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Resilience to suicidal ideation in psychosis: Positive self-appraisals buffer the impact of hopelessness

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ABSTRACT

Recent years have seen growing interest into concepts of resilience, but minimal research has explored resilience to suicide and none has investigated resilience to suicide amongst clinical groups. The current study aimed to examine whether a proposed resilience factor, positive self-appraisals of the ability to cope with emotions, difficult situations and the ability to gain social support, could buffer against the negative impact of hopelessness amongst individuals with psychosis-spectrum disorders when measured cross-sectionally. Seventy-seven participants with schizophrenia-spectrum disorders completed self-report measures of suicidal ideation, hopelessness and positive self-appraisals. Positive self-appraisals were found to moderate the association between hopelessness and suicidal ideation. For those reporting high levels of positive self-appraisals, increased levels of hopelessness were significantly less likely to lead to suicidality. These results provide cross-sectional evidence suggest that positive self-appraisals may buffer individuals with psychosis against the pernicious impact of a well known clinical risk factor, hopelessness. Accounting for positive self-appraisals may improve identification of individuals at high risk of suicidality, and may be an important area to target for suicide interventions.

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Introduction

Clinical groups are at increased risk of suicide and for those with a diagnosis of schizophrenia, lifetime prevalence is around 4–10% (Caldwell & Gottesman, 1990; Palmer, Pankratz, & Bostwick, 2005). Completed suicide can be understood as the end point of a continuum of suicidality also comprising suicidal ideation, planning and attempts, which have been found to increase risk for later completed suicide (Funahashi et al., 2000; Hawton, Sutton, Haw, Sinclair, & Deeks, 2005). Amongst those with a psychosis-spectrum disorder, as many as a quarter report current suicidal ideation (Kontaxakis et al., 2004; Nordentoft et al., 2002) and around half report a history of suicide attempts (Tarrier, Barrowclough, Andrews, & Gregg, 2004; Taylor et al., in press). Recently interest has grown into the concept of resilience to suicide (Osman et al., 2004; Rutter, Freedenthal, & Osman, 2008), which has been described as positive self-appraisals which buffer against the

development of suicidality in the face of risk factors or stressors (Johnson, Gooding, Wood, & Tarrier, 2010). However, resilience to suicide has not yet been investigated amongst clinical populations. The current study aimed to address this by exploring whether positive self-appraisals could buffer individuals with non-affective psychosis against the development of suicidal ideation in the face of risk. Specifically, we focused on whether positive self-appraisals could attenuate the impact of hopelessness, which represents a strong clinical predictor of suicide (Hawton & van Heeringen, 2009).

Risk factors for suicidal thoughts and behaviours have been studied extensively, and a range of socio-demographic, external stressors and psychological causal aspects have been suggested (e.g. Fortuna, Perez, Canino, Sribney, & Alegria, 2007; Hawton, Sutton, Haw, Sinclair, & Deeks, 2005; Hawton, Sutton, Haw, Sinclair, & Harriss, 2005; Hawton & van Heeringen, 2009). For example, it has been found that owning a firearm (Willis, Coombs, Drentea, & Cockerham, 2003), presence of family conflict (Fortuna et al., 2007) and substance misuse (Hawton & van Heeringen, 2009) are all associated with suicide risk and can represent areas for suicide interventions to target. In terms of psychological risk factors, consistent evidence has emerged for an association between hopelessness and suicidal thoughts and behaviours (Conner, Duberstein, Conwell, Seidlitz, & Caine, 2001; Hawton & van Heeringen, 2009; McMillan, Gilbody, Beresford, & Neilly, 2007;

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O'Connor, 2003). Findings from case–control and cohort studies suggest hopelessness may increase risk for suicide amongst a range of populations, and longitudinal evidence supports a causal role for perceptions of hopelessness (Beautrais, 2004; Beck, Steer, Kovacs, & Garrison, 1985; Conner et al., 2001; Kuo, Gallo, & Eaton, 2004; Mazza & Reynolds, 1998; O'Connor, Connery, & Cheyne, 2000; Pompili et al., 2009; Ran et al., 2005). Theoretical models of suicide have also recognised the importance of hopelessness, incorporating perceptions of hopelessness as a key aspect of the proposed psychological architecture underpinning suicidal thoughts and behaviours (Johnson, Gooding, & Tarrier, 2008; Schotte & Clum, 1987; Williams, 1997).

Amongst individuals with non-affective psychosis, hopelessness has emerged as one of the most reliable and consistent clinical predictors of suicidal thoughts and behaviours (Hawton, Sutton, Haw, Sinclair, & Deeks, 2005; Hawton & van Heeringen, 2009; Kim, Jayathilake, & Meltzer, 2003; Pompili et al., 2009; Tarrier et al., 2004). For example, in a sample of 2383 inpatients with a diagnosis of schizophrenia, Ahrens and Linden (1996) conducted multiple regressions to explore whether hopelessness, depression and a range of other clinical characteristics could predict suicidal ideation and attempts. It was found that hopelessness was one of the strongest predictors of ideation and attempts, ahead of depressed mood and second only to disturbances in circadian rhythm. Similarly, in a community sample of 510 individuals with a diagnosis of schizophrenia, Ran et al. (2005) conducted a logistic regression analysis and found that hopelessness was the strongest predictor of past suicide attempts, increasing the odds ratio by 22.46. Conversely, positive symptoms increased the odds ratio by just 1.88, and major depressive episodes were not found to be a significant predictor of suicide attempts.

Increasing evidence suggests that hopelessness is a key risk factor for suicidality amongst individuals with psychosis. Despite this, the predictive validity of hopelessness is limited, and using hopelessness to identify individuals at risk tends to result in a high number of false positives. This effect is pervasive amongst risk factors for suicide and can be attributed to low base rates for suicide and the small variance explained by the presence of any individual risk factor (Hawton & van Heeringen, 2009). This is a particular problem amongst clinical groups for whom risk factors are especially prevalent. One clinical case–control study reported that, using the risk factors identified, only 2 of the 97 inpatients who died by suicide were at a risk of greater than 5% (Powell, Geddes, Hawton, Deeks, & Goldacre, 2000). Effectively, risk factors tend to identify large groups of individuals, the majority of whom will not experience suicidality (Hawton & van Heeringen, 2009). Consistent with this, although the presence of hopelessness is a strong predictor of suicidality, not all individuals who experience hopelessness also consider, plan or attempt suicide. This is unlikely to be due to a reduced presence of other risk factors, as even when risk factors are combined, their predictive validity can be low (Powell et al., 2000). Instead, it suggests that some individuals may be protected from the pernicious impact of hopelessness by the presence of buffering or 'resilience' factors. The co-existence of such buffering factors with the presence of risk suggests that they could be viewed as representing a separate dimension to risk which can exist alongside it to reduce its impact.

The possibility of such resilience factors may be important for both predicting individuals at high risk of suicide and also for the development of effective interventions (Borowsky, Ireland, & Resnick, 2001). Recent years have seen growing interest into the concept of suicide resilience, which has been described as perceptions, beliefs or abilities which buffer individuals from the deleterious impact of risk (Johnson et al., 2010; Osman et al., 2004; Rutter et al., 2008). However, much of the research in this area has

tended to study proposed concepts of suicide resilience by examining their direct linear association with suicidality. Whilst this has successfully established an inverse association between the proposed concept of suicide resilience and suicidality, it has not established that it acts as a buffer, reducing the impact of risk.

Conversely, alongside this growing interest into concepts of suicide resilience there has been increasing research into potential moderators and buffers against suicidality. This research has suggested that a range of factors such as emotional intelligence, optimistic explanatory style and social support may have a buffering impact (Cha & Nock, 2009; Chen et al., 2008; Hirsch, Wolford, LaLonde, Brunk, & Parker-Morris, 2009), but has not incorporated these findings into a concept or framework of suicide resilience. The factors studied have varied widely between studies and the disparate findings lead to difficulties in drawing conclusions regarding the nature of resilience. Furthermore, this research has largely been conducted amongst non-clinical samples and no research has yet investigated potential buffers against suicidality amongst individuals with psychosis.

In a recent study, Johnson et al. (2010) have advanced this literature by developing a concept of suicide resilience based on a theoretical model of suicidal behaviour, the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008). This suggests that suicide resilience can be understood as positive self-appraisals. These positive self-appraisals are similar to the concept of self-efficacy, which concerns an individual's confidence in their ability to enact a particular behaviour (Bandura, 1977), but are focussed specifically on the capacity to cope with difficult life circumstances. The self-appraisals thought to be important are those which concern the individual's ability to cope with emotions, ability to cope with difficult situations and ability to gain social support. In a student sample, Johnson et al. (2010) examined whether scores on a measure of these positive self-appraisals buffered against the development of suicidal ideation in the face of stressful life events. It was found that for students reporting low levels of positive self-appraisals, experiencing stressful events led to increasing levels of suicidal ideation, but for those reporting moderate or high levels of positive self-appraisals, stressful life events did not increase the likelihood of suicidal ideation. These results suggest that positive self-appraisals may represent resilience to suicidal ideation amongst a student sample, protecting against the deleterious impact of a known risk factor, stressful life events.

The present study aimed to expand upon this research in two main ways. First, it aimed to investigate whether positive self-appraisals could confer resilience to suicidal ideation amongst a clinical sample, specifically individuals with psychosis-spectrum disorders. Individuals with non-affective psychosis are at heightened risk of suicidal thoughts and behaviours but research has yet to investigate the existence of potential resilience factors in this group. In particular, the current study investigated whether positive self-appraisals could buffer against perceptions of hopelessness. Johnson et al. (2010) demonstrated a buffering effect of positive self-appraisals against stressful life events, but this risk factor may cease to be relevant amongst clinical groups (Bolton, Gooding, Kapur, Barrowclough, & Tarrier, 2007). Instead, this study focused on hopelessness, which is a consistent and strong clinical predictor for suicidal thoughts and behaviours amongst individuals with schizophrenia-spectrum disorders (e.g. Hawton, Sutton, Haw, Sinclair, & Deeks, 2005; Tarrier et al., 2004).

The second aim was to investigate which types of positive self-appraisals may be protective. Johnson et al. (2010) suggest positive self-appraisals of the ability to cope with emotions, difficult situations and to gain social support may be relevant, but only reported findings for the overall positive self-appraisals construct. Accordingly, the current study extended this research by investigating

whether each of these types of positive self-appraisals in isolation moderated the impact of hopelessness on suicidal ideation.

Methods

Participants and procedure

Participants were outpatients residing in the North West of England who were recruited via their keyworker or appropriate healthcare professional. Community mental health teams, assertive outreach teams, early intervention services, supported housing associations and voluntary organisations supported recruitment. Following referral, participants were interviewed by a research psychologist (JJ, PT, DP) in a session which included written consent and clinical measures. Inclusion criteria for the study were 1) a clinical diagnosis based on ICD-10 criteria of a schizophrenia-spectrum disorder (e.g., schizophrenia, schizoaffective disorder, psychosis not otherwise specified); 2) aged 18 years or over; 3) English-speaking; 4) not considered to be an acute and serious suicide risk by their keyworker or appropriate healthcare professional; 5) able to provide informed consent as judged by their keyworker or appropriate healthcare professional. Participants were excluded if drug use or organic disorder was judged to be the major cause of the psychosis. These inclusion criteria were applied by the participants' keyworker or appropriate mental health professional. The study was reviewed by a national research ethics committee prior to commencing.

Measures

Beck Hopelessness Questionnaire (BHS; Beck, Weissman, Lester, & Trexler, 1974)

The BHS consists of 20 items assessing the prevalence of hopeless thoughts and beliefs in the past week. Items include “My future seems dark to me” and “Things just won't work out the way I want them to”, and responses are marked either “true” or “false”. Evidence of convergent validity of the scale has emerged from findings of negative associations with measures of hope (Miller & Powers, 1988; Raleigh & Boehm, 1994; Steed, 2001) and positive future thinking (O'Connor, O'Connor, O'Connor, Smallwood, & Miles, 2004). The scale has a reported alpha coefficient of .93 and a test–retest reliability of $r = .85$ over three weeks (Holden & Fekken, 1988). Previous research has found it to be an effective measure for use amongst participants with a diagnosis of schizophrenia (e.g., Tarrrier et al., 2004).

Beck Scale for Suicidal Ideation (BSS; Beck & Steer, 1991)

This comprises 21 items assessing suicidal ideation, planning and intent in the past week. Each item provides participants with three response options (e.g., “I have no wish to die”, “I have a weak wish to die”, or “I have a moderate to strong wish to die”). Previous research has found concurrent validity between scores on the BSS and presence of past suicide attempts (Beck, Brown, & Steer, 1997) and research amongst participants with psychosis-spectrum disorders has reported the scale to have an alpha coefficient of .96 and a test–retest reliability of $r = .88$ over 1 week (Pinninti, Steer, Rissmiller, Nelson, & Beck, 2002).

Resilience Appraisals Scale (RAS; Johnson et al., 2010)

This 12-item scale consists of three four-item subscales assessing positive self-appraisals. These subscales focus on appraisals of perceived ability to cope with emotions, perceived ability to cope with difficult situations, and perceived ability to gain social support. Items for the emotion coping scale include “I can handle my emotions”, and “In difficult situations, I can manage my emotions”. Items for the situation coping subscale include “I can

usually find a way of overcoming problems”, and “If faced with a set-back, I could probably find a way round the problem”, and items for the social support subscale include “My family or friends are very supportive of me” and “If I were to have problems, I have people I could turn to”. Responses are scored on a five point scale ranging from “Strongly Disagree” to “Strongly Agree”. Johnson et al. (2010) have found the scale to have a robust three factor structure and report evidence of convergence with other measures of appraisals. Findings also suggest scores are distinct from measures of current life stress (Johnson et al., 2010). Alpha reliabilities were .88 for the total scale, .92 for the emotion coping subscale, .92 for the situation coping subscale, and .93 for the social support subscale (Johnson et al., 2010).

Analysis strategy

Initially, correlation analyses were carried out to explore associations between key variables. A hierarchical regression analysis was then conducted to examine whether positive self-appraisals measured by the Resilience Appraisals Scale (RAS) moderated the association between hopelessness and suicidal ideation. In the first step of this analysis, hopelessness scores were entered into the regression model. In the second step, RAS scores were entered. In the third step, the interaction term between hopelessness and the RAS was entered. At each step, standardized variables were used to avoid multicollinearity (Frazier, Tix, & Barron, 2004). If the addition of the interaction term in the third step added significant predictive variance to the regression model, it indicated a moderating effect of positive self-appraisals as measured by the RAS on the association between hopelessness and suicidal ideation (Cohen & Cohen, 1983). This analysis was then repeated for each of the subscales of the RAS, to investigate whether positive self-appraisals of emotion coping, situation coping and social support would have a moderating impact when examined in isolation.

Results

Participant characteristics

A total of 90 participants were recruited into the study. Six of these were subsequently excluded due to inappropriate diagnosis and a further seven were excluded due to missing data. The final sample of 77 (22 female; $M_{age} = 42.3$ years, $SD = 11.9$) were predominantly white ($n = 65$, 84.4%), followed by Mixed British ($n = 5$, 6.5%), Asian ($n = 3$, 3.9%), African-Caribbean ($n = 2$, 2.6%) and Chinese British ($n = 1$, 1.3%), with ethnicity data missing for one participant. The majority of participants had a diagnosis of schizophrenia ($n = 70$, 90.1%) then schizoaffective disorder ($n = 4$, 5.2%), psychosis not otherwise specified ($n = 2$, 2.6%) and atypical psychosis ($n = 1$, 1.3%). Participants had a mean duration illness of 17.6 years ($SD = 11$). Twenty-two (28.6%) participants reported no previous suicide attempt, 17 (22.1%) reported one previous attempt, and 38 (49.3%) reported two or more previous attempts. Age, gender and duration of illness were not found to be related to suicidal ideation ($p > .05$).

Descriptive statistics and correlations

Zero-order correlations, means and standard deviations for the variables are displayed in Table 1. Results suggested that hopelessness scores were moderately correlated with suicidal ideation. Similarly, positive self-appraisals according to the RAS were found to be moderately inversely correlated with suicidal ideation, as were the two RAS subscales of emotion coping and situation coping. There was no correlation between the social support

Table 1
Means, standard deviations^a and correlations for variables.

	Untransformed mean	Transformed mean ^b	2	3	4	5	6
1. Suicidality (BSS)	5.60 (6.73)	1.88 (1.45)	.54**	-.47**	-.53**	-.42**	-.11
2. Hopelessness (BHS)	7.21 (5.47)	2.41 (1.19)		-.56**	-.50**	-.49**	-.32**
3. Positive self-appraisals (RAS)	42.75 (9.80)				.89**	.83**	.60**
4. Emotion Coping Appraisals subscale (RAS Emo)	13.14 (4.67)					.71**	.30**
5. Situation Coping Appraisals subscale (RAS Situ)	13.31 (4.17)						.19
6. Social Support Appraisals subscale (RAS Social)	16.30 (3.80)	3.00 (0.85)					

Note. * $p < .05$. ** $p < .01$. BSS = Beck Suicidal Ideation Scale, BHS = Beck Hopelessness Scale, RAS = Resilience Appraisals Scale, RAS Emo = Resilience Appraisals Scale Emotion Coping subscale, RAS Situ = Resilience Appraisals Scale Situation Coping subscale, RAS Social = Resilience Appraisals Scale Social Support subscale.

^a Standard deviations appear in parentheses below the means.

^b The variables BSS, BHS and RAS Social were transformed to reduce skew. Where transformations have been conducted, correlations have been reported for transformed variables only.

subscale of the RAS and suicidal ideation. Inverse correlations between hopelessness, total RAS scores and each of the RAS subscales were also found.

Regression analyses

Resilience Appraisals Scale

As can be seen in Table 2, positive self-appraisals measured according to the RAS were found to moderate the association between hopelessness and suicidal ideation. Once hopelessness scores had been entered, positive self-appraisals predicted suicidal ideation both in addition to hopelessness, $\beta = -.252$, and when interacting with hopelessness, $\beta = -.218$, supporting a moderating impact of self-appraisals on hopelessness. From Fig. 1 it can be seen

that for those with high levels of positive self-appraisals, increased hopelessness corresponded with only minimal increases in suicidal ideation.

Subscales of the Resilience Appraisals Scale

Next, each of the RAS subscales was examined as a moderator of hopelessness. A significant moderating impact was found for the subscale of emotion coping, which predicted suicidal ideation both in addition to hopelessness scores, $\beta = -.351$, and also interactively with hopelessness $\beta = -.228$. As shown in Fig. 2, this pattern was similar to that found for the overall scale and suggests that for those who are high on emotion coping appraisals, there is minimal increase in suicidal ideation at higher levels of hopelessness. By contrast, neither the situation coping subscale nor the social support subscale was found to predict suicidal ideation either in addition to hopelessness, or in interaction with hopelessness.

Table 2
Hierarchical regression analyses predicting suicidality as measured by the BSS.

Moderator variable	Step	Variable entered	β	SE β	Total R^2	ΔR^2
Positive Self-Appraisals (RAS)	1	BHS	.536***	.097	.287	
	2	BHS	.395**	.115	.331	.044*
		RAS	-.252*	.115		
	3	BHS	.396**	.112	.367	.036*
		RAS	-.269*	.113		
BHS \times RAS interaction		-.218*	.107			
Emotion Coping Appraisals (RAS Emo)	1	BHS	.536***	.097	.287	
	2	BHS	.360**	.106	.380	.092**
		RAS Emo	-.351**	.106		
	3	BHS	.389***	.104	.419	.039*
		RAS Emo	-.311**	.105		
BHS \times RAS Emo interaction		-.228*	.103			
Situation Coping Appraisals (RAS Situ)	1	BHS	.536***	.097	.287	
	2	BHS	.437***	.110	.318	.031
		RAS Situ	-.203	.110		
	3	BHS	.442***	.109	.342	.024
		RAS Situ	-.194	.109		
BHS \times RAS Situ interaction		-.174	.107			
Social Support Appraisals (RAS Social)	1	BHS	.536***	.097	.287	
	2	BHS	.558***	.103	.292	.005
		RAS Social	.071	.103		
	3	BHS	.553***	.104	.295	.003
		RAS Social	.067	.104		
BHS \times RAS Social interaction		.065	.109			

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. BSS = Beck Suicidal Ideation Scale, BHS = Beck Hopelessness Scale, RAS = Resilience Appraisals Scale, RAS Emo = Resilience Appraisals Scale Emotion Coping subscale, RAS Situ = Resilience Appraisals Scale Situation Coping subscale, RAS Social = Resilience Appraisals Scale Social Support subscale.

Discussion

The main aim of this study was to examine whether positive self-appraisals buffered the association between hopelessness and suicidal ideation in a clinical population with schizophrenia-spectrum diagnoses. A corollary aim was to examine which types of positive self-appraisals may be important for this group. These aims were investigated by testing whether positive self-appraisals, as measured by the Resilience Appraisals Scale (Johnson et al., 2010) and each of the three subscales of this measure, interacted with hopelessness to predict suicidal ideation using moderation regression analyses. The main finding was that positive self-appraisals moderated the impact of hopelessness, such that individuals with high levels of positive self-appraisals were significantly less likely to experience suicidal ideation even at the highest levels of hopelessness. When specific types of self-appraisals were examined in isolation, appraisals of emotion coping ability appeared to moderate the impact of hopelessness, but appraisals of situation coping and social support did not show this moderating impact.

These results support previous research which suggests that positive self-appraisals may confer resilience against risk, reducing the likelihood that risk will lead to suicidal thoughts (Johnson et al., 2010). Interest into concepts of suicide resilience has grown in recent years, but generally this research has explored potential resilience factors by examining their direct linear association with suicidal thoughts (Osman et al., 2004; Rutter et al., 2008), which does not demonstrate a buffering or resilience role for the variable. Instead, resilience needs to be understood as a separate dimension to risk which can exist alongside it, acting to attenuate the likelihood that risk will lead to suicidality. By finding an interaction between positive self-appraisals and hopelessness in a sample of individuals with schizophrenia-spectrum diagnoses, the current

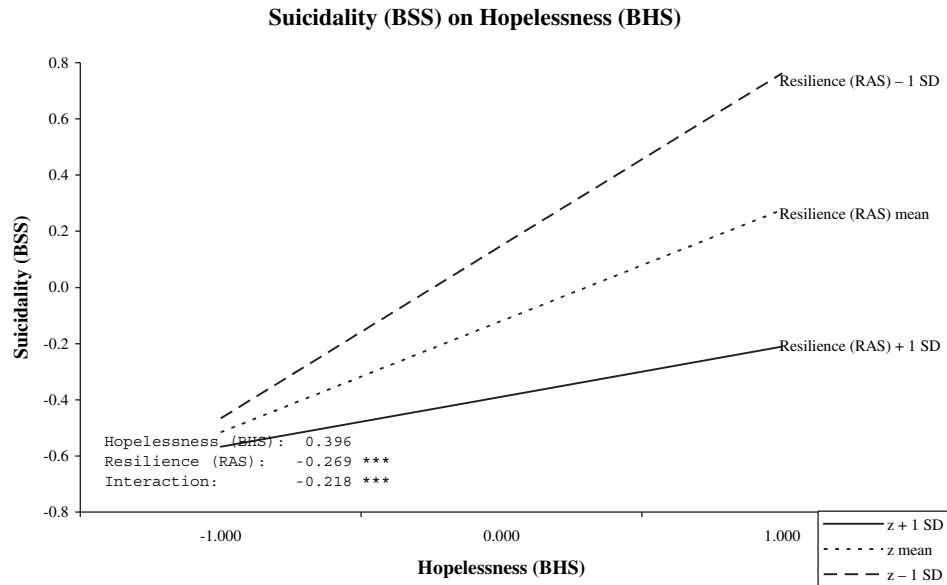


Fig. 1. Resilience appraisals (RAS) moderate hopelessness (BHS) to predict suicidality (BSS).

results both support these previous findings and expand on them in four main ways.

First, the current results indicate that positive self-appraisals may also be a resilience factor for clinical populations, specifically for individuals with schizophrenia-spectrum disorders, who are at particularly high risk of suicidality (Cavanagh, Carson, Sharpe, & Lawrie, 2003; Conwell et al., 1996). Risk factors for suicidality have been studied extensively for this group, and a range of factors have been found to increase the likelihood of suicide (Hawton, Sutton, Haw, Sinclair, & Deeks, 2005; Pompili et al., 2009). One of the strongest psychological factors is hopelessness (Ahrens & Linden, 1996; Ran et al., 2005). Although an understanding of risk factors can increase the prediction of suicide risk and inform clinical interventions, it is limited. The current results suggest that some factors can act as buffers and that when they are studied in interaction with risk, they can increase predictive validity. This may improve identification of individuals who are at risk from suicide and reduce the number of false positives.

Second, the present study investigated an interaction between positive self-appraisals and hopelessness. Previously, positive self-appraisals were studied in relation to life events in a student sample (Johnson et al., 2010), but as life events may not be an accurate predictor of suicide amongst individuals with psychosis (Bolton et al., 2007) the current study focused on a clinical risk factor, namely, hopelessness. The finding that positive self-appraisals can also buffer against hopelessness demonstrates that their buffering impact is not limited to life events and suggests that positive self-appraisals may be an important resilience factor for a range of risk factors. Although this will need to be explored by further research, the current findings suggest that positive self-appraisals could be an important resilience factor.

Third, the present study used a concept of suicide resilience based on the Schematic Appraisals Model of Suicide (SAMS; Johnson et al., 2008). This model suggests that cognitive biases and a suicide schema interact with appraisals of the self and the situation to lead to suicidal thoughts and behaviours. In particular, the

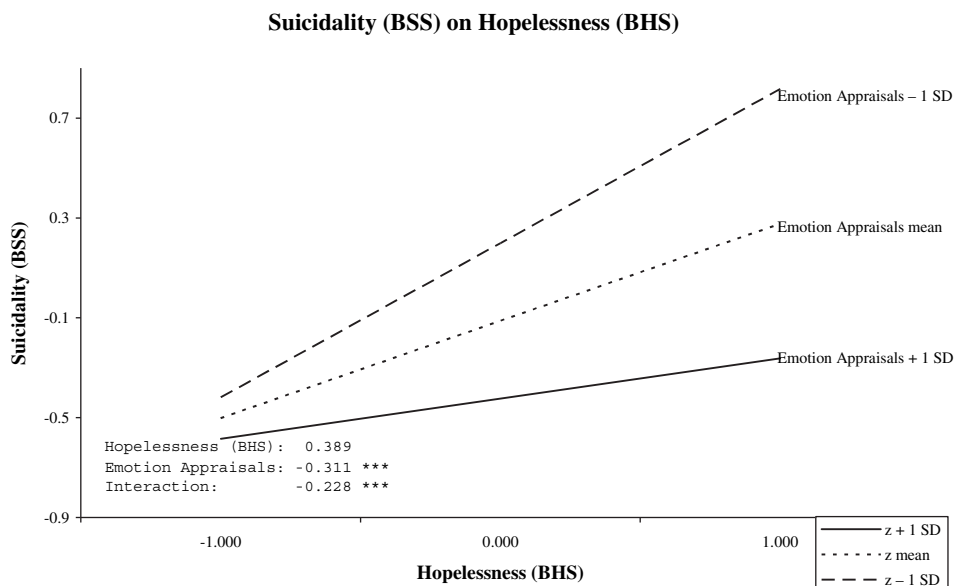


Fig. 2. Appraisals of emotion coping ability (RAS Emo) moderate hopelessness (BHS) to predict suicidality (BSS).

self-appraisals construct is thought to have a central role, impacting upon all other relevant processes. This suggests that positive self-appraisals could be especially beneficial, potentially buffering against maladaptive processes taking place elsewhere in the model. Johnson et al. (2010) found support for this proposed central role of positive self-appraisals amongst a student sample and the current study extends this by finding further evidence for the importance of the self-appraisal construct amongst individuals with psychosis-spectrum disorders. This suggests that the processes described by the SAMS may be relevant amongst both clinical and non-clinical samples and supports other findings which identify the SAMS as a useful framework for understanding suicidality amongst individuals with psychosis-spectrum disorders (Taylor et al., in press).

Fourth, by exploring each of the subscales of the positive appraisals measure (RAS; Johnson et al., 2010) the current findings indicate which types of positive self-appraisals may be relevant for individuals with non-affective psychosis. The measure comprises three subscales designed to capture an individual's appraisal of their ability to cope with their emotions, their ability to cope with difficult situations, and their ability to gain social support. When each of these subscales was studied, the only one found to moderate the impact of hopelessness was ability to cope with emotions. This subscale is designed to reflect an individual's confidence in their ability to manage their emotions, and contains items such as "I can handle my emotions", and "In difficult situations, I can manage my emotions". The present results suggest that although the overall construct of the self-appraisal may be relevant, emotion coping appraisals could be a key aspect of resilience.

Interestingly, the present study found that although scores on the appraisals of social support and appraisals of situation coping subscales were moderately correlated with suicidal ideation, when entered into a regression analysis they did not predict suicidality either in addition to, or when interacting with hopelessness. This may appear counterintuitive, as research from previous studies has suggested that social support and aspects related to situation coping, such as problem solving can reduce the likelihood of suicidality (e.g. Chang, 2002; Hawton, Sutton, Haw, Sinclair, & Deeks, 2005). One possible explanation for this finding is that although emotion coping appraisals can moderate hopelessness when considered in isolation, social support and problem solving confidence could have a compensatory impact upon each other. This would imply that high levels of one could compensate for low levels of the other and this possibility is supported by the finding that although neither subscale was a buffer when considered in isolation, the overall appraisals scale was significant. It should be noted that this suggestion is tentative, and further research is necessary before any conclusions can be drawn.

The present findings have two main implications for clinical practice. First, when assessing individuals for suicide risk, it may be important to account for the presence of resilience factors in addition to risk factors and to be mindful that some factors, such as the self-appraisal, may alter the impact of risk. The self-appraisals investigated by the study concerned the individual's view of their ability to cope, and can be understood as reflecting a form of self-efficacy (Bandura, 1977). In particular, appraisals of ability to cope with emotions appeared to have a buffering impact and could be a key aspect to focus upon. For individuals who have a low level of positive self-appraisals, risk factors such as hopelessness may be particularly deleterious and such individuals may be regarded as especially high risk. By contrast, for individuals who are high on positive self-appraisals, hopelessness may cease to be considered a risk factor for suicidal ideation. This is not to suggest that it should not be monitored as it could still have relevance to psychological well-being and clinical symptomatology, but it should not be considered to be a relevant predictor for suicidal thoughts and behaviours in this group.

Second, as positive self-appraisals can alter the impact of clinical risk factors, these may be an important aspect to incorporate into clinical interventions. Reducing an individual's level of risk is an important part of any suicide treatment programme, and practical interventions such as the removal of firearms, potentially lethal substances and other means of suicide can have a strong impact on likelihood of suicide (Lewis, Hawton, & Jones, 1997). However, the present results suggest that developing positive self-appraisals may indirectly reduce the likelihood of suicide risk by attenuating the impact of risk. Thus, they may represent a particularly beneficial area to target when conducting treatment interventions. Tarrrier and Gooding (2007) suggest that the use of techniques such as positive data logging, where clients record specific examples of times they have demonstrated positive qualities, may be useful in developing a more positive self-concept.

There were three main limitations to the study. First, it was cross-sectional, which limits the extent to which findings can be interpreted as evidence of a causally buffering role of positive self-appraisals. To investigate this, it will be necessary to conduct longitudinal research, where positive self-appraisals can moderate the impact of hopelessness on suicidality at a later time point. Second, the study was examining the impact of risk and resilience on suicidal thoughts and not completed suicide. Some research has suggested that these are distinct phenomena which may need to be studied separately (Kessler, Berglund, Borges, Nock, & Wang, 2005). However, other research has found that suicidal thoughts and behaviours exist on a continuum with completed suicide, which suggests they may share underlying mechanisms and be a relevant criteria through which to investigate suicidality and suicide prevention strategies (Funahashi et al., 2000; Hawton et al., 1998; Mann, Waternaux, Haas, & Malone, 1999). Third, due to ethical guidelines the study did not include participants who were judged to be an acute and serious suicide risk, and so results may not generalise to this sub-population. Despite this, participants who were actively suicidal were included and the results can be expected to generalise to the large majority of individuals with psychosis.

In conclusion, the current study found that positive self-appraisals buffered the pernicious impact of hopelessness in the development of suicidal thoughts amongst a sample of individuals with a schizophrenia-spectrum diagnosis. When considered in isolation, positive self-appraisals of emotion coping appeared to be particularly important. These findings suggest positive self-appraisals may be an area for further research into suicide resilience amongst clinical groups, and a target for interventions for suicidal behaviour.

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