

job-related satisfaction in addition to satisfaction with one's job itself. Although the measures suggested by Dr Kader would have been appropriate, some of their items overlapped with the Karasek Job Content Questionnaire (Karasek, 1979), and we were keen to avoid such duplication and overburdening respondents. As we were interested in the relationship between satisfaction with one's job and other indicators of job-related satisfaction such as feelings about pay, operational and policy contexts (which were and remain topical because of proposed changes to the Mental Health Act 1983) and feeling valued, it would have been inappropriate to use a multi-faceted job satisfaction scale as a dependent variable. All of the scales used in the survey are well known and have established reliability and validity.

The adjusted response rate of 49%, although low in comparison with experimental studies, is very reasonable for social surveys of this type. We agree that it would have been helpful to know how non-respondents compared with respondents in terms of demographic and other details, but the methodology meant that was not achievable. Nevertheless, we do know that our sample was very similar, demographically and in terms of tenure, length of experience, approved social worker status, etc., to another recent study of mental health social workers (ADSS Cymru, 2005). Therefore we have no reason to believe that these data are not representative.

Finally, although it might have been interesting to present a stepwise regression model, we opted for an 'enter' model in the interests of brevity. Subsequent analyses have shown that a stepwise approach offers little added value.

Like Dr Kader, we hope that the results of our survey are an eye-opener for employers.

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doi: 10.1192/bjp.189.1.84b

Psychological factors in bipolar disorder

Jones *et al* (2005) have focused on the important although relatively neglected area of psychosocial aspects/intervention in bipolar affective disorder. Although there are several previous reports on the subject by the same group, this study has a better design and a much larger sample size. However, some central issues remain unresolved.

The authors were unable to find dysfunctional beliefs specific to bipolar disorder. Cognitive therapy as practised in depressive or panic disorders attempts to correct characteristic dysfunctional beliefs (Beck & Rush, 2000). In the absence of a specific pattern of dysfunctional beliefs, devising effective and specific cognitive strategies to treat bipolar disorder may be difficult. This is illustrated by the pilot study of cognitive therapy in bipolar disorders by the same group (Scott *et al*, 2001) in which relatively non-specific strategies such as self-management of symptoms, dealing with non-adherence, anti-relapse techniques, etc. were employed. The lack of precise techniques could also have resulted in the differential efficacy of cognitive therapy, with effects mainly on depressive, rather than manic symptoms.

In the current study Jones *et al* used a 24-item sub-scale version of the Dysfunctional Attitude Scale, whereas in earlier studies (Scott *et al*, 2000; Scott & Pope, 2003) a 40-item scale was used. It is not clear whether the use of different versions of this scale contributed to the ambiguous nature of the dysfunctional beliefs found in bipolar disorder, especially since the two different versions appear to have different sub-scales. Finally, although some potential confounding variables, such as current mental state, were controlled for, others, such as duration of illness, severity, chronicity and possible effects of pharmacoprophylaxis, were not. Cognitive style may vary according to these factors (Scott & Pope, 2003) making it necessary to control for them.

It is possible that these concerns will be addressed by future research. This study paves the way for examination of psychosocial factors in bipolar disorder.

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doi: 10.1192/bjp.189.1.85

Authors' reply: We are pleased that Biswas & Chakrabarti highlight the strengths of our study design and large sample size, and consider our work a significant contribution to understanding psychological factors in bipolar disorder. We agree that it is important to consider potential confounders and therefore examined the effects of differences in illness duration and severity. Although there were some differences between our two patient groups on measures of illness severity and a small number of modest correlations between illness severity and cognitive style, covarying for these measures had no effect on our finding that those with bipolar disorder have fragile self-esteem and dysfunctional beliefs similar to those of people with unipolar disorder. We have not been able to examine the possible effects of pharmacoprophylaxis on cognitive style, but agree that this could be a target for future research.

We do not think we would have found differences in cognitive style between participants with bipolar and unipolar disorder if we had used a longer version of the Dysfunctional Attitudes Scale (DAS). The 24-item version used in our study was factor-analytically derived from the longer version and has improved robustness (Power *et al*, 1994). The 'need for achievement' and 'dependency' sub-scales of the 24-item DAS comprise items from the 'perfectionism' and 'need for approval' sub-scales of the 40-item DAS respectively.

We hope that future studies of cognitive style in people with mood disorder will build on the strengths of our study by using

prospective longitudinal designs, systematically ascertained samples and perhaps implicit measures which cover other potentially interesting and clinically relevant cognitive traits such as goal attainment, attributions, self-representations and novelty-seeking.

Power, M. J., Katz, R., McGuffin, P., et al (1994) The Dysfunctional Attitudes Scale (DAS): a comparison of forms A and B and proposal for a new sub-scaled version. *Journal of Research in Personality*, **28**, 263–276.

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doi: 10.1192/bjp.189.1.85a

What is pathological lying?

The article by Yang *et al* (2005) is provocative, thoughtful and intriguing and provided much food for thought. Participants were divided into three groups: liars, normal controls and antisocial controls. Half of those in the liars group were malingerers and the others displayed conning/manipulative behaviour on the Psychopathy Checklist – Revised (PCL–R), deceitfulness criteria for DSM–IV antisocial personality disorders or pathological lying as defined in the PCL–R. Yang *et al* referred to pathological liars specifically in the title of their paper but we are concerned that the definition of liars was so broad and wondered whether the article would not have been better entitled ‘Prefrontal white matter in liars’. The authors included individuals with different lying characteristics in a group of pathological liars and this is problematic.

Our recent review (Dike *et al*, 2005) showed that the term ‘pathological lying’ has been used differently in the literature

from how it was used by Yang *et al*. Pathological lying is distinct from malingering or the other forms of lying exhibited by those included by Yang *et al* in the liars group. We defined pathological lying as ‘falsification entirely disproportionate to any discernible end in view, may be extensive and very complicated, and may manifest over a period of years or even a lifetime’. Pathological lying is a repetitive pattern of lying for which an external reason (such as financial gain) often appears absent, and the psychological basis is often unclear. This definition has not been accepted by the psychiatric community but summarises the elements of pathological lying. Interestingly, we found that pathological lying can also be found among successful individuals without a history of criminal behaviour.

We commend Yang *et al* for investigating the neurobiological basis of lying. Whether the prefrontal white matter changes indicate a causal relationship with lying or just an association is unknown. However, pathological lying *per se* was not specifically investigated, as suggested.

Dike, C. C., Baranoski, M. & Griffith, E. E. H. (2005) Pathological lying revisited. *Journal of the American Academy of Psychiatry and the Law*, **33**, 342–349.

Yang, Y., Raine, A., Lencz, T., et al (2005) Prefrontal white matter in pathological liars. *British Journal of Psychiatry*, **187**, 320–325.

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doi: 10.1192/bjp.189.1.86

Authors’ reply: We wholeheartedly agree with Dike *et al* that the definition of ‘pathological liar’ is vague and confusing. Although pathological lying has been

defined in several different ways, no specific psychological test is available. Hence we applied a symptom-based approach and defined individuals as ‘liars’ if they fulfilled: (a) criteria for pathological lying on the Psychopathy Checklist – Revised (PCL–R), (b) criteria for conning/manipulative behaviour on the PCL–R, (c) the deceitfulness criterion for DSM–IV, or (d) criteria for malingering as reported in a self-report crime interview.

We maintain that our study did investigate at least one form of pathological lying. In a new analysis, we found that 42% of our liars had psychopathy, antisocial personality disorders or borderline personality disorder. These liars likely correspond to those Healy & Healy (1926) refer to as ‘secondary pathological liars’ – people whose lying is a complication of disorders such as those above. The other 58% of our group, who did not meet this comorbid requirement, probably correspond to the ‘primary pathological liars’ described by Healy & Healy – people who habitually lie but do not demonstrate symptoms of a clearly defined psychiatric disorder. This new analysis also revealed that liars with or without psychiatric disorders showed significantly increased prefrontal white matter volume compared with antisocial controls ($P=0.003$, $P=0.01$, two-tailed respectively) and normal controls ($P=0.005$, $P=0.014$ respectively). Although our study is a preliminary attempt to reveal brain abnormalities in people who lie, cheat and deceive we hope that it will stimulate interest in this important but understudied phenomenon.

Healy, W. & Healy, M. T. (1926) *Pathological Lying, Accusation and Swindling*. Boston, MA: Little Brown.

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doi: 10.1192/bjp.189.1.86a