

Sense of hyper-positive self, goal-attainment beliefs and coping strategies in bipolar I disorder

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Background. There is some evidence that cognitive therapy (CT) is beneficial in reducing relapses in bipolar disorder. However, not all bipolar patients benefit from it. A previous study found that a group of non-responders to CT shared common characteristics: they value some of the high goal-attainment beliefs and characteristics associated with being in a state of mild hypomania – a high 'sense of hyper-positive self' (SHPS). To promote our understanding of this group of patients, the present study investigated the relationship between SHPS, preferred internal state, dysfunctional attitudes and coping with hypothetical manic prodromal scenarios.

Method. Fifty-four bipolar I patients filled in self-report questionnaires that assess preferred mood state, coping with scenarios, dysfunctional attitudes and SHPS.

Results. The Sense of Hyper-positive Self Scale Ideal score (SHPSS-Ideal) predicted patients' preferred internal state of mania. Coping with hypothetical scenarios was predicted by Dysfunctional Attitude Scale (DAS) goal-attainment scores: the higher the goal-attainment score, the higher the participant's tendency to identify with self-descriptors linked to hypomania and to engage in stimulating behaviours that may escalate the prodromal stage to mania.

Conclusions. Clinicians should check and modify goal-attainment beliefs, particularly of those who exhibit features of SHPS. These patients' tendency to identify with hypomanic traits as self-descriptors should be dealt with by psychological techniques such as cognitive restructuring.

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Introduction

Several randomized controlled trials (RCTs) have indicated the effectiveness of cognitive therapy (CT) in reducing relapse rates and the occurrence of sub-syndromal symptoms (Lam *et al.* 2000, 2003, 2005a; Scott *et al.* 2001; Ball *et al.* 2006). However, it is evident that not all individuals with bipolar disorder respond to CT. A large RCT did not find any advantageous effect of CT (Scott *et al.* 2006). The authors commented that their sample had more severe illness in terms of a larger number of previous episodes. Even in Lam *et al.*'s (2003) study, 44% of the CBT group relapsed, compared to 75% in the control condition. It is therefore important to increase our understanding of the group of bipolar individuals who do not respond to CT.

Mansell *et al.* (2007) proposed that extreme positive beliefs about the value of the highly activated internal states associated with mania and hypomania form one cluster out of a range of several categories of extreme, personalized beliefs about internal states that maintain bipolar symptoms. Lam *et al.* (2005b) described a proportion of bipolar patients who enjoy being in a state of 'mild hypomania', associated with constant high arousal, positive mood and high levels of behavioural activity. These individuals seem to value some of the attributes and characteristics associated with this state, such as being particularly creative, dynamic, entertaining and outgoing. Lam *et al.* (2005b) described these individuals as having a strong 'sense of hyper-positive self' (SHPS). Although this state of 'mild hypomania' is not severe enough to fulfil criteria for clinical hypomania, it frequently leads to goal-driven behaviour and a lack of routine (Lam *et al.* 1999). Changes in social routines can elicit an affective episode through disruption of circadian rhythms (Aschoff, 1981; Ehlers *et al.* 1988; Shen *et al.* 2008).

The attributes and characteristics of individuals with a strong SHPS value are clearly at odds with

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relapse prevention goals. Lam *et al.* (1999) proposed that individuals with a strong SHPS, who value the attributes associated with being in a state of 'mild hypomania', are likely to engage in goal-driven behaviour. There is growing evidence of a link between achievement-striving or goal-attainment beliefs and vulnerability to manic episodes in bipolar I disorder (Rosenfarb *et al.* 1998; Lozano & Johnson, 2001; Lam *et al.* 2004). These studies are consistent with Lozano & Johnson's (2001) finding that scores on the Achievement Striving facet of the NEO Five-Factor Inventory (Costa & McCrae, 1992) were predictive of increases in manic symptoms in bipolar I disorder over a 6-month period and that bipolar patients exhibited an increase in manic symptoms after life events involving goal attainment (Johnson *et al.* 1999).

Furthermore, Lam *et al.* (2004) reported that the bipolar sample had significantly higher scores on the Goal-attainment subscale than euthymic unipolar individuals. The Goal-attainment subscale reflected beliefs that value the ability to excel at anything if one tries hard enough, solve problems quickly without high levels of effort, have positive emotions all the time and also have total control over one's feelings. Their scores on this subscale correlated with the number of bipolar episodes and past number of hospitalizations due to manic episodes, suggesting that bipolar patients with beliefs captured by the Goal-attainment subscale may be predisposed to a more severe course of illness. In their later study Lam *et al.* (2005*b*) investigated the relationship between Dysfunctional Attitude Scale (DAS) goal-attainment beliefs and SHPS. They proposed that individuals who believe that they have an ability to excel at anything they attempt, or solve problems quickly and effortlessly, would be likely to value being creative, optimistic, productive and dynamic. Similarly, they suggested that individuals who believe that they should be happy all the time would value the personal attributes of being outgoing and entertaining. As hypothesized, Lam *et al.* (2005*b*) found that high levels of goal-attainment beliefs predicted high SHPS scores, after controlling for current mood.

Bipolar patients who have high goal-attainment beliefs may be more inclined to see certain prodromal symptoms, such as racing thoughts and being more talkative, as a desirable state of being dynamic and sociable. They may identify with these self-descriptive traits and be less inclined to see them as early warning signs of a manic relapse. Bipolar patients who identified with early warning prodromes as desirable self-descriptive traits would be more inclined to increase or engage in activities that may cause further stimulation, resulting in an ascent into a manic state. Hence, the patient's coping with prodromal symptoms would

be predicted by the individual rating of how much they identify themselves with these symptoms as self-descriptive traits.

This study sought to increase our understanding of bipolar patients who were vulnerable to a more severe illness, and had two main aims. The first aim was to investigate the relationship between SHPS and preferred internal state, or mood. It was hypothesized that individuals with a high SHPS would show a preference for a 'high' internal state, similar to mild hypomania. The second aim was to address this gap in the literature by examining whether dysfunctional attitudes are predictive of participants' responses to hypothetical scenarios associated with mania prodromes. It was hypothesized that individuals with high levels of dysfunctional beliefs would be more likely to increase their mania-escalating behaviour in the specified scenarios in the Scenarios Ratings Task (Mansell, 2003).

Method

Participants

The study was approved by the Institute of Psychiatry and South London and Maudsley National Health Service (NHS) Trust Ethical Committee. All participants provided written informed consent upon recruitment into the study. Participants consisted of 54 individuals aged between 18 and 70 years who met the DSM-IV (APA, 1994) criteria for bipolar I disorder, did not meet DSM-IV criteria for a current major depressive or manic episode, and scored <30 (severe depression range) on the Beck Depression Inventory (BDI; Beck *et al.* 1961) and <9 on the Bech-Rafaelsen Mania Rating Scale (BRMRS; Bech *et al.* 1978). A BRMRS score of ≥ 9 indicates a probable manic state. Both the BDI and the BRMRS were further measures used to exclude patients who were in an acute state. Individuals who met DSM-IV criteria for current substance abuse were excluded from the study. All DSM-IV diagnoses were made using the Structured Clinical Interview for DSM-IV (SCID; First *et al.* 1996).

Recruitment

Participants were recruited from a variety of sources. Sixty-one per cent (33/54) of participants were recruited through the Manic Depression Fellowship newsletter or a newspaper advertisement. Thirty per cent (16/54) of participants were recruited from a pool of volunteers who had expressed an interest in future research at the Institute of Psychiatry. Nine per cent (5/54) of participants were referred by clinical psychologists at the Affective Disorders Unit at the Maudsley Hospital.

Procedure

An initial brief screening was completed by telephone to ensure that volunteers for the study had a diagnosis of bipolar disorder. Information sheets and consent forms were posted to participants and they were asked to complete the consent form prior to the interview appointment. Participants were contacted by telephone a few days before their appointment to determine whether they were euthymic; this was done using the relevant sections of the SCID (current Major Depressive Episode and current Manic Episode). During the on-site appointment, participants completed the SCID and several self-report questionnaires.

Measures

Participants completed a standardized clinical interview and several self-report questionnaires, as follows.

Diagnostic measures

The SCID (First *et al.* 1996) is a well-established semi-structured clinical interview that was developed to diagnose a variety of psychological disorders based on DSM-IV-TR criteria. This interview, administered by two final-year doctoral students in clinical psychology, was used to confirm that participants had a diagnosis of bipolar 1 disorder and were not currently experiencing a major depressive or manic episode. The complete SCID for Axis I disorders was administered, to provide information on co-morbidity.

The first 10 SCID interviews were audiotaped. These interviews were then rated independently by two raters. The agreement between raters was found to be 100% for diagnosis of bipolar I disorder. The unweighted κ statistic for the number of symptoms of depression and mania was 0.71 [standard error (S.E.)=0.18, 95% confidence interval (CI) 0.36–1.06] and 0.63 (S.E.=0.21, 95% CI 0.22–1.03) respectively, a 'fair to good agreement beyond chance' according to Capozzoli *et al.* (1999).

Mood measures

The BDI (Beck *et al.* 1961) was used to assess current depressive symptomatology. The BDI is a widely used 21-item self-report measure of severity of depression symptoms and has well-established psychometric properties (for a review, see Beck *et al.* 1988). Items are scored on a four-point scale and assess the cognitive, somatic and behavioural symptoms of depression during the past week. The BDI total score ranges from zero to 63. Scores of <10 indicate 'minimum or no depression', 10–18 'mild to moderate depression',

19–29 'moderate to severe depression' and scores >29 represent 'extremely severe depression'.

The BRMRS (Bech *et al.* 1978) is an assessor-rated measure with 11 domains: motor activity, verbal activity, flight of thoughts, voice or noise level, hostility or destructiveness, mood, self-esteem, contact (intrusiveness), sleep (average of the past 3 nights), sexual interest and work. A rating is made for each domain using a five-point scale, where 0=not present, 1=mild, 2=moderate, 3=marked and 4=severe or extreme. Scores between 0 and 5 represent no mania, 6–9 mild hypomania, 10–14 probable mania and scores >14 indicate definite mania. A review by Bech (2002) found the BRMRS to have good internal validity, high inter-observer reliability and acceptable external validity, in terms of both responsiveness and sensitivity.

Measurement of preferred internal state

The Altman Self-Rating Mania Scale (ASRM; Altman *et al.* 1997; Appendix B), a five-item self-report instrument that was used to measure manic symptoms during the past week, was modified to measure the participant's preferred internal state. The ASRM has been demonstrated to have good test-retest reliability, concurrent validity, sensitivity and specificity (Altman *et al.* 1997). In the original scale, items consist of five statements, scored from 0 to 4, and respondents are instructed to choose the most appropriate statement. For example, the statements for the first item range from 'I do not feel happier or more cheerful than usual' (0) to 'I feel happier or more cheerful than usual all the time' (4). In the modified version of the ASRM (M-ASRM), responses were modified such that they started with 'Ideally, I would like to ...'. For example, the first response for item 1 was modified from 'I do not feel happier or more cheerful than usual' to 'Ideally, I would not like to feel happier or more cheerful than usual'. The M-ASRM was scored in the same way as the ASRM. A total score was computed from the sum of the five items and a high score indicates a strong preference for an elated mood.

Measurement of SHPS

The Sense of Hyper-positive Self Scale (SHPSS; Lam *et al.* 2005b) consists of seven adjectives that bipolar patients use to describe the positive attributes they possess when they are in a mildly 'high' state. These are: confident, dynamic, adorable, entertaining, outgoing, optimistic and creative. Patients were asked to rate each attribute twice: 'how well these words describe you most of the time' and 'ideally how you would like yourself to be'. Each adjective was rated on

a seven-point scale from 1 (not at all) to 7 (extremely). The scale correlated with previous number of bipolar episodes and predicted response in cognitive therapy.

Measurement of dysfunctional attitudes

The Short Version of the Dysfunctional Attitude Scale for Bipolar Disorder (DAS:BD; Lam *et al.* 2004) was used to assess dysfunctional attitudes. The DAS:BD is a 24-item self-report questionnaire that was derived from a principal component analysis of data from 143 people with bipolar disorder who completed the original 24-item DAS (Power *et al.* 1994). Each item is rated on a seven-point scale from 'totally agree' to 'totally disagree'. The DAS:BD has four subscales: Goal-attainment, Dependency, Achievement, and Anti-dependency. Goal-attainment was found to correlate with past hospitalizations for manic episodes and significantly higher scores on this subscale were observed in euthymic bipolar patients than in remitted unipolar patients.

Measurement of coping with hypothetical scenarios

The Scenarios Ratings Task (Mansell, 2003) was used to determine how participants were likely to feel in, and respond to, a series of scenarios suggestive of the early stages of 'mild hypomania'. This is a self-report instrument in which eight different scenarios are described. The scenarios were designed to describe situations that provide the opportunity for goal attainment (e.g. multiple challenges at work), combined with some information about potential negative consequences of maintaining goal attainment (e.g. loss of sleep). The respondent is asked to read the description of the scenario and imagine that the scenario is actually happening to them. The respondent is then required to rate the extent to which they would identify with a specified descriptive trait (e.g. 'How dynamic would you feel in this situation?') from 1 to 7, where 1='Not at all' and 7='Extremely'. These ratings (Descriptives rating) are summed for the eight scenarios. In addition, the respondent is asked to indicate the extent to which they would increase a specified behaviour in response to the given scenario (e.g. 'How much would you decrease or increase the amount of work you would do in this situation?') from 1='Greatly decrease', through 4='Stay the same' to 7='Greatly increase'. Any indicated increases in activity are deemed to be prone to escalating the patient's mood into mania (mania escalating activity). An overall activity rating is calculated by summing the ratings of activities across the eight scenarios. For example, in the third scenario, the respondent is asked to imagine that they have recently been involved in lots

of different activities and have been starting to do many new things. While this has been enjoyable, it has been difficult to keep everything going. Today they notice that their mind is buzzing with new ideas. The respondent is asked to rate both how creative they would feel in this situation from 1 to 7, which gives a 'Descriptive rating', and the extent to which they would increase or decrease the number of activities they were involved in, again from 1 to 7, which provides an 'Activity rating'.

The original study by Mansell (2003) used participants from three groups (remitted bipolar I disorder, remitted unipolar depression, and non-clinical controls) and indicated an acceptable internal consistency for self-descriptor ratings ($\alpha=0.60$) and activity ratings ($\alpha=0.63$) across the eight scenarios.

Statistical analyses

A hierarchical linear multiple regression forced entry procedure was used to test the main hypotheses of the study. When exploratory multiple regressions were performed, the stepwise method was used to enter the block containing the variables being explored. Multicollinearity between predictor variables was investigated and was taken to be evident if the variance inflation factor (VIF) was ≥ 10 (Myers, 1990) and if the tolerance statistic, which is the reciprocal of VIF ($1/\text{VIF}$) was < 0.2 (Menard, 1995). Spearman correlations were used for variables that did not fulfil normal distribution criteria. Because of the multiple testing, a statistical significance level of $p < 0.01$ was used. All tests of hypothesized differences used one-tailed p values. Otherwise, all p values were two-tailed.

Results

Characteristics of the sample

The demographics and clinical details of the sample are specified in Table 1. The participants were predominately well-educated white British subjects with a mean age of 45 years [standard deviation (s.d.) = 10.8]. Only 48% (26/54) were in paid work at the time of participation. The sample also had a relatively early onset (mean age of onset 25.0 years, s.d. = 9.9) and a severe course of illness. Forty-eight per cent (26/54) of the participants reported at least one lifetime comorbid disorder, typically an anxiety disorder or past substance abuse or dependency. The majority of participants (87%; 47/54) were taking psychiatric medications. For those taking medication, polypharmacotherapy was the norm.

Table 2 summarizes the means and standard deviations of the standardized measures. As expected,

Table 1. Demographic and clinical characteristics of the sample ($n = 54$)

Age in years, mean (s.d.)	45.7 (10.8)
Female participants, n (%)	32 (59.3)
Marital status, n (%)	
Never married	20 (37.0)
Married/cohabiting	22 (40.7)
Divorced/separated	11 (20.4)
Widowed	1 (1.9)
Highest education level, n (%)	
O level/GCSEs	9 (16.7)
A levels	12 (22.2)
Bachelor's degree	15 (27.8)
Postgraduate degree	18 (33.3)
Work status, n (%)	
Currently working	26 (48.1)
Unemployed	20 (37.0)
Retired	1 (1.9)
Voluntary work	5 (9.3)
Student	2 (3.7)
Estimated age of onset of bipolar disorder in years, mean (s.d.)	25.0 (9.9)
Estimated previous number of episodes of depression, mean (s.d.)	12.5 (19.8)
Estimated previous number of episodes of mania, mean (s.d.)	9.3 (11.2)
Estimated hospitalizations due to depression, mean (s.d.)	1.5 (3.1)
Estimated hospitalizations due to mania, mean (s.d.)	2.5 (2.4)
Lifetime co-morbidity, n (%)	
No co-morbidity	28 (51.9)
One co-morbid disorder	15 (27.8)
>1 co-morbid disorder	11 (20.4)
Proportion with psychotic symptoms within episodes	47 (87.0)

s.d., Standard deviation.

there was significant amount of residual depression symptoms in the sample according to the BDI. By contrast, there were hardly any manic symptoms according to the BRMRS.

Relationships between the main variables

With the exception of the BDI and the BRMRS, all variables were normally distributed. SHPSS-Total was found to correlate significantly with SHPSS-Usual (0.732 ; $p < 0.01$, two-tailed) and SHPSS-Ideal ($r = 0.738$; $p < 0.01$, two-tailed). However, SHPSS-Ideal and SHPSS-Usual did not correlate significantly with each other. BDI scores also correlated significantly with SHPSS-Usual in the negative direction ($r = -0.154$, $p < 0.01$). The correlation between BDI and SHPSS-Ideal was not significant ($r = 0.13$). There were significant correlations between SHPSS-Ideal and the DAS total score ($r = 0.344$, $p < 0.01$, two-tailed) and the Goal-attainment ($r = 0.373$, $p < 0.01$, two-tailed) subscale. The BDI total score was significantly correlated with the DAS total score ($r = 0.504$, $p < 0.01$, two-tailed).

SHPS and preferred internal state (M-ASRM)

SHPSS-Usual was found to be correlated significantly with the M-ASRM ($r = -0.363$, $p < 0.01$, one-tailed); the correlation coefficient was negative, indicating that a lower perceived 'usual' SHPS was associated with a higher preferred mania mood. SHPSS-Ideal was also significantly correlated with M-ASRM ($r = 0.291$, $p < 0.05$, one-tailed) and a higher SHPSS-Ideal was associated with a higher preferred mania mood.

A hierarchical multiple linear regression analysis was performed to examine the relationship between preferred M-ASRM and SHPSS-Usual and SHPSS-Ideal. BDI and BRMRS scores were entered into the first block to control for current mood. SHPSS-Usual and SHPSS-Ideal were entered into the second block. SHPSS-Total score was not included in the regression as it consisted of the sum of SHPSS-Usual and SHPSS-Ideal. The final model was significant with $R^2 = 0.108$. SHPSS-Usual [$\beta = -0.202$, 95% CI -0.109 to -0.403 , $p = 0.015$, one-tailed] and SHPSS-Ideal [$\beta = 0.169$, 95% CI 0.034 – 0.355 , $p = 0.023$, one-tailed] were found to be significant predictors of M-ASRM.

Table 2. Mean scores and standard deviations of the standardized measures

Outcome measure	Mean (s.d.)	Median (range)
BDI	7.1 (7.5)	4.0 (0–29)
BRMRS	0.9 (1.3)	0.0 (0–5)
M-ASRM	5.9 (3.6)	5.5 (0–15)
Sense of Hyper-positive Self Scale (SHPSS)		
SHPSS Total score (SHPSS-Total)	55.0 (8.7)	53 (39–83)
SHPSS Usual score (SHPSS-Usual)	23.1 (6.0)	22.5 (10–41)
SHPSS Ideal score (SHPSS-Ideal)	31.8 (5.5)	32 (14–42)
Dysfunctional Attitude Scale for Bipolar Disorder (DAS:BD)		
DAS Total score	87.2 (23.0)	85.0 (34–136)
DAS Goal-Attainment score	21.6 (7.8)	21.0 (6–36)
DAS Dependency score	15.2 (5.3)	14.0 (6–26)
DAS Antidependency score	8.1 (1.7)	8.0 (4–12)
Scenarios Rating Task		
Descriptive rating	4.9 (0.8)	5.0 (2.5–6.9)
Activity rating	4.5 (1.1)	4.5 (1.5–7.0)

BDI, Beck Depression Inventory; BRMRS, Bech–Rafaelsen Mania Rating Scale; M-ASRM, Modified version of the Altman Self-Rating Mania Scale; s.d., standard deviation.

Table 3. Regression analyses of the relationship between M-ASRM and the SHPSS scores

Model	Step	Predictor variable	R^2 of model	B	95% CI for B		p
					Lower	Upper	
1	1	BDI	0.171	0.177	0.055	0.298	0.003
		BRMRS		0.489	–0.195	1.174	0.079
2	2	BDI	0.238	0.072	–0.072	0.216	0.160
		BRMRS		0.443	–0.210	1.096	0.090
		SHPSS-Usual		–0.202	–0.109	–0.403	0.015
		SHPSS-Ideal		0.169	0.034	0.355	0.023

M-ASRM, Modified version of the Altman Self-Rating Mania Scale; SHPSS, Sense of Hyper-Positive Self Scale; BDI, Beck Depression Inventory; BRMRS, Bech–Rafaelsen Mania Rating Scale; CI, confidence interval.

Multiple linear regression, forced entry for steps 1 and 2. The reported p value is one-tailed.

In this model SHPSS-Usual was found to explain 20.2% of the variance of M-ASRM and SHPSS-Ideal explained a further 16.9%. A unit increase in SHPSS-Ideal produced an increase of 0.169 units in M-ASRM; by contrast, a unit increase in SHPSS-Usual produced a decrease of 0.202 units in M-ASRM. Table 3 summarizes the final model in the multiple regression.

SHPSS and DAS Goal-attainment scores

A multiple linear regression was performed to investigate whether SHPSS-Total is predicted by scores on the DAS Goal-attainment subscale, after controlling for current mood. The BDI and BRMRS scores were

entered into block 1 and the DAS Goal-attainment subscale score was entered into block 2. The final model was significant, with $R^2=0.208$. After controlling for scores on the BDI and BRMRS, DAS Goal-attainment contributed significantly to the final model [$\beta=0.414$, 95% CI 0.098–0.729, $p=0.006$, one-tailed]. Table 4 summarizes the final model in the multiple regression.

Coping with scenarios and dysfunctional assumptions

The mean rating of activity (Activity rating), which captured the way in which participants predicted that they would cope with hypothetical scenarios

Table 4. Regression analyses of the relationship between SHPSS-Total and DAS Goal-attainment

Model	Step	Predictor variable	R^2 of model	B	95% CI for B		p
					Lower	Upper	
1	1	BDI	0.098	-0.363	-0.673	-0.052	0.012
		BRMRS		0.176	-1.575	1.927	0.422
	2	BDI	0.208	-0.551	-0.878	-0.224	0.001
		BRMRS		-0.156	-1.833	1.521	0.426
		DAS Goal-attainment		0.414	0.098	0.729	0.006

SHPSS, Sense of Hyper-Positive Self Scale; DAS, Dysfunctional Attitude Scale; BDI, Beck Depression Inventory; BRMRS, Bech-Rafaelsen Mania Rating Scale; CI, confidence interval.

Multiple linear regression, forced entry for steps 1 and 2. The reported p value is one-tailed.

Table 5. Linear regressions investigating predictors of coping with scenarios

Model	Step	Predictor variable	R^2 of model	B	95% CI for B		p
					Lower	Upper	
1	1	BDI	0.186	0.063	0.025	0.101	0.001
		BRMRS		0.077	-0.137	0.290	0.288
	2	BDI	0.314	0.037	-0.002	0.076	0.015
		BRMRS		0.031	-0.170	0.231	0.195
		DAS Goal-attainment		0.057	0.020	0.095	0.001

BDI, Beck Depression Inventory; BRMRS, Bech-Rafaelsen Mania Rating Scale; DAS, Dysfunctional Attitude Scale; CI, confidence interval.

Multiple linear regression, forced entry for step 1 and stepwise entry for step 2. The following predictor variables entered in step 2 were excluded: DAS Dependency, DAS Achievement, DAS Antidependency. The reported p value is two-tailed.

described in the Scenarios Ratings Task, was significantly correlated with DAS total score ($r=0.380$, $p<0.005$, one-tailed). It also correlated significantly with the mean rating of the descriptive traits specified in the scenarios (Descriptives rating), which provided a measure of the extent to which participants identified with the descriptive traits specified in the hypothetical scenarios ($r=0.271$, $p<0.05$, one-tailed). There was also a significant correlation between Activity rating and DAS Goal-attainment ($r=0.484$, $p<0.001$, one-tailed).

An exploratory, multiple linear regression was performed to determine whether any of the DAS subscales would significantly predict coping, after controlling for current mood (Table 5). As before, BDI and BRMRS scores were entered into the first block. The DAS subscales were then entered into the second block. Goal-attainment was the only DAS subscale that significantly predicted the Activity ratings after controlling for mood [$\beta=0.057$, 95% CI 0.020–0.095, $p=0.002$, two-tailed]: the other DAS subscales were

excluded from the model. Goal-attainment was found to explain a further 12.8% of the variance in activity ratings than the mood measures (BDI and BRMRS). Table 5 summarizes the final model in the multiple regressions.

Discussion

Patients with a high SHPS tend to desire high mood states. We also found that goal-attainment attitudes were predictive of the ratings for coping with the hypothetical scenarios specified in the Scenarios Ratings Task. Goal-attainment attitudes, characterized by a desire to strive for success and be admired, were predictive of the extent to which individuals indicated that they would increase their activity (e.g. work harder, make more contributions to a project and be more sociable) in these specified vulnerable situations. However, clinical experience would suggest that an increase in these activities in the scenario would stimulate the patient further, possibly resulting in an

assent to a manic episode. This finding is consistent with the earlier report that life events involving reward and success would lead to an increase of manic symptoms in bipolar patients (Johnson *et al.* 2008).

These results suggest that excessive goal-attainment beliefs should be tackled in therapy. They seem to be linked to an increase in stimulating behaviour in scenarios akin to a prodromal state, which would be contrary to the relapse prevention goals of stabilizing mood and behaviour. Clinicians could implement cognitive techniques to modify these beliefs and find alternatives that are more consistent with relapse prevention goals. This could involve careful exploration to determine the meaning of the beliefs and examining the evidence for and against these beliefs. Alternative beliefs that are more consistent with relapse prevention goals can be generated. In addition, behavioural change could be encouraged to test the new, alternative beliefs and to gain experiential learning. The finding that high ideal SHPS was related to high preferred mood suggests that, when delivering CT to individuals with a high SHPS, some additional work may be required to address this desire for a higher internal state. It may be beneficial to discuss with clients their desired outcomes in relation to holding these SHPS qualities and find alternative ways to help them to achieve these goals without jeopardizing their health. For example, therapists could explore the meaning of being 'creative' most of the time. If the appeal of being 'creative' most of the time was found to be due to a desire for enhanced productivity, then alternative ways of increasing productivity could be explored; for example, working more consistently from week to week and enhancing time management. These suggestions are not based on direct clinical evidence but could be tested out in treatment studies.

It was hypothesized that participants with a high SHPS would show a preference for a high ideal mood state. The results here are mixed. Both the SHPS-Usual and SHPS-Ideal predicted the desire for a high mood state. However, the relationship between SHPS-Usual and the desire for a high ideal mood state was negative, suggesting that patients who do not usually see themselves to be, for example, creative and outgoing are not content with their current mood state. We also reported a negative and significant correlation between SHPS-Usual and the BDI scores. This suggests that patients who had more depressed symptoms tended to want higher ideal self-attributes (e.g. outgoing, productive, dynamic, etc.) as depicted in the SHPS. They also preferred to have a higher manic-like state.

The mean rating of the descriptive traits specified in the scenarios (Descriptive rating) correlated significantly with the coping activity (Scenario Activity

rating) in the coping with hypothetical scenarios. Some of the adjectives in the Descriptive rating are the same as in the SHPS (e.g. dynamic, entertaining), but some are different (e.g. intelligent, productive, adventurous, superior). These results imply that the more a person identified with the descriptor presented, the more they expected that they would increase the specified mania escalating activity, in relation to the scenarios. This relationship is in the direction expected. For example, if someone feels productive, then they are likely to work more; if someone feels entertaining, then they are more likely to be motivated to meet new people, and so on. Such a finding provides support for the validity of the Scenarios Ratings Task.

The current study had some limitations. The Scenarios Rating Task is a relatively crude measure of how an individual would respond to hypothetical situations. Participants can guess the socially desirable answers. However, the hypothesis relating to the Goal-attainment subscale and the Scenarios Rating Tasks was not so obvious. Hence, the results found between Activity ratings and the Scenarios Ratings Task and the Goal-attainment subscale of the DAS may not be affected by the response bias. Furthermore, although the hypothetical scenarios are deliberately designed to reflect the kinds of real life events experienced by patients, a future study could check through a life events analysis that elevated rates of these events in the bipolar group do not account for the effect we have found. Another limitation is that the SHPS is a recently developed measure based on clinical experience. Although there are preliminary data that the SHPS has adequate psychometric properties (Lam *et al.* 2005b), no normative data are available.

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Declaration of Interest

None.

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