



## Relationships between the personality beliefs questionnaire and self-rated personality disorders

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**Objectives.** To examine relationships between specific dysfunctional beliefs and self-reported personality disorder types.

**Design.** Cross-sectional.

**Method.** One hundred and sixty-four clinical psychology out-patients completed the Personality Beliefs Questionnaire (PBQ) and Millon Multiaxial Clinical Inventory-III (MCMI-III): 155 completed both. Avoidant, dependent, passive-aggressive and schizoid PDs, and relevant PBQ subscales were studied.

**Results.** Presence or absence of PD was predicted by scores on the index PBQ subscale.

**Conclusions.** This pattern has previously been reported for PDs diagnosed by structured interview only. PBQ relationships with passive-aggressive and schizoid PD have not previously been reported.

Dysfunctional beliefs appear to be a core cognitive feature of personality disorder (PD; Beck, Freeman, & Associates, 1990). Beck and Millon have proposed a central role for specific cognitive styles in PD (Beck *et al.*, 2001; Millon & Davis, 1996). Beck argued for self-report measures to compliment interview-based belief assessments (Beck *et al.*, 2001). Beck, *et al.* (1990) enumerated dysfunctional beliefs associated with particular PDs, leading to the development of the Personality Beliefs Questionnaire (PBQ) which assesses dysfunctional beliefs for nine PDs. Beck *et al.* established PBQ's reliability and validity in patients assessed on the Structured Clinical Interview for Personality Disorders (SCID-II: First, Spitzer, Gibbon, & Williams, 1997). Avoidant, dependent, obsessive-compulsive, narcissistic, or paranoid PD participants scored highest on the relevant PBQ subscale for their disorder, except for paranoid PD where narcissistic PBQ score was equally high. Butler, Brown, Beck, and Grisham (2002) identified PBQ items

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which reliably differentiated borderline PD from individuals with other PDs. Thus, PBQ performs well in characterizing dysfunctional beliefs in individuals selected using SCID.

Dreessen and Arntz's (1995) measure, the Personality Disorder Belief Questionnaire (PDBQ) reliably differentiated borderline PD patients from anxious, fearful PD, and controls. Arntz also reported that avoidant, dependent, obsessive-compulsive, paranoid, histrionic, and borderline PD participants had specific PDBQ beliefs (Arntz, Dreessen, Schouten, & Weertman, 2004). Therefore, four studies support the presence of specific patterns of beliefs in PD.

The above studies employed structured clinical interviews to identify PD. Petrocelli, Glaser, Calhoun, and Campbell (2001) identified five PD subtypes with the Millon Multiaxial Inventory-II (Millon, 1987) which overlapped with beliefs measured on Young's Schema Questionnaire (Young, 1999). Although supportive of associations between cognitive styles and PD, this study did not indicate the specificity of belief patterns proposed by Beck *et al.* (1990).

The present study explored the ability of PBQ to differentiate individuals grouped according to PDs measured by Millon Multiaxial Clinical Inventory-III (MCMI-III; Millon, Davis, & Millon, 1997). Beck *et al.* (2001) explored differences between individuals with single primary PD diagnoses; however, many individuals meet criteria for more than one PD (Millon *et al.*, 1997). We explored the extent to which PBQ beliefs aggregated with index PD diagnoses irrespective of other comorbid PDs, which we regard as an appropriate test for PBQ at this stage.

## Method

### *Participants and procedure*

Participants (66 males and 98 females) were routine attenders at an NHS clinical psychology department (age 37.62 years;  $SD = 11.95$ ) directly referred by GPs mainly for psychological treatment of anxiety and depressive disorders. None of the participants were specifically referred for treatment of PD.

Consent was obtained in accordance with ethical approval from the local NHS Research Ethics Committee. One hundred and sixty-four participants completed the MCMI-III; 155 also completed PBQ forms.

### *Measures*

#### *Millon Multiaxial Personality Inventory-III*

MCMI-III is a 175-item true-false self-report questionnaire providing diagnostic information for 14 PD categories. Basic PD scales include schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial, sadistic, compulsive, passive-aggressive, and self-defeating PDs. Severe PD scales include schizotypal, borderline, and paranoid PDs. The four subscales which form the focus of this paper are avoidant, dependent, passive-aggressive, and schizoid. Avoidant personality items mainly ask about participants' approaches to social relationships and practical problems, the dependent scale asks primarily about submissive approaches to relationships, the passive-aggressive scale asks about pessimism, emotional instability, and resistance to the opinions of others, whilst the schizoid scale concentrates on whether the participant has a desire or need for close relationships. Ten clinical syndromes are also assessed.

Scaled score cut-off of 85 was used (Millon *et al.*, 1997), to identify the presence of PD (and clinical syndromes) for each of the available scales. Positive predictive ratio for each subscale (representing increment over chance of receiving a particular structured interview diagnosis if the same diagnosis was indicated by MCMI-III) for the subscales chosen ranged from 7.8 to 11.9 (Millon *et al.*, 1997).

#### *Personality beliefs questionnaire*

PBQ is a 126-item scale with each item rated on a 0–4 Likert scale. Satisfactory reliability and validity have been established for the avoidant, dependent, obsessive-compulsive, narcissistic, and paranoid subscales of the PBQ (Beck *et al.*, 2001) and for the composite borderline PD subscale (Butler *et al.*, 2002). Example items from the PBQ include 'I cannot tolerate unpleasant feelings' (avoidant), 'If I am not loved, I will always be unhappy' (dependent), 'The only way I can preserve my self-respect is by asserting myself indirectly' (passive-aggressive), and 'I am not influenced by others in what I decide to do' (schizoid).

## Results

Most common clinical syndromes indicated by MCMI-III were anxiety, major depression and dysthymia. Fifty-nine participants did not meet diagnostic criteria for a specific clinical syndrome.

#### **Predictive value of original PBQ subscales with respect to MCMI group membership**

PD categories with a minimum sample of 20 were examined, based on independent statistical advice to allow consideration of four predictor variables in logistic regression. Categories were avoidant ( $N = 35$ ), dependent ( $N = 36$ ), passive-aggressive ( $N = 31$ ), and schizoid ( $N = 30$ ). Thirty-three participants met criteria for more than one category. Correlations were computed between PD present/absent groups (coded 1 and 0, respectively) and respective scores on the relevant PBQ subscales. All PBQ subscales correlated modestly but significantly with each Millon PD grouping except PBQ schizoid subscale and dependent PD. Size of correlations did not indicate measurement of same underlying process with both tools (not more than 25% of variance in grouping is explained in any instance). Stepwise logistic regression analyses were run for each PD, with all PBQ subscales which generated significant correlations. Criteria for multicollinearity were a condition index score  $>30$  for a predictor variable and at least two variation proportions  $>0.50$  (Tabachnik & Fidell, 2001) which were not met. Power to detect significant relationships at the 5% significance level was  $>0.80$  (Tosteson, Buzas, Demidenko, & Karagas, 2003).

For avoidant PD with four PBQ subscales entered the overall equation was significant ( $\chi^2 = 35.80$ ,  $df = 1$ ,  $p < .001$ ), but only PBQ avoidant subscale contributed significantly ( $B = 0.114$ ,  $SE = 0.02$ , Wald Test = 22.80,  $p < .001$ ). The overall equation for dependent PD was again significant with avoidant, dependent, and passive-aggressive PBQ subscales entered ( $\chi^2 = 37.49$ ,  $df = 1$ ,  $p < .001$ ), but only PBQ dependent subscale contributed significantly ( $B = 0.104$ ,  $SE = 0.02$ , Wald Test = 27.87,  $p < .001$ ). The overall regression equation for passive-aggressive PD was significant ( $\chi^2 = 27.71$ ,  $df = 1$ ,  $p < .001$ ) with all four PBQ subscales entered, but only PBQ passive-aggressive subscale contributed significantly ( $B = 0.110$ ,  $SE = 0.02$ , Wald Test = 20.43,  $p < .001$ ).

The overall regression equation for schizoid PD was significant ( $\chi^2 = 23.82$ ,  $df = 1$ ,  $p < .001$ ) with all four subscales entered, but only PBQ schizoid subscale contributed significantly ( $B = 0.098$ ,  $SE = 0.02$ , Wald Test = 20.12,  $p < .001$ ).

### **Predictive value of PBQ subscales with respect to borderline PD**

We also explored associations between Borderline PBQ subscale and borderline PD ( $N = 24$ ) by testing the extent to which PBQ subscales (including the borderline PD) contributed to prediction of borderline PD diagnostic group. Multicollinearity was again absent. The overall regression coefficient for borderline PD was significant ( $\chi^2 = 29.94$ ,  $df = 1$ ,  $p < .001$ ), but only PBQ borderline PD subscale contributed significantly ( $B = 0.126$ ,  $SE = 0.03$ , Wald Test = 21.02,  $p < .001$ ).

## **Discussion**

This study extends the work of Beck's group (Beck *et al.*, 2001; Butler *et al.*, 2002) regarding construct validity of the PBQ and its relevance to cognitive theory. For avoidant, dependent, passive-aggressive, schizoid and borderline PD, each PD category was predicted only by the matched PBQ subscale score. A previous study reported the relationships between MCMI and the Schema Questionnaire (Young, 1999) which was not developed specifically to tap the PD relevant beliefs (Petrocelli *et al.*, 2001), but this is the first to report MCMI/PBQ relationships and our results suggest more specific PD/belief relationships. Finally, neither Beck *et al.* nor Arntz *et al.* (2004) reported on specificity of beliefs for passive-aggressive or schizoid PD.

There are limitations to this study. Firstly, neither measure is a stand-alone diagnostic tool, therefore, some 'PD' participants may not meet structured interview PD criteria. Future research could therefore explore relationships between SCID-II, MCMI, and PBQ to test validity of MCMI categories and specificity of PBQ relationships with both; also permitting assessment of whether shared method variance explains any current findings. Secondly, a cross-sectional design was used so further studies should explore whether beliefs predict severity of later PD symptomatology. Finally, the ratio of participants to predictors was modest so replication in larger clinical samples would be warranted.

Self-report measures of PD and PD relevant beliefs might have a useful role in clinical practice lacking resources for structured interview assessment. In particular, the PBQ's specific focus on cognitive theory relevant beliefs (in contrast to MCMI) makes it a potentially helpful aid to cognitive behavioural case formulation.

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