheless, further studies using suicide measures restricted to suicidality in the previous year are necessary to explore the buffering role of self-appraisals.

Additional limitations concerned the multiple analyses which were conducted and the use of self-report. For the purposes of the study, it was necessary to conduct eight regressions, which may have inflated the likelihood of type I error. However, in order to prevent against spurious results, the study used two measures of life events. This revealed a consistent pattern of results, whereby positive self-appraisals had a buffering impact regardless of the life events measure used, and the other coping and belief measures were not found to be protective when either life events measure used. This consistency indicates a reliable finding, but further research is necessary to confirm this. The use of self-report may also be considered a limitation, as individuals may not accurately report their own coping strategies. Despite this, for this study self-report was deemed the most appropriate method of exploring the constructs of interest. That is, the study aimed to explore the importance of individuals' own appraisals of their stressors, thoughts, cognitive abilities and beliefs, which might be most appropriately researched by asking participants directly.

In conclusion, the current study found support for the Schematic Appraisals Model of Suicide (SAMS), which suggests that self-appraisals are a key aspect of the cognitive architecture of suicidality. It also identified positive self-appraisals as a potential source of resilience which can buffer individuals from the negative impact of stressful life events. These findings suggest positive self-appraisals may represent a platform for further research into resilience to suicide, and a target for interventions into suicidal behaviour.

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