PBQ

Belief Questionnaire

Name_____ Date:_____

Please read the statements below and rate HOW MUCH YOU BELIEVE EACH ONE. Try to judge how you feel about each statement MOST OF THE TIME.

4	3	2	1	0
I Believe it Totally	I Believe it Very Much	I Believe it Moderately	I Believe it Slightly	I Don't Believe it at all

Example	HOW MUCH DO YOU BELIEVE IT?				
1. The world is a dangerous place. (Please circle)	4 Totally	3 Very Much	2 Moderately	1 Slightly	0 Not at All
1. I am socially inept and socially undesirable in work or social situations.	4	3	2	1	0
2. Other people are potentially critical, indifferent, demeaning, or rejecting.	4	3	2	1	0
3. I cannot tolerate unpleasant feelings.	4	3	2	1	0
4. If people get close to me, they will discover the "real" me and reject me.	4	3	2	1	0
5. Being exposed as inferior or inadequate will be intolerable.	4	3	2	1	0
6. I should avoid unpleasant situations at all cost.	4	3	2	1	0
7. If I feel or think something unpleasant, I should try to wipe it out or distract myself (for example, think of something else, have a drink, take a drug, or watch television).	4	3	2	1	0
8. I should avoid situations in which I attract attention, or be as inconspicuous as possible.	4	3	2	1	0
9. Unpleasant feelings will escalate and get out of control.	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
10.	If others criticize me, they must be right.	4	3	2	1	0
11.	It is better not to do anything than to try something that might fail.	4	3	2	1	0
12.	If I don't think about a problem, I don't have to do anything about it.	4	3	2	1	0
13.	Any signs of tension in a relationship indicate the relationship has gone bad; therefore, I should cut it off.	4	3	2	1	0
14.	If I ignore a problem, it will go away.	4	3	2	1	0
15.	I am needy and weak.	4	3	2	1	0
16.	I need somebody around available at all times to help me to carry out what I need to do or in case something bad happens.	4	3	2	1	0
17.	My helper can be nurturant, supportive, and confident -- if he or she wants to be.	4	3	2	1	0
18.	I am helpless when I'm left on my own.	4	3	2	1	0
19.	I am basically alone -- unless I can attach myself to a stronger person.	4	3	2	1	0
20.	The worst possible thing would be to be abandoned.	4	3	2	1	0
21.	If I am not loved, I will always be unhappy.	4	3	2	1	0
22.	I must do nothing to offend my supporter or helper.	4	3	2	1	0
23.	I must be subservient in order to maintain his or her good will.	4	3	2	1	0
24.	I must maintain access to him or her at all times.	4	3	2	1	0
25.	I should cultivate as intimate a relationship as possible.	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
26.	I can't make decisions on my own.	4	3	2	1	0
27.	I can't cope as other people can.	4	3	2	1	0
28.	I need others to help me make decisions or tell me what to do.	4	3	2	1	0
29.	I am self-sufficient, but I do need others to help me reach my goals.	4	3	2	1	0
30.	The only way I can preserve my self-respect is by asserting myself indirectly; for example, by not carrying out instructions exactly.	4	3	2	1	0
31.	I like to be attached to people but I am unwilling to pay the price of being dominated.	4	3	2	1	0
32.	Authority figures tend to be intrusive, demanding, interfering, and controlling.	4	3	2	1	0
33.	I have to resist the domination of authorities but at the same time maintain their approval and acceptance.	4	3	2	1	0
34.	Being controlled or dominated by others is intolerable.	4	3	2	1	0
35.	I have to do things my own way.	4	3	2	1	0
36.	Making deadlines, complying with demands, and conforming are direct blows to my pride and self-sufficiency.	4	3	2	1	0
37.	If I follow the rules the way people expect, it will inhibit my freedom of action.	4	3	2	1	0
38.	It is best not to express my anger directly but to show my displeasure by not conforming.	4	3	2	1	0
39.	I know what's best for me and other people shouldn't tell me what to do.	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
40.	Rules are arbitrary and stifle me.	4	3	2	1	0
41.	Other people are often too demanding.	4	3	2	1	0
42.	If I regard people as too bossy, I have a right to disregard their demands.	4	3	2	1	0
43.	I am fully responsible for myself and others.	4	3	2	1	0
44.	I have to depend on myself to see that things get done.	4	3	2	1	0
45.	Others tend to be too casual, often irresponsible, self-indulgent, or incompetent.	4	3	2	1	0
46.	It is important to do a perfect job on everything.	4	3	2	1	0
47.	I need order, systems, and rules in order to get the job done properly.	4	3	2	1	0
48.	If I don't have systems, everything will fall apart.	4	3	2	1	0
49.	Any flaw or defect of performance may lead to a catastrophe.	4	3	2	1	0
50.	It is necessary to stick to the highest standards at all times, or things will fall apart.	4	3	2	1	0
51.	I need to be in complete control of my emotions.	4	3	2	1	0
52.	People should do things my way.	4	3	2	1	0
53.	If I don't perform at the highest level, I will fail.	4	3	2	1	0
54.	Flaws, defects, or mistakes are intolerable.	4	3	2	1	0
55.	Details are extremely important.	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
56.	My way of doing things is generally the best way.	4	3	2	1	0
57.	I have to look out for myself.	4	3	2	1	0
58.	Force or cunning is the best way to get things done.	4	3	2	1	0
59.	We live in a jungle and the strong person is the one who survives.	4	3	2	1	0
60.	People will get at me if I don't get them first.	4	3	2	1	0
61.	It is not important to keep promises or honor debts.	4	3	2	1	0
62.	Lying and cheating are OK as long as you don't get caught.	4	3	2	1	0
63.	I have been unfairly treated and am entitled to get my fair share by whatever means I can.	4	3	2	1	0
64.	Other people are weak and deserve to be taken.	4	3	2	1	0
65.	If I don't push other people, I will get pushed around.	4	3	2	1	0
66.	I should do whatever I can get away with.	4	3	2	1	0
67.	What others think of me doesn't really matter.	4	3	2	1	0
68.	If I want something, I should do whatever is necessary to get it.	4	3	2	1	0
69.	I can get away with things so I don't need to worry about bad consequences.	4	3	2	1	0
70.	If people can't take care of themselves, that's their problem	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
71.	I am a very special person.	4	3	2	1	0
72.	Since I am so superior, I am entitled to special treatment and privileges.	4	3	2	1	0
73.	I don't have to be bound by the rules that apply to other people.	4	3	2	1	0
74.	It is very important to get recognition, praise, and admiration.	4	3	2	1	0
75.	If others don't respect my status, they should be punished.	4	3	2	1	0
76.	Other people should satisfy my needs.	4	3	2	1	0
77.	Other people should recognize how special I am.	4	3	2	1	0
78.	It's intolerable if I'm not accorded my due respect or don't get what I'm entitled to.	4	3	2	1	0
79.	Other people don't deserve the admiration or riches they get.	4	3	2	1	0
80.	People have no right to criticize me.	4	3	2	1	0
81.	No one's needs should interfere with my own.	4	3	2	1	0
82.	Since I am so talented, people should go out of their way to promote my career.	4	3	2	1	0
83.	Only people as brilliant as I am understand me.	4	3	2	1	0
84.	I have every reason to expect grand things.	4	3	2	1	0
85.	I am an interesting, exciting person.	4	3	2	1	0
86.	In order to be happy, I need other people to pay attention to me.	4	3	2	1	0

HOW MUCH DO YOU BELIEVE IT?

	Totally	Very Much	Moderately	Slightly	Not at All
	4	3	2	1	0
87. Unless I entertain or impress people, I am nothing.	4	3	2	1	0
88. If I don't keep others engaged with me, they won't like me.	4	3	2	1	0
89. The way to get what I want is to dazzle or amuse people.	4	3	2	1	0
90. If people don't respond very positively to me, they are rotten.	4	3	2	1	0
91. It is awful if people ignore me.	4	3	2	1	0
92. I should be the center of attention.	4	3	2	1	0
93. I don't have to bother to think things through -- I can go by my "gut" feeling.	4	3	2	1	0
94. If I entertain people, they will not notice my weaknesses.	4	3	2	1	0
95. I cannot tolerate boredom.	4	3	2	1	0
96. If I feel like doing something, I should go ahead and do it.	4	3	2	1	0
97. People will pay attention only if I act in extreme ways.	4	3	2	1	0
98. Feelings and intuition are much more important than rational thinking and planning.	4	3	2	1	0
99. It doesn't matter what other people think of me.	4	3	2	1	0
100. It is important for me to be free and independent of others.	4	3	2	1	0
101. I enjoy doing things more by myself than with other people.	4	3	2	1	0
102. In many situations, I am better off to be left alone.					

	HOW MUCH DO YOU BELIEVE IT?				
	Totally	Very Much	Moderately	Slightly	Not at All
103. I am not influenced by others in what I decide to do.	4	3	2	1	0
104. Intimate relations with other people are not important to me.	4	3	2	1	0
105. I set my own standards and goals for myself.	4	3	2	1	0
106. My privacy is much more important to me than closeness to people.	4	3	2	1	0
107. What other people think doesn't matter to me.	4	3	2	1	0
108. I can manage things on my own without anybody's help.	4	3	2	1	0
109. It's better to be alone than to feel "stuck" with other people.	4	3	2	1	0
110. I shouldn't confide in others.	4	3	2	1	0
111. I can use other people for my own purposes as long as I don't get involved.	4	3	2	1	0
112. Relationships are messy and interfere with freedom.	4	3	2	1	0
113. I cannot trust other people.	4	3	2	1	0
114. Other people have hidden motives.	4	3	2	1	0
115. Others will try to use me or manipulate me if I don't watch out.	4	3	2	1	0
116. I have to be on guard at all times.	4	3	2	1	0
117. It isn't safe to confide in other people.	4	3	2	1	0
118. If people act friendly, they may be trying to use or exploit me.	4	3	2	1	0
119. People will take advantage of me if I give them the chance.	4	3	2	1	0

		HOW MUCH DO YOU BELIEVE IT?				
		Totally	Very Much	Moderately	Slightly	Not at All
120.	For the most part, other people are unfriendly.	4	3	2	1	0
121.	Other people will deliberately try to demean me.	4	3	2	1	0
122.	Oftentimes people deliberately want to annoy me.	4	3	2	1	0
123.	I will be in serious trouble if I let other people think they can get away with mistreating me.	4	3	2	1	0
124.	If other people find out things about me, they will use them against me.	4	3	2	1	0
125.	People often say one thing and mean something else.	4	3	2	1	0
126.	A person whom I am close to could be disloyal or unfaithful.	4	3	2	1	0

Personality Belief Questionnaire Scoring Key

Patient Name: _____ Date: _____

PBQ Scale		Raw Score		Z-score	Criterion Group Z-scores: Patients with corresponding PD	Criterion Group Z-scores: Patients with no PD
Avoidant	Sum of items 1-14	=_____	(Raw score - 18.8)/10.9	=_____	.62	-.69
Dependent	Sum of items 15-28	=_____	(Raw score – 18.0)/11.8	=_____	.83	-.49
Passive-Aggressive	Sum of items 29-42	=_____	(Raw score – 19.3)/10.5	=_____	No data	-.38
Obsessive-Compulsive	Sum of items 43-56	=_____	(Raw score – 22.7)/11.5	=_____	.31	-.51
Antisocial	Sum of items 57-70	=_____	(Raw score – 9.3)/6.8	=_____	.31	-.18
Narcissistic	Sum of items 71-84	=_____	(Raw score – 10.0)/7.6	=_____	1.10	-.38
Histrionic	Sum of items 85-98	=_____	(Raw score – 14.0)/9.3	=_____	No data	-.29
Schizoid	Sum of items 99-112	=_____	(Raw score – 16.3)/8.6	=_____	No data	-.14
Paranoid	Sum of items 113-126	=_____	(Raw score – 14.6)/11.3	=_____	.51	-.55
Borderline	Sum items 4, 9, 13, 15, 16, 18, 27, 60, 97, 113, 116, 119, 125, and 126	=_____	(Raw score – 15.8)/10.5	=_____	.77	-.65

Note: Z-scores are based on a sample of 756 psychiatric outpatients with mixed diagnoses.

Beck, A. T., Butler, A. C., Brown, G. K., Dahslgaard, K. K., Newman, C. F., & Beck, J. S. (2001). Dysfunctional beliefs discriminate personality disorders. *Behavioral Research and Therapy, 39,* 1213-1225.

Butler, A. C., Brown, G. K., Beck, A. T., & Grisham, J. R. (2002). Assessment of dysfunctional beliefs in borderline personality disorder. Behavioral *Research and Therapy*, *40*(1), 1231-1240.

ACButler, 6/02

Development of the Personality Belief Questionnaire (PBQ)

Andrew C. Butler, Ph.D., September, 2003

Cognitive theory of personality disorders emphasizes the importance of schemas and core beliefs as organizational structures and global mental representations that guide information processing and behavior (Beck, Freeman, and Associates, 1990). Being cognizant of the prototypic cognitive profile of each personality disorder can help guide clinicians as they conceptualize difficult cases.

Specific schema content (key dysfunctional beliefs) of each of the personality disorders has been identified through clinical and theoretical work by Beck and associates (Beck, et al., 1990; 2003). The Personality Belief Questionnaire (PBQ, Beck & Beck, 1991) was developed to assist clinicians and researchers in assessing these beliefs among patients. The 126-item PBQ includes scales for nine of the disorders listed on Axis II of the DSM. Each scale consists of 14 beliefs. The scales can be administered separately or (more typically) together. The entire PBQ takes approximately 20 minutes to complete.

Psychometric findings on the PBQ can be found in Beck, Butler, Brown, Dahlsgaard, Newman, and Beck (2001; see summary table below). Beck et al. (2001) examined the criterion validity of the PBQ Avoidant, Dependent, Obsessive-Compulsive, Narcissistic, and Paranoid scales among psychiatric outpatients with corresponding SCID-II-derived diagnoses. Findings strongly supported the study predictions. In general, patients with one of these Axis II diagnoses scored higher on the corresponding PBQ scale than patients with alternative Axis II diagnoses. Also, patients scored significantly higher on the PBQ scale theoretically associated with their Axis II diagnosis than on PBQ scales associated with other personality disorders. A subsequent study conducted by Butler, Brown, Beck, and Grisham (2002) identified 14 PBQ beliefs that empirically distinguish patients with borderline personality disorder from patients with other personality disorders.

The PBQ can be used clinically in two ways: to provide a cognitive profile and to identify specific dysfunctional beliefs that can be addressed in treatment. One benefit of a PBQ profile is that the relative strengths of beliefs across numerous personality disorders can be seen. This is important since personality disorder patients rarely present with a "pure" personality disorder and co-existing features from multiple personality disorders are common (Clark, 1999). PBQ responses can be reviewed with patients to explore several important areas: for example, how certain beliefs are currently impacting their emotions and behavior and how these beliefs may have been learned and maintained, even in the face of significant contradictory data. Patients can also be guided to assess the relative advantages and disadvantages of holding these beliefs and to develop alternative more adaptive beliefs.

References

Beck, A. T., & Beck, J. S. (1991). *The Personality Belief Questionnaire*. Bala Cynwyd, PA: The Beck Institute for Cognitive Therapy and Research.

Beck, A. T., Butler, A. C., Brown, G. K., Dahslgaard, K. K., Newman, C. F., & Beck, J. S. (2001). Dysfunctional beliefs discriminate personality disorders. *Behavioral Research and Therapy*, *39*, 1213-1225.

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beliefs in borderline personality disorder. Behavioral Research and Therapy, 40(1), 1231-1240.

Clark, L. A. (1999). Dimensional approaches to personality disorder assessment and diagnosis. In C. Robert Cloninger (Ed.), Personality and Psychopathology, (pp. 219-244). Washington, DC: American Psychiatric Press.

Table 1.

Inter-correlations, Reliability Estimates, Means, and Standard Deviations for All PBQ Scales in a Mixed Diagnosis Sample

Scale	1	2	3	4	5	6	7	8	9
1. Avoidant	**.89**								
2. Dependent	.69	**.90**							
3. Obsessive-Compulsive	.52	.48	**.90**						
4. Narcissistic	.27	.29	.41	**.84**					
5. Paranoid	.57	.46	.53	.44	**.93**				
6. Histrionic	.53	.54	.52	.64	.50	**.87**			
7. Passive-Aggressive	.52	.44	.51	.52	.55	.59	**.88**		
8. Schizoid	.25	.04	.38	.39	.51	.32	.46	**.81**	
9. Antisocial	.33	.32	.48	.60	.55	.56	.54	.48	**.81**
Mean	18.80	18.00	22.69	10.02	14.62	13.96	19.28	16.29	9.31
SD	10.92	11.82	11.48	7.60	11.33	9.26	10.47	8.55	6.81

Note. N = 756. Coefficients in bold on the diagonal are reliability estimates (Cronbach's alpha). With the exception of the correlation between the Dependent and Schizoid scales, all coefficients are statistically significant at $p < .05$.

Assessing Dysfunctional Beliefs Related to Personality Disorders

Andrew C. Butler, Ph.D.

Cognitive theory of personality disorders emphasizes the importance of schemas and core beliefs as organizational structures and global mental representations that guide information processing and behavior (Beck, Freeman, Davis, & Associates, 2003). Research over the past decade has identified specific sets of dysfunctional beliefs that are empirically associated with the various Axis II personality disorders (Beck, Butler, Brown, Dahlsgaard, Newman, & Beck, 2001; Butler, Brown, Beck, & Grisham, 2002). Being cognizant of the prototypic cognitive profile of each personality disorder can help guide clinicians as they conceptualize difficult cases.

Personality disorder beliefs have been measured using the Personality Belief Questionnaire (Beck and Beck, 1991). Beck et al. (2001) recently examined the criterion validity of the PBQ Avoidant, Dependent, Obsessive-Compulsive, Narcissistic, and Paranoid scales among psychiatric outpatients with corresponding SCID-II-derived diagnoses. Findings strongly supported the study predictions. In general, patients with one of these Axis II diagnoses scored higher on the corresponding PBQ scale than patients with alternative Axis II diagnoses. Also, patients scored significantly higher on the PBQ scale theoretically associated with their Axis II diagnosis than on PBQ scales associated with other personality disorders. A subsequent study conducted by Butler et al. (2002) identified 14 PBQ beliefs that empirically distinguish patients with borderline personality disorder from patients with other personality disorders.

The PBQ can be used clinically in two ways: to provide a cognitive profile and to identify specific dysfunctional beliefs that can be addressed in treatment. One benefit of a PBQ profile is that the relative strengths of beliefs across numerous personality disorders can be seen. This is important since personality disorder patients rarely present with a "pure" personality disorder and co-existing features from multiple personality disorders are common (Clark, 1999). PBQ responses can be reviewed with patients to explore several important areas: for example, how certain beliefs are currently impacting their emotions and behavior and how these beliefs may have been learned and maintained, even in the face of significant contradictory data. Patients can also be guided to assess the relative advantages and disadvantages of holding these beliefs and to develop alternative more adaptive beliefs.

References

Beck, A. T., & Beck, J. S. (1991). *The Personality Belief Questionnaire*. Bala Cynwyd, PA: The Beck Institute for Cognitive Therapy and Research.

Beck, A. T., Butler, A. C., Brown, G. K., Dahslgaard, K. K., Newman, C. F., & Beck, J. S. (2001). Dysfunctional beliefs discriminate personality disorders. *Behavioral Research and Therapy, 39*, 1213-1225.

Beck, A. T., Freeman, A., Davis, D., and Associates (2003). *Cognitive Therapy of Personality Disorders, Second Edition*. New York: Guilford Press.

Butler, A. C., Brown, G. K., Beck, A. T., & Grisham, J. R. (2002). Assessment of dysfunctional beliefs in borderline personality disorder. Behavioral Research and Therapy, 40(1), 1231-1240.

Clark, L. A. (1999). Dimensional approaches to personality disorder assessment and diagnosis. In C. Robert Cloninger (Ed.), Personality and Psychopathology, (pp. 219-244). Washington, DC: American Psychiatric Press.

Response to Scoring Question:

The formula for computing Z scores for each PBQ scale is:

Z score = (patient's raw score - normative mean) / normative SD

The normative means, SD's and Z scores for many PD diagnoses, and for outpatients without a PD diagnosis, are listed in the scoring sheet you received from the Beck Institute. Statistically speaking, in a mixed-diagnosis outpatient psychiatric sample, 99% of the time a patient's Z score will fall between -3 and +3, and the average Z score will be 0. Practically speaking, a Z score near or above the Z score listed for a diagnostic group is likely to be diagnostically suggestive and clinically meaningful. However, please keep in mind the following: (1) The PBQ assesses beliefs associated with various Axis II disorders. It does not directly assess the criterion behaviors for these disorders. (2) Assessment of criterion behaviors should be done through other assessment methods (e.g., diagnostic interviewing). (3) There is no empirically established cut-off score on the PBQ that indicates the presence or absence of a personality disorder diagnosis.

Andrew C. Butler, Ph.D.

Running Head: PERSONALITY DISORDER BELIEFS

Dysfunctional Beliefs Discriminate Personality Disorders

Aaron T. Beck*, Andrew C. Butler, Gregory K. Brown, Katherine K. Dahlsgaard, Cory F. Newman and Judith S. Beck

University of Pennsylvania

*Corresponding author: University of Pennsylvania School of Medicine, Department of Psychiatry, Room 754, The Science Center, 3600 Market Street, Philadelphia, Pennsylvania 19104. Fax: 610-649-7092 Email: becka@Landru.cpr.upenn.edu. All other authors may be reached at the above postal address.

Abstract

This study examines whether specific sets of dysfunctional beliefs are differentially associated with five personality disorders (PD's) as predicted by cognitive theory. Four hundred ten psychiatric outpatients completed the Personality Belief Questionnaire (PBQ) at intake and were assessed for PD's using a standardized clinical interview conducted by assessors who were blind to patients' PBQ responses. Findings showed that patients with avoidant, dependent, obsessive-compulsive and narcissistic PD's preferentially endorsed PBQ beliefs theoretically linked to their specific disorders. Patients with a given PD scored significantly higher on the corresponding PBQ scale than did patients with alternative PD's (r's from 0.15 to 0.43). Patients with narcissistic PD made surprisingly strong endorsements of obsessive-compulsive beliefs. The study results support the cognitive theory of personality disorders. Suggestions are made regarding the clinical utility of the PBQ with personality-disordered patients and future research on the PBQ.

Keywords: Personality Disorders, Cognitive Therapy, Personality Scales and Inventories, Personality Theory

Dysfunctional Beliefs Discriminate Personality Disorders

A prominent feature of the cognitive theory of personality disorders is its emphasis on the role of dysfunctional beliefs. According to cognitive theory, the essence of a personality disorder is revealed in the dysfunctional beliefs that characterize and perpetuate it (Beck & Freeman, 1990; Pretzer & Beck, 1996). For example, people with avoidant personality disorder hold key beliefs such as "I am socially inept and undesirable" and "I cannot tolerate unpleasant feelings," among others. Such beliefs can parsimoniously explain a wide range of avoidant personality disorder thoughts and behavior, such as frequently expecting rejection and consequent unbearable psychic distress, focusing inordinately on one's flaws and others' potential negative evaluation, and avoiding or retreating from social situations where others might discover one's shortcomings.

An emphasis on key dysfunctional beliefs is one component that distinguishes cognitive theory from other theories of personality disorders including psychoanalytic (e.g., Kernberg, 1996), evolutionary (Millon & Davis, 1996a), interpersonal (Benjamin, 1996), and neurobiological (e.g., Cloninger, 1987; Depue, 1996). Consistent with their prominence in cognitive theory, dysfunctional beliefs are a primary focus of treatment

in cognitive therapy of personality disorders (Beck, 1996; 1998). They form the central component of a cognitive case conceptualization and are a prime target for intervention. When correctly identified, key dysfunctional beliefs reflect one or more conceptual themes that link a patient's developmental history, compensatory strategies, and dysfunctional reactions to current situations. As therapist and patient work together to identify and modify these key beliefs, improvements may be seen simultaneously across many areas of functioning (Beck, 1998).

Although assessment of patients' dysfunctional beliefs is primarily accomplished through clinical interviewing techniques (see Beck, 1995), self-report questionnaires can facilitate this process. For instance, the Dysfunctional Attitude Scale (Weissman & Beck, 1978) is a self-report questionnaire that has been used to help identify the attitudes and beliefs that underlie a patient’s depression. Many personality disorder beliefs may be accessible via a similar self-report measure.

A number of structured or semi-structured clinical interview protocols are available for diagnosing personality disorders (e.g., the Structured Clinical Interview for DSM; First, Spitzer, Gibbon & Williams, 1995: Personality Disorder Examination; Loranger, Susman, Oldham, & Russakoff, 1987: and Structured Interview for DSM Personality; Pfohl, Blum & Zimmerman, 1997). However, none of these instruments

specifically assess dysfunctional beliefs. The same is true for self-report instruments such as the Personality Diagnostic Questionnaire – Revised (PDQ – R; Hyler, Skodol, Oldham, Kellman & Doidge, 1992) and the Millon Multiaxial Clinical Inventory (MMCI; Millon, Millon & Davis, 1994). Thus, there is a need for a measure that will help clinicians and researchers assess the dysfunctional beliefs associated with specific personality disorders.

In a previous report, Beck, Freeman and associates (1990) listed specific sets of dysfunctional beliefs associated theoretically and clinically with individual personality disorders. Beck and Beck (1991) incorporated these belief sets into a self-report measure called the Personality Belief Questionnaire (PBQ). The PBQ contains nine scales that can be administered separately or together and that correspond to nine of the personality disorders on Axis II of the DSM-III-R.[1]

We have now administered the PBQ routinely for the past several years in two cognitive therapy settings. Clinical observations suggest that the more strongly patients endorse one of the belief sets in the PBQ, the more likely they are to meet behavioral criteria for the corresponding disorder. Alternatively, if patients do not endorse the beliefs proposed to underlie a specific personality disorder, they tend not to show the behavior patterns characteristic of that disorder. The

present study is designed to test the criterion validity of the PBQ empirically. Evidence regarding its criterion validity has implications for both the cognitive theory of personality disorders and the utility of the PBQ for clinical diagnosis and intervention.

The psychometric properties of an early version of the PBQ were investigated by Trull, Goodwin, Schopp, Hillenbrand, and Schuster (1993).[2] These researchers tested the PBQ among college students by examining the inter-correlations among the scales, and the correlations between the scales and other personality disorder measures. They found good evidence of reliability but not surprisingly, less support for validity in this nonclinical sample. The median inter-correlation among PBQ scales was .40, and only modest correlations were obtained between the PBQ and both the Personality Disorder Questionnaire-Revised (Hyler et al., 1992) and the MMPI-PD (Morey, Waugh, & Blashfield, 1985).

Two problems arise when interpreting the findings from Trull et al. (1993). First, the PBQ was designed for use with psychiatric patients and tests of its criterion validity should evaluate how it performs with its intended population. Secondly, Trull et al. suggested that the inter-correlations between the scales indicated overlap among the constructs being measured and that this detracts from the validity of the scales.

To the degree that there is overlap among the constructs measured by the PBQ, this may accurately reflect overlap in the nosological categories (Beck & Freeman, 1990). However, a more likely reason for moderate inter-correlations between PBQ scales is the common heterogeneity of personality disorder features and the rarity of "pure" personality disorders (Millon & Davis, 1996b).

We set out to investigate the reliability and validity of the PBQ in a sample of psychiatric outpatients. Several important questions are addressed in this study. First, do PBQ scales show adequate internal consistency in a patient population? Second, do patients with a given Axis II diagnosis score higher on the corresponding PBQ scale than patients with no Axis II diagnosis? Third, do patients with a given Axis II diagnosis score higher on the corresponding PBQ scale than patients with alternative Axis II diagnoses? Finally, do patients with a given Axis II diagnosis score higher on the corresponding PBQ scale than on other PBQ scales? This fourth question addresses the potential of the PBQ to provide meaningful patient profiles of Axis II beliefs. Due to limited sample sizes for some Axis II disorders, we focused our investigation on five diagnoses: Avoidant, Dependent, Obsessive-Compulsive, Narcissistic, and Paranoid personality disorders.

Method

Setting

The study was conducted using data from patients presenting for therapy at one of two outpatient sites. Most of the patients were seen at the Center for Cognitive Therapy, a psychotherapy unit in the Department of Psychiatry at the University of Pennsylvania School of Medicine in Philadelphia, Pennsylvania. A minority (24%) of the sample consisted of patients treated at the Beck Institute for Cognitive Therapy and Research, a private not-for-profit clinic, and training and research institute in the Greater Philadelphia area.

Subjects

Subjects consisted of 410 adult psychiatric outpatients evaluated between February of 1995 and June of 2000 for whom complete PBQ data were obtained. The mean age of the sample was 34.73 years (SD = 11.46; range 18-73). There were 217 (53%) women and 193 (47%) men. The racial composition of the sample was 82% White, 10% African-American, 2% Hispanic, and 4% Asian. Fifty-two percent of the subjects were single and had never been married. Of the remaining subjects, 33% were married, 11% divorced, 4% separated, and 1% widowed. Sixty-three percent were employed, 17% were unemployed, and 20% were students. With respect to education, 57% of subjects had a college degree, 40% had graduated from high school, and 3% had not graduated from

high school. Regarding psychiatric history, 70% of subjects had received prior psychotherapy, 50% had received pharmacotherapy, and 18% reported having been hospitalized for a psychiatric reason.

All patients were diagnosed according to the Structured Clinical Interview for the DSM-III-R Personality Disorders (SCID-II; Spitzer, Williams, Gibbon, and First, 1992), or for those whose diagnostic evaluation occurred after January 1996, according to the Structured Clinical Interview for the DSM-IV Personality Disorders (First, Spitzer, Gibbon, and Williams, 1995). All assessors were postdoctoral clinicians who received training on the SCID-II prior to conducting diagnostic evaluations. Two hundred thirty (56%) patients were diagnosed with an Axis I mood disorder (including single episode or recurrent depression, bipolar disorder, dysthymia, depressive disorder not otherwise specified, or adjustment disorder with depressed or mixed anxiety and depressed mood) and 180 (44%) were diagnosed with nonmood disorders. With regard to primary Axis II diagnosis, sample sizes for individual personality disorders were as follows: Avoidant (n = 130), Dependent (n = 38), Obsessive-Compulsive (n = 94), Narcissistic (n = 20), and Paranoid (n = 17). Patients with an Axis I diagnosis but no Axis II diagnosis served as controls (n = 111).

Measures

The PBQ includes an equal number of items (14) representing Avoidant, Dependent, Obsessive-Compulsive, Histrionic, Passive-Aggressive, Narcissistic, Paranoid, Schizoid, and Antisocial personality disorders. The scale contains the following instructions: “Please read the statements below and rate how much you believe each one. Try to judge how you feel about each statement most of the time.” Respondents are asked to circle a number reflecting how much they believe a statement. Options are 0 “I don’t believe it at all”, 1 “I believe it slightly”, 2 “I believe it moderately”, 3 “I believe it very much”, and 4 “I believe it totally.” Sample items for the five PBQ scales under investigation are as follows: Avoidant, “If people get close to me, they will discover the real me and reject me”; Dependent, “I am needy and weak”; Obsessive-Compulsive, “Flaws, defects, or mistakes are intolerable”; Narcissistic, “I don’t have to be bound by the rules that apply to other people”; and Paranoid, “Other people will try to use me or manipulate me if I don’t watch out.”

The SCID interview establishes personality disorder diagnoses based on DSM criteria. While the large majority of these criteria are behavioral, some refer to psychological constructs such as fears or “lack of confidence”. Two relevant criteria actually represent beliefs: "views self as socially

inept, personally unappealing, or inferior to others" (avoidant), and "believes that he or she is 'special' and unique…" (narcissistic). To avoid redundancy between our dependent and independent variables we did not include PBQ items that assessed these beliefs. Specifically, we dropped from analyses the PBQ Avoidant item "I am socially inept and socially undesirable in work or social situations", and the PBQ Narcissistic items "I am a very special person" and "Other people should recognize how special I am."[3]

Procedure

Subjects signed voluntary consent forms, completed the SCID II Self-Report Questionnaire (First et al., 1995), and were administered the SCID-II Interview (First et al., 1995) by doctoral level diagnosticians. The SCID II Self Report Questionnaire and the PBQ were included in the standard battery of psychiatric tests and rating scales given to all individuals seeking treatment at both treatment settings during the intake procedure. Evaluators were blind to PBQ scores at the time they made their diagnoses.

Results

Inter-correlations and Reliability of PBQ Scales

Table 1 shows the inter-correlations, reliability estimates, means and standard deviations for each of the PBQ scales among all patients. Cronbach's alpha coefficients were

computed for each scale and are displayed on the diagonal. These coefficients indicate that each PBQ scale has at least adequate reliability and the five PBQ scales under current investigation show reliabilities generally near .90. The inter-correlations between scales ranged from .04 for Schizoid and Dependent scales to .65 for Avoidant and Dependent scales; the median inter-correlation was .51.

A subset of 15 patients was administered the PBQ eight weeks after the initial administration. Pearson test-retest correlations for the individual PBQ scales on this sample are as follows: Avoidant r = .57, Dependent r = .63, Obsessive-Compulsive r = .74, Narcissistic r = .81, Paranoid r = .71, Histrionic r = .60, Passive-Aggressive r = .80, Schizoid r = .78, and Antisocial r = .93 (all p's < .05).

Discriminant Validity

A multivariate analysis of variance (MANOVA) was conducted on the five relevant PBQ scales by primary Axis II diagnosis (six levels). The results indicated a significant overall effect, Wilkes $F(25, 1480.01) = 12.81$, $p < .0001$. We next conducted univariate ANOVAs and relevant t-tests for *a priori* predictions. Due to the unidirectional predictions being tested, t-tests were one-tailed with alpha set at .05.[4] To facilitate interpretation of the findings we display group Z-scores on each of the relevant PBQ scales in Figure 1. These Z-

scores were calculated on a mixed diagnosis sample of all patients who have completed the PBQ at our sites in the past 5 years (N = 756). Raw scores were used in hypothesis testing.

Within-group analyses. We predicted that patients with a specific personality disorder would score higher on their corresponding PBQ scale than on other PBQ scales associated with other personality disorders. For example, Avoidant patients should score higher on the PBQ Avoidant scale than on other PBQ scales. To test this prediction, we first selected all avoidant personality disorder patients who did not also have any of the alternative personality disorder diagnoses. The five relevant scale means for Avoidant patients are displayed in the first row of Table 2. An ANOVA comparing these means was highly significant, $F(105, 424) = 73.36$, $p < .0001$.

A priori contrasts were next conducted for avoidant personality disorder patients. Each specific contrast included all avoidant personality disorder patients who did not also have the Axis II diagnosis that corresponded with the other PBQ scale being tested.[5] Results showed that, as predicted, avoidant patients scored significantly higher on the Avoidant scale than they did on the Dependent scale, $t(139) = 7.00$, $p < .0001$, the Obsessive-Compulsive scale, $t(125) = 2.34$, $p < .05$, Narcissistic scale, $t(151) = 19.30$, $p < .0001$, and the Paranoid scale, $t(149) = 10.76$, $p < .0001$.

Patients with dependent personality disorder also showed significant and predicted differences on their PBQ scores, $F(39,160) = 33.15$, $p < .0001$. Specifically, their score on the Dependent scale was significantly higher than their score on the Avoidant scale, $t(45) = 2.65$, $p < .05$, the Obsessive-Compulsive scale, $t(56) = 2.84$, $p = .01$, the Narcissistic scale, $t(57) = 10.77$, $p < .0001$, and the Paranoid scale, $t(58) = 8.44$, $p < .0001$.

An ANOVA testing mean differences for obsessive-compulsive patients was also highly significant, $F(88,356) = 62.25$, $p < .0001$ and each of the *a priori* predictions was supported. These patients scored higher on the Obsessive-Compulsive scale than they did on the Avoidant scale, $t(95) = 9.62$, $p < .0001$, the Dependent scale, $t(120) = 9.90$, $p < .0001$, the Narcissistic scale, $t(120) = 17.43$, $p < .0001$, and the Paranoid scale, $t(122) = 11.93$, $p < .0001$.

Although narcissistic patients showed significant mean differences across the five PBQ scales, $F(16,68) = 2.97$, $p < .05$, not all the differences were in the predicted direction. As expected, they scored higher on the Narcissistic scale than they did on the Avoidant scale, $t(23) = 1.82$, $p < .05$ and Dependent scale, $t(24) = 2.30$ $p < .05$. However, their score on the Narcissistic scale did not differ significantly from their score on the Paranoid scale. Moreover, narcissistic patients

unexpectedly scored higher on the Obsessive-Compulsive scale than they did on the Narcissistic scale, $t(22) = -1.93$, $p < .05$.

Paranoid patients showed some differences across scales, $F(17,72) = 6.76$, $p < .0001$. These patients scored higher on the Paranoid scale than the Dependent scale $t(25) = 2.28$, $p < .05$ and the Narcissistic scale $t(23) = 5.82$, $p < .0001$. They did not show significant differences between their Paranoid scale scores and their scores on the Avoidant or Obsessive-Compulsive scales.

Between-group analyses. Our second set of comparisons tested the hypothesis that patients with a specific personality disorder will score higher on the corresponding PBQ scale than patients with alternative personality disorders or no personality disorder. A oneway ANOVA was conducted on each PBQ scale testing for overall group differences. In these analyses, primary Axis II diagnosis was used to define group membership. This is a conservative test since 96 (32%) of those patients with a primary Axis II diagnosis also had a secondary Axis II diagnosis. Each of the univariate F tests was significant (Avoidant $F(5,404) = 32.26$, $p < .0001$; Dependent $F(5,404) = 15.02$, $p < .0001$; Obsessive-Compulsive $F(5,404) = 8.81$, $p < .0001$; Narcissistic $F(5,404) = 9.28$, $p < .0001$; and Paranoid $F(5,404) = 8.59$, $p < .0001$).

In each between-group test, patients who had both of the

relevant personality disorders were excluded from analysis. For example, 14 patients had both avoidant and dependent personality disorders and were excluded from the corresponding between-group tests.

Results for avoidant personality disorder beliefs were as predicted across all scales. Avoidant patients scored higher on the Avoidant scale than did patients with dependent $t(54.66) = 1.83$, $p < .05$, obsessive-compulsive, $t(198.34) = 9.52$, $p < .0001$, narcissistic, $t(24.62) = 3.90$, $p = .001$, paranoid, $t(19.10) = 3.46$, $p < .005$, and no personality disorder, $t(239) = 12.41$, $p < .0001$. Patients with dependent personality disorder scored significantly higher on the Dependent scale than patients with avoidant, $t(56.90) = 4.04$, $p < .0001$, obsessive-compulsive, $t(58.17) = 5.56$, $p < .0001$, narcissistic, $t(44.75) = 4.44$, $p < .0001$, paranoid, $t(30.71) = 4.25$, $p < .0001$, and no personality disorder, $t(54.31) = 7.17$, $p < .0001$.

Between-group findings for obsessive-compulsive beliefs were largely supportive. Patients with obsessive-compulsive personality disorder scored significantly higher on the Obsessive-Compulsive scale than patients with avoidant, $t(204) = 1.96$, $p < .05$, dependent, $t(75.01) = 2.37$, $p < .05$, paranoid, $t(20.08) = 1.89$, $p < .05$, and no personality disorder, $t(203) = 6.47$, $p < .0001$. Patients with obsessive-compulsive personality disorder did not score significantly higher than narcissistic

personality disorder patients on the Obsessive-compulsive scale.

Between-group predictions for narcissistic personality disorder beliefs were uniformly supported. Narcissistic personality disorder patients scored significantly higher on the Narcissistic scale than patients with avoidant, $t(22.75) = 4.28$, $p < .0001$, dependent, $t(21.47) = 5.27$, $p = .0001$, obsessive-compulsive, $t(24.16) = 3.80$, $p = .001$, paranoid, $t(33) = 3.19$, $p < .005$, and no personality disorders, $t(21.47) = 5.27$, $p < .0001$.

Paranoid personality disorder beliefs discriminated between groups as predicted in three of five comparisons. Patients with paranoid personality disorder scored significantly higher on the Paranoid scale than patients with dependent, $t(22.88) = 1.79$, $p < .05$, obsessive-compulsive, $t(18.76) = 1.90$, $p < .05$, and no personality disorder, $t(17.87) = 3.27$, $p < .005$. Their scores did not differ significantly from patients with avoidant or narcissistic personality disorders.

We conducted a final set of analyses to examine how well each of the five PBQ scales discriminated its criterion group from the collection of remaining personality disorder patients. We coded a dichotomous diagnosis variable in which '1' represented the criterion personality disorder and '0' represented any personality disorder other than the criterion disorder. Pearson correlation coefficients between the PBQ

scales and their respective diagnosis variables were as follows: Avoidant, r = .42, p < .0001; Dependent, r = .34, p < .0001, Obsessive-Compulsive, r = .16, p < .005; Narcissistic, r = .31, p < .0001; and, Paranoid, r = .10, p < .05; all df = 321. Thus, across all comparisons, patients with a given personality disorder scored higher on the corresponding belief scale than did the collection of patients with other personality disorders.

Discussion

Theoretical and Measurement Implications

Good internal consistency and test-retest reliability estimates were found for all of the PBQ scales. This replicates findings that Trull et al. (1993) obtained in a sample of college students.

A substantial majority of the findings of this study support the cognitive theory of personality disorders as well as the construct validity of five PBQ scales. Patients with a given personality disorder preferentially endorsed sets of beliefs theoretically consistent with their specific disorder. Our within-group analyses confirmed 16 of 20 (80%) of *a priori* predictions. On tests of belief differences between diagnostic groups, 22 of 25 (88%) of our *a priori* predictions were confirmed. All of the personality disorders we investigated scored significantly higher on their criterion PBQ scale than psychiatric patients who did not have a personality disorder

diagnosis. Taken together, the findings by and large support cognitive formulations for avoidant, dependent, obsessive-compulsive, narcissistic, and paranoid personality disorders (Beck and Freeman, 1990).

Findings that were not consistent with theoretical predictions warrant further scrutiny. Patients with narcissistic personality disorder endorsed narcissistic beliefs as expected, but they also strongly endorsed paranoid beliefs and the beliefs they endorsed most strongly were on the Obsessive-compulsive scale. A post hoc review of these obsessive-compulsive beliefs suggested that they fall into two categories: beliefs reflecting an intolerance of imperfection (e.g., "It is important to do a perfect job on everything" and "Flaws, defects, or mistakes are intolerable"), and beliefs reflecting high confidence in one's "rightness" (e.g., "People should do things my way", "Other's tend to be too casual, often irresponsible, self-indulgent, or incompetent", and "My way of doing things is generally the best"). In retrospect, it is not surprising that both obsessive-compulsive and narcissistic personality disorder patients would endorse beliefs such as these. Alternatively, relatively strong endorsement of paranoid beliefs by patients with narcissistic personality disorder is rather surprising. Perhaps such beliefs (e.g., "People will take advantage of me if I give them the chance", and "Other

people will deliberately try to demean me") reflect narcissists' perceived vulnerability to threats to their grandiose self-image.

The inter-correlations among many of the PBQ scales were moderate-to-strong. Some of the belief sets may not be as conceptually distinct as proposed by cognitive theory. Alternatively, some shared variance between the belief sets may be due to a general distress factor. To the degree that this is the case, it is noteworthy that our discriminant validity findings were obtained despite this extraneous variable.

Limitations of the Study

Certain methodological limitations should be kept in mind when interpreting the study results. While we eliminated from analysis any PBQ beliefs that were synonymous with SCID-II "belief" items, some DSM criteria assessed by the SCID-II appear to suggest underlying beliefs in their wording (e.g., "has a sense of entitlement" or "feels helpless when alone"). Thus, despite our efforts, it is likely that there remained some small degree of measurement overlap between the PBQ and SCID-II.

A second study limitation involves the lack of subjects in certain groups. Unfortunately, we did not have sufficient numbers of histrionic, antisocial, schizoid, and schizotypal patients to test the PBQ on these diagnoses (all n's < 10). Thus, the validity of the PBQ scales for these diagnoses is yet

to be determined. Moreover, our data do not address the ability of the five PBQ scales we did investigate to discriminate between their criterion populations and patients with these alternative diagnoses. The validity of PBQ profiles in terms of accurately reflecting a patient's personality belief structure must await further research.

Some general limitations of the PBQ should be noted. The instrument is vulnerable to shortcomings common to all self-report questionnaires, such as individual differences in how the same items are interpreted, the effect of patients' affective state on responses, and the influence of impression management efforts by patients. Secondly, the PBQ is not designed to provide a definitive diagnosis for a patient, although it may serve as one important source of data for this purpose. Indeed, it is crucial that multiple sources of data be considered when assessing patients' dysfunctional beliefs and that this process be ongoing throughout therapy (Beck, 1996). Patients' developmental histories, current problems and symptoms, and interview behaviors all provide clues to a patient's dysfunctional beliefs. The therapeutic relationship itself may provide a useful context for assessing some key dysfunctional beliefs.

Clinical Implications

With the above caveats in mind, the findings from this

study suggest that the five PBQ scales we tested have unique therapeutic value as assessment tools. The identification early in therapy of the key beliefs assessed by the PBQ can help the therapist focus treatment more efficiently. PBQ responses can be reviewed with patients to explore several important areas: for example, how certain beliefs are currently impacting their emotions and behavior and how these beliefs may have been learned and maintained, even in the face of significant contradictory data. Patients can also be guided to assess the relative advantages and disadvantages of holding these beliefs and to develop alternative more adaptive beliefs.

Implications for Future Research

Future research is needed to examine the treatment responsiveness of PBQ scores and the PBQ's ability to predict patients' response to cognitive therapy. Preliminary data from a small sample of our patients (n = 15) suggest that meaningful reductions in PBQ scores may require more than eight sessions of cognitive therapy. This is not surprising given that the beliefs assessed by the PBQ are presumed to be personality-based. Future research is needed to test the responsiveness of PBQ scales to the longer term treatment recommended for personality disordered patients (Beck and Freeman, 1990). If such changes are obtained and correspond to actual changes in related Axis II behavioral criteria, the PBQ may prove useful as

a therapy outcome measure. Additional studies that investigate the validity of the PBQ with other personality disorders are needed.

Conclusions

The cognitive theory of personality disorders states that each personality disorder has a characteristic set of dysfunctional beliefs and that these beliefs are reflected in corresponding personality disorder behaviors. The findings of this study provide general support for this contention. The ability to assess the relative strengths of beliefs associated with a variety of personality disorders may be particularly appealing to clinicians and researchers who prefer a dimensional approach to understanding personality dysfunction (cf. Clark, Livesley, & Morey, 1997; Widiger & Sanderson, 1995). While further research is needed, our findings suggest that the PBQ has promise as a measure of personality disorder beliefs.

Footnotes

[1]No scale was developed for borderline personality disorder since there was not a strong theoretical basis for designating uniquely borderline beliefs. In fact, our clinical impression was that borderline patients strongly endorse beliefs associated with many personality disorders. Thus, we decided to do a separate study to derive borderline beliefs empirically rather than theoretically. Such a study has recently been carried out and cross-validated (Brown, Beck, Grisham & Butler, 2000).

[2]The only difference between the two versions is the scaling. The early seven-point Likert scale was later reduced to a five-point Likert scale.

[3]We analyzed our data with and without these items from the Avoidant and Narcissistic PBQ scales. The outcomes of statistical tests were identical.

[4]A discriminant function analysis is typically a more appropriate statistical technique than multiple ANOVA's for the type of between-group hypotheses we were testing. However, this technique was not feasible in this study due to low cell sizes in the narcissistic and paranoid groups.

[5]Cell means and standard deviations for specific comparisons differ slightly from those shown in Table 2. Due to space considerations these means and standard deviations are not reported here, but are available from the authors on request.

References

American Psychiatric Association (1987). Diagnostic and Statistical Manual of Mental Disorders (3rd ed.). Washington, DC: Author

Beck, A. T., & Beck, J. S. (1991). The Personality Belief Questionnaire. Unpublished assessment instrument. The Beck Institute for Cognitive Therapy and Research, Bala Cynwyd, Pennsylvania.

Beck, A. T., Freeman, A. and Associates (1990). Cognitive Therapy of Personality Disorders. New York: Guilford Press.

Beck, J. S. (1995). Cognitive Therapy: Basics and Beyond. New York: Guilford Press.

Beck, J. S. (1996). Cognitive therapy of personality disorders. In P. A. Salkovskis (Ed.), Frontiers of Cognitive Therapy (pp. 165-181). New York: Guilford Press.

Beck, J. S. (1998). Complex cognitive therapy treatment for personality disorder patients. Bulletin of the Menninger Clinic, 62(2), 170-194.

Benjamin, L. S. (1996). An interpersonal theory of personality disorders. In J. F. Clarkin and M. F. Lenzenweger (Eds.), Major Theories of Personality Disorder (pp. 141-220). New York: Guilford Press.

Brown, G. K., Beck, A. T., Grisham, J. R., & Butler, A. C. (2000). Dysfunctional Beliefs in Borderline Personality Disorder. Unpublished manuscript, University of Pennsylvania, Philadelphia, PA.

Clark, L. A., Livesley, W. J., & Morey, L. (1997). Personality disorder assessment: The challenge of construct validity. Journal of Personality Disorders, 11(3), 205-231.

Cloninger, C. R. (1987). A systematic method for clinical description and classification of personality variants. Archives of General Psychiatry, 44, 573-588.

Depue, R. A. (1996). A neurobiological framework for the structure of personality and emotion: Implications for personality disorders. In J. F. Clarkin and M. F. Lenzenweger (Eds.), Major Theories of Personality Disorder (pp. 347-390). New York: Guilford Press.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1995). The Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II). Part I: Description. Journal of Personality Disorders, 9, 83-91.

Hyler, S. E., Skodol, A. E., Oldham, J. M., Kellman, H. D., & Doidge, N. (1992). Validity of the Personality Diagnostic Questionnaire-Revised: A replication in an outpatient sample. Comprehensive Psychiatry, 33, 73-77.

Kernberg, O. F. (1996). A psychoanalytic theory of personality disorders. In J. F. Clarkin and M. F. Lenzenweger (Eds.), Major Theories of Personality Disorder (pp. 106-140). New York: Guilford Press.

Loranger, A. W., Susman, V. L., Oldham, J. M., & Russakoff, L. M. (1987). The Personality Disorder Examination: A preliminary report. Journal of Personality Disorders, 1, 1-13.

Millon, T., & Davis, R. (1996a). An evolutionary theory of personality disorders. In J. F. Clarkin and M. F. Lenzenweger (Eds.), Major Theories of Personality Disorder (pp. 221-246). New York: Guilford Press.

Millon, T., & Davis, R. (1996b). Disorders of Personality: DSM-IV and Beyond, Second Edition. New York: John Wiley & Sons.

Millon, T., Millon, C., & Davis, R. D. (1994). Millon Clinical Multiaxial Inventory-III. Minneapolis: National Computer Systems.

Morey, L. C., Waugh, M. H., & Blashfield, R. K. (1985). MMPI scores for the DSM-III personality disorders: Their derivation and correlates. Journal of Personality Assessment, 49, 245-251.

Pfohl, B., Blum, N., & Zimmerman, M. (1997). Structured Interview for DSM-III-R Personality (SIDP-R). Washington, D.C.: American Psychiatric Press.

Pretzer, J. L., & Beck, A. T. (1996). A cognitive theory of personality disorders. In J. F. Clarkin and M. F. Lenzenweger (Eds.), Major Theories of Personality Disorder (pp. 36-105). New York: Guilford Press.

Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. B. (1992). The Structured Clinical Interview for DSM-III-R (SCID), I: History, rationale and description. Archives of General Psychiatry, 49, 624-629.

Trull, T. J., Goodwin, A. H., Schopp, L.H., Hillenbrand, T.L., & Schuster, T. (1993). Psychometric properties of a cognitive measure of personality disorders. Journal of Personality Assessment, 61(3), 536-546.

Weissman, A. N., & Beck, A. T. (1978, November). Development and validation of the Dysfunctional Attitude Scale: A prelimary investigation. Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, Chicago.

Widiger, T. A., & Sanderson, C. (1995). Toward a dimensional model of personality disorder in DSM-IV and DSM-IV. In W. J. Livesley (Ed.), The DSM-IV Personality Disorders. New York: Guilford.

Figure 1. Group Means on Personality Belief Questionnaire Scales for Five Personality Disorders. Z-score transformations were calculated using a sample of 756 patients of mixed diagnoses prior to computing group means.

Table 1.

Inter-correlations, Reliability Estimates, Means, and Standard Deviations for All PBQ Scales in a Mixed Diagnosis Sample

Scale	1	2	3	4	5	6	7	8	9
1. Avoidant	**.89**								
2. Dependent	.69	**.90**							
3. Obsessive-Compulsive	.52	.48	**.90**						
4. Narcissistic	.27	.29	.41	**.84**					
5. Paranoid	.57	.46	.53	.44	**.93**				
6. Histrionic	.53	.54	.52	.64	.50	**.87**			
7. Passive-Aggressive	.52	.44	.51	.52	.55	.59	**.88**		
8. Schizoid	.25	.04	.38	.39	.51	.32	.46	**.81**	
9. Antisocial	.33	.32	.48	.60	.55	.56	.54	.48	**.81**
Mean	18.80	18.00	22.69	10.02	14.62	13.96	19.28	16.29	9.31
SD	10.92	11.82	11.48	7.60	11.33	9.26	10.47	8.55	6.81

Note. N = 496. Coefficients in bold on the diagonal are reliability estimates (Cronbach's alpha). With the exception of the correlation between the Dependent and Schizoid scales, all coefficients are statistically significant at $p < .05$.

Table 2.

Personality Disorder Means and Standard Deviations on Five Corresponding PBQ Scales

		PBQ Scale				
Personality Disorder	n	Avoidant	Dependent	Obsessive-Compulsive	Narcissistic	Paranoid
Avoidant	130	**25.58** (9.51)	20.26 (11.78)	23.92 (11.69)	9.36 (7.35)	16.25 (11.44)
Dependent	38	22.16 (10.17)	**27.84** (12.11)	22.21 (9.52)	10.54 (7.79)	13.39 (9.93)
Obsessive-Compulsive	94	15.72 (9.37)	15.51 (9.94)	**26.28** (11.58)	10.24 (7.20)	13.55 (10.00)
Narcissistic	20	16.30 (9.97)	15.57 (9.85)	24.32 (12.24)	**18.35** (9.20)	16.10 (12.27)
Paranoid	17	17.29 (9.03)	14.08 (11.10)	19.41 (14.12)	9.18 (7.36)	**20.35** (14.60)
No Personality Disorder	111	11.30 (8.14)	11.86 (9.41)	16.86 (9.24)	7.16 (5.46)	8.44 (8.91)

The n's represent the number of patients with the corresponding personality disorder who do not also have any of the alternative personality disorders.

Running Head: BORDERLINE PERSONALITY

Assessment of Dysfunctional Beliefs in Borderline Personality Disorder

Andrew C. Butler, Gregory K. Brown, Aaron T. Beck and Jessica R. Grisham

University of Pennsylvania

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Correspondence concerning this article should be addressed to Andrew C. Butler, One Belmont Avenue, Suite 700, Bala Cynwyd, PA 19004. Email: Butler2@mail.med.upenn.edu.

Abstract

This study had two aims: to test the hypothesis that borderline personality disorder (BPD) patients hold numerous dysfunctional beliefs associated with a variety of Axis II disorders, and to construct a BPD belief scale which captures these beliefs. Beliefs were measured using the Personality Belief Questionnaire (PBQ; Beck & Beck, 1991) which is designed to assess beliefs associated with various personality disorders, although not specifically BPD. Eighty-four BPD patients and 204 patients with other personality disorders (OPD) were randomly split into two study samples. Fourteen PBQ items were found to discriminate BPD from OPD patients in both samples. These items came from the PBQ Dependent, Paranoid, Avoidant, and Histrionic scales and reflect themes of dependency, helplessness, distrust, fears of rejection/abandonment/losing emotional control, and extreme attention-seeking behavior. A BPD beliefs scale constructed from these items showed good internal consistency and diagnostic validity among the 288 study patients. The scale may be used to assist in diagnosis and cognitive therapy of BPD.

Assessment of Dysfunctional Beliefs in Borderline Personality Disorder

In the past decade, cognitive therapy (CT) has been expanded to treat a variety of personality disorders (Beck, Freeman et al., 1990; Young, 1990), including Borderline Personality Disorder (BPD; Layden, Newman, Freeman & Morse, 1993). This adaptation of cognitive therapy has focused on the role of core dysfunctional beliefs for patients with personality disorders. These beliefs influence the organization of a patient's perception of the world, the self, and the future, and his or her ability to adapt to life's challenges. In addition, the core dysfunctional beliefs of patients with personality disorders have been hypothesized to be over-generalized, inflexible, imperative and resistant to change (Beck et al., 1990).

Core dysfunctional beliefs are self-maintaining because they structure patients' perception and interpretation of environmental stimuli and cause them to habitually react in ways that confirm their beliefs. For example, an individual with a core belief that people are hostile towards him may act in an aggressive or defensive manner, thereby evoking actual hostile reactions from others.

Beck et al. (1990) published a list of dysfunctional beliefs that were associated with specific personality disorders. These beliefs were derived from individualized

conceptualizations of patient problems and the generation, implementation, and evaluation of treatment strategies based on these case conceptualizations. A set of generalized (prototypic) beliefs was obtained by reviewing similarities across patients with the same personality disorders. This approach led to separate lists of beliefs for most of the Axis II disorders. These lists, with the exception of beliefs for BPD, were published in the appendix of Beck et al. (1990). Beck and colleagues noted that the beliefs of BPD patients seemed to transcend the categorization of the other personality disorders.

Other clinician-scientists have proposed that there are specific cognitive themes or assumptions that are characteristic of BPD (Arntz, Dietzel, & Dreessen, 1999; Schmidt, Joiner, Young, & Telch, 1995; Young 1990). Young and his colleagues conceptualize personality pathology in terms of various combinations of 16 different "early maladaptive schemas" (Schmidt et al., 1995). Early maladaptive schemas refer to broad patterns of dysfunctional cognition, affect, behavior, and motivation. Young has observed that several maladaptive schemas are apparent in BPD patients, including: abandonment/loss, unlovability, dependence, subjugation/lack of individuation, mistrust, inadequate self-discipline, fear of losing emotional control, guilt/punishment, and emotional deprivation (see Table 9.3, Beck et al., 1990). To our knowledge, this model of BPD schemas has yet to be tested empirically.

Arntz and colleagues developed a list of twenty BPD assumptions based on the writings of Beck and Freeman (1990) combined with their own clinical experience with this population (Arntz, et al., 1999). Similar to the themes proposed by Young and colleagues, the BPD assumptions Arntz et al. (1999) proposed reflected themes of aloneness (e.g., "I will always be alone"), dependency (e.g., "I can't manage it by myself, I need someone I can fall back on"), unlovability (e.g., "If others get to know me, they will find me rejectable and will not be able to love me"), emptiness (e.g., "I don't really know what I want"), lack of personal control (e.g., "I can't discipline myself"), badness (e.g., "I am an evil person and I need to be punished for it"), interpersonal distrust (e.g., "Other people are evil and abuse you") and vulnerability (e.g., "I'm powerless and vulnerable and I can't protect myself"). Many of the assumptions included in the Personality Disorder Belief Questionnaire (PDBQ) by Arntz et al. (1999) were drawn with permission directly from the list of beliefs in the appendix of Beck et al. (1990). However, they also included some additional assumptions that they observed in BPD patients. Arntz et al. (1999) found that patients with BPD scored higher on the PDBQ than patients with cluster-C personality disorders or normal controls.

The current study takes an empirical approach to identifying dysfunctional beliefs held by PBD patients using the Personality Belief Questionnaire (PBQ; Beck & Beck, 1991; A.

Beck, Butler, Brown, Dahlsgaard, Newman, and J. Beck, 2001). By identifying the specific maladaptive beliefs associated with BPD we hoped to create a BPD belief scale that would aid in the development of cognitive case conceptualizations and interventions for BPD.

The PBQ was developed as a clinical measure of the beliefs associated with personality disorders, as proposed by Beck et al. (1990). The PBQ is composed of 126 items and nine scales (with 14 items per scale) that assess the following personality disorders: Avoidant, Dependent, Obsessive Compulsive, Histrionic, Passive-Aggressive, Narcissistic, Paranoid, Schizoid and Antisocial. Beck et al. (2001) found that patients diagnosed with Avoidant, Dependent, Obsessive Compulsive, Narcissistic or Paranoid Personality Disorder scored higher on their respective PBQ scales than on PBQ scales designed to assess the beliefs of other personality disorders. In addition, patients with Avoidant, Dependent, Narcissistic and Paranoid personality disorders scored higher on their corresponding PBQ scale than patients with other diagnoses scored on those scales.

Method

Subjects

Subjects were psychiatric outpatients who sought treatment at the Center for Cognitive Therapy at the University of Pennsylvania School of Medicine, Department of Psychiatry,

during the years 1995 to 2000. All patients were routinely asked to complete the PBQ as part of their intake evaluation process. From an initial pool of 756 patients, 288 subjects were selected for inclusion of their PBQ data in this study. Eighty-four of these patients had been diagnosed with BPD and 204 had been diagnosed with an alternative Axis II disorder. We referred to the latter group as "other personality disorder" (OPD) patients. Since our research questions address differences between BPD patients and patients with conceptually distinct alternative personality disorders, we excluded from the OPD group patients with a diagnosis of Personality Disorder Not Otherwise Specified or with multiple Axis II diagnoses.

These patients were randomly and evenly split into two separate samples (A and B), each containing 42 BPD and 102 OPD patients, and each matched on number of females and males (see Table 1). The two samples were used to cross-validate PBQ items that discriminate BPD from OPD controls.

Table 1 shows the demographic and psychiatric history data for the BPD and OPD patients in samples A and B. In both samples, compared to OPD patients, BPD patients were significantly younger, more likely to be female, and less likely to have obtained an advanced degree. They were also more likely to have a primary Axis I diagnosis of Major Depressive Disorder, to have higher intake scores on the Beck Depression Inventory—II and the Beck Anxiety Inventory, and to have been hospitalized in

the past for psychiatric reasons. There were no significant differences between BPD and OPD patients in either sample on race, marital status, employment status, extent of psychotherapy, extent of pharmacotherapy, or family history of mental illness. In Sample A only, BPD patients were more likely than OPD patients to have a family history of suicide attempts and less likely than OPD patients to have a comorbid anxiety disorder.

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Insert Table 1 about here

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Procedure

Patients were diagnosed for Axis I and Axis II disorders according to the Structured Clinical Interview for the DSM-III-R (SCID, Spitzer, Williams, Gibbon and First, 1990), or, for those diagnostic evaluations that occurred in 1996, according to the Structured Clinical Interview for the DSM-IV (First, Spitzer, Gibbon, and Williams, 1995; First, Spitzer, Gibbon, Williams, and Benjamin, 1995). The PBQ was administered to patients as part of the packet of questionnaires routinely completed during the intake procedure.

Measures

Personality Belief Questionnaire. The PBQ (Beck & Beck, 1991) is a 126-item self-report measure developed to assess the

beliefs endorsed by patients with personality disorders, as outlined by Beck et al. (1990). This measure is intended to assist therapists in eliciting and focusing on the dysfunctional beliefs that contribute to the patient's symptom severity and functional impairment. The item content of the PBQ was based on beliefs endorsed by patients with DSM-III-R personality disorders. Patients are asked to rate their endorsement of each belief on a "0" to "4" Likert-type scale (0 = "I don't believe it at all"; 4 = "I believe it totally"). The validity and reliability of five of the PBQ scales has already been reported (Beck et al., 2001).

Results

A square-root transformation was computed and a *t*-test was conducted for each of the 126 PBQ items using a Bonferroni correction to control for Type I error. In Sample A, visual inspection indicated that BPD patients had higher mean scores than OPD patients on 115 of the 126 PBQ items. Their scores were significantly higher than OPD patients' at the $p < .001$ level on 26 of these items. Inspection of item means in Sample B showed that BPD patients had higher mean scores than OPD patients on 105 items. Their scores on 17 of these items were significantly higher ($p < .001$) than the scores of OPD patients.

For cross-validation purposes, we deemed an item valid if it was a significant discriminator of BPD and OPD patients at the $p < .001$ level in one sample and at the $p < .05$ level in the

alternative sample. Table 2 presents the mean scores and associated t values for the 12 PBQ items that met these criteria. We also include in the table two items that narrowly missed the criteria (numbers 119 and 126). We included these items because the beliefs are consistent with BPD, and to match the number of items (14) in the other PBQ scales. As indicated by the content of these items, BPD patients preferentially endorsed beliefs associated with dependency, helplessness, distrust, rejection/abandonment fears, fear of losing emotional control, and histrionic behavior.

Insert Table 2 about here

A composite scale was constructed from the 14 items. The internal reliability of the 14 items for the 84 BPD patients was moderately high (alpha = .89). Group means and standard deviations of this new PBQ scale, the Borderline scale, and six PBQ scales corresponding to the Axis II diagnoses present in our OPD sample are presented in Table 3. Given the directional hypotheses that BPD patients will score higher on the Borderline scale than patients with alternative Axis II diagnoses, independent one-tailed t-tests were conducted using Bonferroni correction for Type I error. As shown in Table 3, the results indicated that BPD patients scored significantly higher than each of the other Axis II diagnostic groups on the Borderline

scale.

We also tested the hypothesis that BPD patients would score higher on the Borderline scale than they would score on other PBQ scales. Since the means varied considerably across scales, Z-score transformations were conducted on the raw PBQ scales. The mean scores and standard deviations of these transformed PBQ scales are displayed in Table 4. Results of paired t-tests on the transformed means showed that BPD patients scored significantly higher on the Borderline scale than on any other PBQ scale.[1]

Insert Tables 3 and 4 about here

Discussion

The results of the current study supported our clinical observation that patients with borderline personality disorder hold a variety of dysfunctional beliefs associated with many different Axis II disorders. Specifically, they scored significantly higher than patients with other personality disorders on 14 PBQ items reflecting themes of dependency, helplessness, distrust, rejection/abandonment fears, fear of losing emotional control, and histrionic behavior. These themes are quite consistent with the pattern of psychopathology described in borderline personality disorder (Beck et al., 1990; Gunderson, 2001; Young, 1990). Indeed, when the 14 beliefs are

combined to form a BPD scale, the scale showed good internal consistency and BPD patients scored significantly higher on this scale than patients with avoidant, dependent, obsessive-compulsive, antisocial, narcissistic or paranoid personality disorder. BPD patients also scored significantly higher on the BPD scale than on other PBQ scales associated with other personality disorders.

Our findings are also consistent with formulations of BPD by Young (2002) and Arntz et al. (1999). Specifically, Young's hypotheses were supported regarding certain maladaptive schemas in BPD including abandonment, unlovability, dependence, mistrust, and fear of losing emotional control. Assumptions related to these themes were included by Arntz et al. (1999) in their PDBQ. However, both Young and Arntz have identified additional themes that characterize BPD according to their clinical observations. For instance, subjugation, inadequate self-discipline, guilt/punishment, and emotional deprivation are additional aspects in the schema profile of BPD patients according to early hypotheses by Young (see Beck et al., 1990). Subjugation may be tapped by beliefs regarding dependence on others. Arntz et al. (1999) added assumptions related to emptiness, lack of personal control, and badness in their conceptualization and measurement of BPD. Hence, when assessing BPD patients, it may be important to assess beliefs concerning deprivation, lack of self-discipline, and self-punishment in

addition to those identified in our study.

Several of the beliefs associated with BPD patients appear to be not only dysfunctional, but contradictory as well. This internal dissonance may further contribute to the maladaptive behavior and distressed affective state exhibited by many BPD patients. For example, a patient with BPD may feel extremely helpless, resulting in a variety of dependent behaviors, while simultaneously experiencing distrust, particularly in close or intimate relationships.

According to the cognitive theory of BPD, these diametrically opposing beliefs are latent until they are activated by an external event. The patient then processes information in a dichotomous way, which creates anxiety, frustration, depression, or shame. In order to relieve this internal tension temporarily, the patient may behave in an extreme and self-destructive manner such as attempting suicide, binge eating, self-mutilating, or engaging in substance abuse. BPD patients also may act out against others in an attempt to punish them for perceived betrayal or withholding of what is needed. Self-punitive and other-punitive behaviors may occur in close temporal proximity in BPD. Schema formulations of BPD refer to this erratic alternating behavior as schema flipping (Young, 2002)

An important objective of cognitive therapy of personality disorders is teaching patients to identify their maladaptive

core beliefs and their belief-driven reactions to life-stressors, and to attempt to normalize these dysfunctional beliefs. Helping BPD patients to identify, assess, test and modify their core beliefs provides them with a clear, systematic framework to conceptualize their problems and a strategy to develop alternative, more adaptive beliefs. Addressing the beliefs that motivate the self-defeating and self-destructive behaviors associated with BPD may indirectly modify these behaviors.

Although this study demonstrates the possibility of identifying borderline-specific beliefs, it has several limitations. The scale was developed and cross-validated in a clinic specializing in cognitive therapy. It needs to be evaluated in other settings with different demographic populations. In addition, further research is needed to test for the specificity of these beliefs with other populations such as non-psychiatric controls and patients without personality disorders. Finally, as mentioned earlier, there may be additional beliefs specific to BPD that should be assessed when treating this population.

Footnotes

[1]Since some of the other PBQ scales (Dependent, Avoidant, Paranoid, and Histrionic) contained the items from which we derived the BPD scale, the most liberal statistical approach would be to exclude these items from the respective PBQ scales in these analyses. However, we chose the more conservative approach of leaving these items in, thus reducing the likelihood of obtaining significant differences. Our rationale was that the items cross diagnostic categories at a conceptual level and thus our statistical approach should take this into account.

References

Arntz, A., Dietzel, R., & Dreessen, L. (1999). Assumptions in borderline personality disorder: specificity, stability and relationship with etiological factors. Behaviour Research and Therapy, 37, 545-557.

Beck, A. T., Freeman, A., & Associates. (1990). Cognitive therapy of personality disorders. New York: Guilford.

Beck, A. T., & Beck, J. S. (1991). The Personality Belief Questionnaire. Unpublished manuscript, University of Pennsylvania.

Beck, A. T., Butler, A. T., Brown, G. K., & Dahlsgaard, K. K., Newman, C. F., & Beck, J. S. (2001). Dysfunctional beliefs associated with specific personality disorders. Behavior Research and Therapy, 39, 1213-1225.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Manual for the Beck Depression Inventory-II. San Antonio, TX: Psychological Corporation.

First, M. B., Spitzer, R. L., Gibbon, M. & Williams, J. B. W. (1995). User's guide for the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I/P), (Version 2.0). Unpublished manuscript, Biometrics Research Department, New York State Psychiatric Institute.

First, M. B., Spitzer, R. L., Gibbon, M., Williams, J. B. W., & Benjamin, L. (1995). User's guide for the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II),

(Version 2.0). Unpublished manuscript, Biometrics Research Department, New York State Psychiatric Institute.

Layden, M. A., Newman, C. F., Freeman, A., Morse, S. B. (1993). Cognitive therapy of borderline personality disorder. Needham Heights, MA: Allyn and Bacon.

Gunderson, J. G. (2001). Borderline personality disorder: A clinical guide. Washington, D.C.: American Psychiatric Press.

Schmidt, N. B., Joiner, T. E., Young, J. E., & Telch, M. J. (1995). The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. Cognitive Therapy and Research, 19(3), 295-321.

Spitzer, R. L., Williams, J. B. W., Gibbon, M. & First, M. B. (1990). User's guide for the Structured Clinical Interview for DSM-III-R. Washington, DC: American Psychiatric Association Press.

Young, J. E. (1990). Schema-focused cognitive therapy for personality disorders: A schema focused approach. Sarasota, FL: Professional Resource Exchange.

Young, J. E. (1999). Schema-focused cognitive therapy for personality disorders: A schema focused approach, 3rd Edition. Sarasota, FL: Professional Resource Exchange.

Young, J. E. (2002). Schema-focused therapy for borderline personality disorder. [On-line] http://www.schematherapy.com/borderline2000a_files/frame.htm

Table 1

Sample Characteristics

Variable	Sample A			Sample B		
	BPD	OPD	χ^2 (*t*)	BPD	OPD	χ^2 (*t*)
n[a]	42	102		42	102	
Age	32.0	36.3	(2.42*)	30.1	35.9	(3.27**)
Sex			5.76*			5.76*
Male	12	50		12	50	
Female	30	49		30	49	
Race[b]						
White	39	79		30	85	
African American	3	8		3	2	
Hispanic	2	0		2	0	
Asian	2	6		1	5	
Other	0	0		2	1	
Education			18.73**			12.91*
11th grade	0	2		1	2	
High School Diploma	4	13		9	8	
Some College	18	16		13	16	
College Degree	12	26		12	38	

Table 1 continues…

Table 1 continued.

Variable	Sample A			Sample B		
	BPD	OPD	χ^2 (t)	BPD	OPD	χ^2 (t)
Graduate Degree	7	44		6	30	
Marital Status			2.71			8.28
Single	23	45		31	56	
Married	12	43		5	33	
Divorced	5	10		5	8	
Separated	1	1		1	2	
Employment Status			5.43			3.29
Full-time	17	46		15	49	
Part-time	1	6		3	6	
Student	13	42		15	24	
Unemployed	11	20		5	16	
Psychiatric History						
Prior Psychotherapy	32	74	0.00	34	73	2.00
Prior Pharmacotherapy	29	60	0.49	27	63	0.04
Prior Psychiatric Hospitalization	15	11	12.32**	14	16	5.57*

Table 1 continues…

Table 1 continued.

Variable	Sample A			Sample B		
	BPD	OPD	χ^2 (t)	BPD	OPD	χ^2 (t)
Family History of Mental Illness	24	62	0.52	26	54	0.37
Family History of Suicide	13	11	8.01**	4	13	0.38
Axis I Diagnosis[c]						
Major Depression	25(25)	43(33)	8.87**	30(24)	46(35)	9.28**
Anxiety Disorder	23 (6)	63(35)	6.02*	22(10)	66(30)	2.53
Bipolar Disorder	3 (3)	1 (1)		1 (1)	4 (4)	
Dysthymic Disorder	10 (2)	15(11)		7 (2)	18 (7)	
Adjustment Disorder	0 (0)	7 (4)		1 (0)	9 (8)	
Substance Abuse or Dependence	4 (0)	22 (5)		12 (1)	10 (2)	
Other Axis I Diagnosis	5 (5)	8 (8)		4 (4)	13(13)	
No Axis I Diagnosis	1	4		0	3	
Axis II Diagnoses in OPD Groups[d]						
Paranoid		5			3	
Obsessive-Compulsive		38			32	
Histrionic		0			1	
Dependent		13			14	
Antisocial		4			4	

Table 1 continues…

Table 1 continued.

Variable	Sample A			Sample B		
	BPD	OPD	χ^2 (t)	BPD	OPD	χ^2 (t)
Narcissistic		5			7	
Avoidant		35			38	
Beck Depression Inventory—II	30.5	18.3	(5.38***)	28.5	19.7	(3.76***)
Beck Anxiety Inventory	21.5	11.8	(4.14***)	18.6	12.1	(3.05**)

[a]Cell sizes in the remainder of the table are not always reconcilable with these n's due to missing data on some variables.

[b]Cell sizes were too small (n < 5) to yield valid nonparametric tests for race.

[c]Numbers to the left represent all patients with the corresponding disorder, whether it was their primary or secondary Axis I diagnosis. Numbers in parentheses represent patients who had the corresponding disorder as their primary Axis I diagnosis. Statistical tests were based on primary Axis I diagnosis. Since several cells had n's < 5 the chi square analysis included only MDD and anxiety disorder diagnoses.

[d]The distribution of Axis II disorders in samples A and B were not significantly different, χ^2 (7) = 3.49, p > .10. There were no patients with schizoid or schizotypal personality disorder in either sample.

Table 2.

Means and t-Tests for the Fourteen PBQ Items that Most Strongly Discriminate BPD from Other PD Patients

		Sample A			Sample B		
Item	Content	BPD	Other PD	*t*	BPD	Other PD	*t*
4.	If people get close to me, they will discover the "real" me and reject me.	2.12	1.28	3.27***	2.00	1.60	2.10*
9.	Unpleasant feelings will escalate and get out of control.	2.55	1.50	5.07***	2.48	1.49	4.06***
13.	Any signs of tension in a relationship indicate the relationship has gone bad; therefore, I should cut it off.	1.31	0.55	4.16***	1.34	0.74	2.70**
15.	I am needy and weak.	1.86	1.06	3.86***	1.93	1.39	2.30*
16.	I need somebody around available at all times to help me to carry out what I need to do or in case something bad happens.	1.33	0.80	2.21*	1.69	0.78	3.65***
18.	I am helpless when left on my own.	1.21	0.53	4.24***	0.98	0.55	2.60**
27.	I can't cope as other people can.	2.43	1.51	4.11***	2.31	1.58	2.98**

Table 2 continues…

Table 2 continued.

		Sample A			Sample B		
Item	Content	BPD	Other PD	*t*	BPD	Other PD	*t*
60.	People will get at me if I don't get them first.	0.93	0.37	3.35***	0.86	0.46	2.42*
97.	People will pay attention only if I act in extreme ways.	1.02	0.43	3.26**	1.14	0.43	3.60***
113.	I cannot trust other people.	1.90	0.90	5.11***	1.83	0.95	3.65***
116.	I have to be on guard at all times.	1.93	0.89	4.78***	1.60	1.10	2.21*
119.	People will take advantage of me if I give them the chance.	1.57	0.78	3.17**	1.43	1.01	2.04*
125.	People often say one thing and mean something else.	2.12	1.37	2.78**	2.14	1.38	3.92***
126.	A person whom I am close to could be disloyal or unfaithful.	1.90	1.07	3.01**	1.98	1.26	2.60**

***p < .001. **p < .01. *p < .05. Both samples have identical cell sizes: BPD = 42, Other PD = 102.

Table 3

Means and Standard Deviations of the PBQ Borderline Scale by Diagnosis

Personality Disorder	N	M	SD
Borderline	84	24.76	10.65
Avoidant	82	16.52**	9.32
Antisocial	9	13.11*	14.70
Dependent	31	17.53**	10.15
Narcissistic	13	11.77**	7.80
Obsessive-Compulsive	74	11.81**	7.97
Paranoid	10	15.40*	9.64

*p < .01. **p < .001. All comparisons are made against the Borderline mean using one-tailed t-tests.

Table 4

Internal Consistency Estimates and Z-Score Means and Standard Deviations of All PBQ Scales for BPD Patients.

PBQ Scale	α	M	SD
Borderline	.89	.72	1.02
Avoidant	.87	.43***	1.00
Dependent	.88	.46***	1.01
Passive-Aggressive	.89	.34***	1.09
Obsessive-Compulsive	.88	.09***	0.93
Antisocial	.83	.42*	1.15
Narcissistic	.85	.22***	1.12
Histrionic	.84	.43**	1.06
Schizoid	.79	.14***	1.01
Paranoid	.94	.54*	1.15

*p < .05. **p < .01. ***p < .001. BPD = Borderline personality disorder.

Z-scores were calculated on the entire sample of Axis II patients (N = 288). All comparisons were made against the Borderline mean using one-tailed paired *t*-tests.