DSM-III and DSM-III-R Schizotypal Symptoms in Borderline Personality Disorder

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The frequency of DSM-III and DSM-III-R schizotypal personality disorder (SPD) symptoms and diagnosis was explored in 39 inpatients classified as borderline by the Diagnostic Interview for Borderlines (DIB) and 19 inpatient major depressive disorder (MDD) controls. Most SPD symptoms in all groups, except the nondepressed borderlines, derived from social-interpersonal items. By DSM-III, 24 borderlines (62%) but only six controls (32%) had cognitive-perceptual SPD symptoms ($P = .03$), whereas by DSM-III-R only 14 borderlines (36%) and seven controls (37%) had such symptoms. Of the 24 borderlines showing cognitive-perceptual symptoms, 16 also had MDD, a significant difference from the non-MDD borderlines ($P = .04$). This difference disappears in DSM-III-R. The results suggest that some SPD symptoms in borderlines may be related to a concurrent affective episode.
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THE QUESTION OF COMORBIDITY of borderline personality disorder (BPD) with other diagnoses has repercussions not only for the diagnostic process but also for treatment particularly pharmacologic treatment.[1] Although Spitzer et al.[2] attempted to separate out "unstable" borderlines from schizotypal borderlines, this creation of a borderline diagnostic category has raised much criticism. Many patients with BPD have symptoms of or meet criteria for other axis II diagnoses such as schizotypal personality disorder (SPD) or histrionic personality disorder.[3] In addition, some patients with BPD have symptoms of or meet criteria for axis I disorders such as major affective disorder.[4]

Spitzer et al. reported 54% comorbidity of BPD and SPD.[2] George and Soloff[5] reported that 46% (22 of 48) of borderlines identified by the Diagnostic Interview for Borderlines (DIB)[6] met either SPD alone (N = 4) or both SPD and BPD (N = 18). Among a group of 41 patients with either BPD or SPD, Jacobsberg et al.,[7] using DSM-III, reported that 39% of the subjects met the criteria for both diagnoses. Other investigators[8-13] reported concurrent SPD diagnoses among BPD patients in the range of 22% to 75%. A concurrent diagnosis of major depressive episode has repeatedly been found in more than 50% of subjects who meet either DSM-III or DIB criteria for BPD.[14]

A problem with DSM-III that may have increased the likelihood of comorbidity between BPD and SPD has been the inclusion of dissociative experiences such as depersonalization or derealization in the SPD criteria set ("recurrent illusions, sensing the presence of a force or person not actually present, depersonalization, or derealization not associated with panic attacks" p 333).[15] Although derealization and depersonalization are generally believed to be nonspecific, occurring in many psychiatric disorders and in normal subjects,[16] Gunderson et al. have always viewed

depersonalization and derealization as part of the borderline syndrome.[6] Indeed, early editions of the DIB weighed depersonalization and derealization (as well as manipulative suicide gestures) more heavily in support of a borderline diagnosis than other DIB criteria. McGlashan[11] believed that these dissociative experiences were the SPD criterion that least discriminated between borderline and schizotypal patients. In studies of psychotic symptoms in borderlines, we[17] observed significant differences between borderlines and MDD controls for the presence of dissociative experiences [62% of borderlines, 20% of MDD controls ($P < .01$)], and Chopra and Beatson[18] reported that 12 of 13 of their borderline patients had dissociative experiences. DSM-III-R has removed dissociative episodes from the SPD criteria set,[19] but it has not moved them into the BPD criteria set.

Some of the previous studies of BPD/SPD comorbidity[2,5,8,12] did not assess the presence or absence of a concurrent axis I diagnosis in their subjects. Other studies[7,9-11] eliminated subjects with concurrent axis I disorders such as major affective disorder. Torgersen[13] listed the concurrent axis I diagnoses of the study subjects but did not examine the possible effect the axis I disorder might have had on SPD/BPD diagnosis or symptom comorbidity.

Although other researchers have examined the effect of concurrent SPD and/or of concurrent major affective disorder on long-term course and outcome in borderlines,[20,21] no one has explored the possible relationship between the diagnosis of depression and the presence of SPD symptoms in BPD patients. We attempted to explore this relationship by comparing both depressed and nondepressed borderlines to a group of nonborderline but major depressive controls on the frequency of DSM-III and DSM-III-R SPD symptoms and diagnosis. Because BPD has a significant overlap not only with SPD[2,3,5,7-13] but also with affective disorder (MDD),[14,22-24] we chose nonborderline depressives as a control group because we wished to explore how the frequent comorbid diagnosis of MDD might affect the presence of schizotypal symptoms in BPD and depressed patients; i.e., we wished to determine whether the "state" of depression in patients with BPD influences the presence or absence of SPD symptoms, symptoms that, since they are attributable to a personality disorder, are usually considered "trait" phenomena.[19]

METHODS

Potential subjects, drawn from two inpatient units at The University of Michigan Medical Center, met at least two criteria for DSM-III BPD or SPD or three criteria for DSM-III major depressive episode on admission. Exclusion criteria included chronic psychosis or medical problems that would prohibit a 2-week drug-free period or would confound biological test results. Subjects with transient, mild, or brief psychotic experiences were included.

Eighty-seven percent of eligible subjects consented. While drug-free, consenting subjects were administered the DIB.[6] Interrater reliability (.78) by our group was described previously,[25] and reliability has been maintained through periodic retraining and assessment. Research Diagnostic Criteria (RDC) diagnoses were made by consensus by the patient's primary therapist and senior supervisor, with senior supervisors achieving an average interrater reliability on the diagnosis of depression of .92 (weighted kappa[26]) (range of pairwise reliability .88 to .94). RDC diagnoses were made just before patients were discharged.

BPD subjects attained a DIB of ≥ 7. Borderline affective subjects (BPD/MDD) attained a DIB of ≥ 7 and an RDC diagnosis of MDD. Nonaffective borderlines (pure BPD) met DIB criteria but failed to meet RDC for MDD. Nonborderline affective controls (MDD controls) scored ≤ 5 on the DIB and met RDC for MDD. We decided in advance to eliminate all subjects scoring 6 on the DIB to demarcate borderline and nonborderline samples clearly.

The dependent measure was a checklist consisting (in random order) of the 16 DSM-III criteria for BPD and SPD[15] completed by the therapist and supervisor when the RDC diagnosis was being made. The checklist was scored on a three-point scale, "present," "probably present," or "absent" (with a "don't know" option.) An item was scored present only if it applied to the patient's characteristic long-term functioning and not if it was limited to a discrete episode of illness. Both the checklist and the RDC diagnosis were completed close to the time of discharge when both the therapist and the supervisor had had the opportunity to know the patient and to observe his or her symptoms and behaviors for at least 4 weeks in most instances. Although the checklist reflected criteria as listed in DSM-III,[15] we were able to make adjustments that would allow us to measure SPD symptoms as they are described in DSM-III-R[19] as well. First, depersonalization and derealization were separated from the SPD illusion symptom by using the dissociation items on the DIB as a source of information. Second, odd or eccentric behavior or appearance was scored from DIB item: "This person generally would appear appropriate and conventional with his/her socio-economic peers." No DIB administrator for a particular patient was involved in either the RDC or the checklist on that subject. Data between groups were analyzed by chi-square. When data were continuous, Student's t test was used.

RESULTS

Of the 39 borderline subjects (TOT-BPD), 21 met RDC criteria for major depression (BPD/MDD) and 18 did not (pure-BPD). There were 19 nonborderline MDD controls. Controls were significantly older [38.9 ± 12.2 v 28.2 ± 8.4 years ($t = 3.94$, $df = 56$, $P < .001$)] and had a trend toward higher 17-item Hamilton Rating Scale for Depression (HRSD) scores [17.4 ± 5.0 v 14.3 ± 6.7 ($t = 1.74$, $df = 54$, $P < .09$)]. A higher but nonsignificant percentage of borderlines were female (83% v 68%). Although there was no difference in sex ratio or age between the depressed and nondepressed borderlines, the BPD/MDD subjects had significantly higher HRSD scores [16.4 ± 6.6 v 11.9 ± 6.3 ($t = 2.13$, $df = 35$, $P < .05$)] than the pure-BPD subjects.

None of the MDD controls met DSM-III or DSM-III-R for SPD by the checklist, but one control did meet checklist criteria for BPD. This subject's DIB score was 5 (nonborderline), and her discharge diagnosis was not BPD. Twenty-nine (74%) of the DIB borderlines met DSM-III criteria for BPD (16 of 21 of BPD/MDD and 13 of 19 of pure-BPD). Eight (21%) borderlines met criteria for DSM-III SPD. Five of the eight who met SPD had a concurrent RDC diagnosis of MDD. Four borderlines, two from each subgroup, met DSM-III-R criteria for SPD.

When we scored by checklist, we found significant differences between controls and borderlines for all DSM-III-R BPD criteria. Although expected, this finding served to validate the distinction between controls and borderlines since the borderlines were initially separated by DIB and not by DSM-III.

Table 1 shows the frequency of DSM-III and DSM-III-R schizotypal symptoms as determined from the checklist. Differences were significant between controls and borderlines on only three SPD criteria: odd speech (just at the .05 level of significance), inadequate rapport, and illusions (by DSM-III which includes dissociation but not by DSM-III-R). Not only was the illusion symptom significantly more frequent in the borderlines than in the controls, but it was also significantly more frequent in BPD/MDD subjects as compared with pure-BPDs ($P < .05$). Furthermore, BPD/MDD subjects, as compared with pure (i.e., nondepressed) borderlines, had significantly more social anxiety ($P < .05$) and inadequate rapport ($P < .01$). Moreover, depressed borderlines, as compared with nonborderline depressed controls, also has significantly more social anxiety and inadequate rapport (both at the $P < .05$ level).

Table 1. Frequency of Schizotypal Symptoms by Percent

Symptom	MDD Controls (N = 19)	Total Borderlines (N = 39) (TOT-BPD)	Borderline Depressed (N = 21) (BPD/MDD)	Borderline Nondepressed (N = 18) (Pure-BPD)
Magical thinking	5% (1)	5% (2)	5% (1)	6% (1)
Illusions (DSM-III)	11% (2)*	57% (22)	71% (15)†	39% (7)‡§
Illusions (DSM-III-R)	0‖	15% (6)	14% (3)¶	17% (3)#
Odd speech	0**	18% (7)	23% (5)††	11% (2)
Odd appearance	16% (3)‡‡	3% (1)	0	7% (1)
Social isolation	32% (6)	30% (14)	43% (9)	28% (5)
Inadequate rapport	21% (4)	33% (13)	52% (11)§§	11% (2)‖‖
Social anxiety	32% (6)	52% (20)	67% (14)¶¶	33% (6)
Ideas of reference	11% (2)	8% (3)	5% (1)	11% (2)
Suspiciousness	11% (2)	16% (6)	16% (3)	17% (3)

*$\chi^2 = 11.09$, $df = 1$, $P < .001$: MDD v TOT-BPD.
†$\chi^2 = 3.59$, $df = 1$, $P = .058$: MDD v BPD/MDD.
‡$\chi^2 = 4.17$, $df = 1$, $P < .05$: BPD/MDD v pure-BPD.
§$\chi^2 = 4.04$, $df = 1$, $P < .05$: MDD v pure-BPD.
‖$\chi^2 = 3.26$, $df = 1$, $P = .071$: MDD v TOT-BPD.
¶$\chi^2 = 2.93$, $df = 1$, $P = .91$: MDD v BPD/MDD.
#$\chi^2 = 3.65$, $df = 1$, $P = .06$: MDD v pure-BPD.
**$\chi^2 = 3.88$, $df = 1$, $P = .05$: MDD v TOT-BPD.
††$\chi^2 = 5.17$, $df = 1$, $P < .05$; MDD v BPD/MDD.
‡‡$\chi^2 = 3.48$, $df = 1$, $P = .062$: MDD v TOT-BPD.
§§$\chi^2 = 4.18$, $df = 1$, $P < .05$: MDD v BPD/MDD.
‖‖$\chi^2 = 7.43$, $df = 1$, $P < .01$: BPD/MDD v pure-BPD.
¶¶$\chi^2 = 4.19$, $df = 1$, $P < .05$: MDD v BPD/MDD.
##$\chi^2 = 4.31$, $df = 1$, $P < .05$: BPD/MDD v pure-BPD.

The DSM-III-R schizotypal symptoms were then divided into two groupings, a social-interpersonal grouping (SI) and a cognitive-perceptual (CP) grouping. The SI items consisted of social isolation, social anxiety, and inadequate rapport, and the CP items consisted of unusual perceptual experiences such as illusions (with and without dissociative experiences), magical thinking, odd communication, odd appearance, ideas of reference, and suspiciousness. These groupings were not randomly chosen but reflect the subgroups of SPD symptoms that have been suggested by Siever and Gunderson[27] and Widiger et al.[10]

Table 2 shows the symptom frequency of SPD items in these two subgroups of items by patient groups. Most SPD symptoms in all patient groups except the nondepressed borderlines derived from SI symptoms. DSM-III includes dissociative symptoms as well as illusions in the criterion for unusual perceptual experiences. If dissociative items are included with illusions (DSM-III), 57% of the borderlines score for this symptom. If dissociation is eliminated from this criterion as it is in DSM-III-R, only 15% of the borderlines have this illusion symptom (Table 1).

Borderlines had significantly more SPD items (Table 2) than controls, and significantly more borderlines had CP symptoms than MDD controls (62% v 32%; $\chi^2 = 4.7$, $P < .03$) by DSM-III but not DSM-III-R. As compared with the pure-BPD subjects, BPD/MDD subjects had significantly more SPD symptoms (Table 2, $P < .05$) and significantly more subjects with SI symptoms (81% v 39%; $\chi^2 = 7.25$, $P < .01$) and CP symptoms by DSM-III (not DSM-III-R) (76% v 44%; $\chi^2 = 4.12$, $P < .04$). Significantly more BPD/MDD subjects than MDD controls

Table 2. Symptom Frequency in Borderlines of SPD/DSM-III-(R) SI and CP Items

		MDD Controls (N = 19)	Total Borderlines (N = 39) (TOT-BPD)	Borderline Depressed (N = 21) (BPD/MDD)	Borderline Nondepressed (N = 18) (Pure-BPD)
Total no.	III	23*	87	59†	28‡
of SPD items scored	R	24§	72	47‖	25¶
SI symptoms % (N)	III	70% (16)	54% (47)	58% (34)	46% (13)
	R	67% (16)	65% (47)	72% (34)	52% (13)
CP symptoms % (N)	III	30% (7)	46% (40)	42% (25)	54% (13)
	R	33% (8)	35% (25)	28% (13)	48% (12)

Abbreviations: SI items, social isolation, social anxiety, inadequate rapport; CP items, illusions, magical thinking, odd communications, odd appearance, suspiciousness, ideas of reference.
*$t = 2.24$, $df = 56$, $P < .05$: MDD v TOT-BPD.
†$t = 3.61$, $df = 38$, $P < .001$: MDD v BPD/MDD.
‡$t = 2.29$, $df = 37$, $P < .05$: BPD/MDD v pure-BPD.
§$t = 1.26$, $df = 46$, $P = .20$ MDD v TOT/BPD.
‖$t = 2.21$, $df = 35$, $P < .05$ MDD v BPD/MDD.
¶$t = 1.49$, $df = 37$, $P = .14$ BPD/MDD v pure-BPD.

had DSM-III CP symptoms (76% v 32%; $\chi^2 = 8.02$, $P < .005$), yet there were no between-group differences for subject frequency of any of these clusters when MDD controls were compared with the pure-BPD subjects.

DISCUSSION

The results suggest that the presence of some SPD symptoms in borderlines, particularly symptoms in the social interpersonal cluster of social anxiety, social isolation, and inadequate rapport, may be related to a concurrent affective diagnosis/disorder in these subjects. Patients who are both borderline and depressed have significantly higher symptom frequencies of social isolation and inadequate rapport not only as compared with depressed nonborderline controls, but also as compared with nondepressed borderlines. Indeed, the pure nonborderline depressives and the pure nondepressed borderlines appear to be more similar to each other on many schizotypal items than either one does to the group that was both depressed and borderline.

We can only speculate as to why SPD social-interpersonal items show an increase among depressed borderlines. Perhaps these borderlines may be the subaffective or bipolar II patients described by Akiskal.[23] Thus, if they become depressed, they present with a withdrawn rather than an agitated depression. Alternatively, borderlines are often believed to be histrionic and to exaggerate, although unconsciously, their symptomatology, so that when they are in a depressive episode, they present as more depressed, withdrawn, and isolated than a nonborderline in a depressive episode. Other investigators[28] have shown that borderlines have a tendency to score higher for psychopathology on self-rated scales compared with corresponding observer-rated scales. A third explanation is that some interaction may exist between borderline and affective pathology, leading to symptoms indistinguishable from SPD symptoms. Some of our preliminary data from a follow-up study of depressed borderlines suggests that they may "improve" over time by becoming more socially isolated and thus less prone to enter into chaotic interpersonal relationships.[29] Whatever the reason for this increase in SPD items,

studies that clump depressed and nondepressed borderlines together may be subject to both type I and type II errors depending on the particular study and the depressed/nondepressed borderline patient mix.

CP symptoms were more prevalent in the BPD/MDD subjects than in the pure-BPD subjects. Significance between the borderline subgroups for this cluster disappears, however, when dissociative episodes are removed from the symptom "unusual perceptual experiences," as with DSM-III-R.

Only 21% of our DIB borderlines met DSM-III for SPD. When DSM-III criteria were used for the diagnosis of BPD, 17% (5 of 29) of the DSM-III BPD subjects met SPD. This places our cohort below the range of overlap between BPD and SPD (22% to 75%) that other researchers have reported.[2,5,7,13,30] Why we have so few schizotypals is hard to explain. Our BPD subjects are mostly female, and few of them have true psychotic or psychoticlike symptoms (other than dissociation) on the DIB.[17] Furthermore, the DIB emphasizes social interaction on two of its five sections, and it is our experience that the DIB tends to eliminate many patients with borderline dynamics who perceive themselves as lonely, isolated, or socially awkward, but who might also qualify as having SPD. These subjects often score a 6 on the DIB, which was below the cutoff that we used in this study. The DIB does score symptoms of derealization and depersonalization as part of the diagnosis of BPD, however, in contrast to DSM-III, which includes these dissociative phenomena as part of SPD rather than BPD criteria. The DIB therefore, might tend to favor inclusion of BPD subjects with some DSM-III schizotypal symptoms. This problem does not occur with DSM-III-R because dissociative episodes are not part of either the BPD or SPD criteria set.

McGlashan[11] reviewed eight studies to determine which SPD criteria best differentiated SPD patients from BPD patients. Different studies showed different symptoms to be discriminating. Based on his review as well as data from his own study, McGlashan[11] concluded that odd communication, suspiciousness/paranoid ideation, and social isolation were the most discriminating symptoms for separating SPD from BPD, but depersonalization and derealization were the least discriminating. Our data lend support to some of McGlashan's findings. Our borderline subjects who also met SPD decreased from eight to five when dissociative episodes were eliminated even while the "4 or more" standard of DSM-III was retained. With DSM-III-R criteria, when the necessary number of criteria has been increased to "5 or more," the number of borderlines with concurrent SPD decreased to 4 (10%). In his review, McGlashan[11] did not discuss why different studies arrived at different discriminating symptoms. Our findings suggest that disagreements may have been related to axis I comorbidity.

The results of the current study must be viewed with caution. The scoring of the checklist was done by consensus between the patient's primary therapist and a senior supervisor at the end of the patient's stay in the unit when both the therapist and the supervisor had had the opportunity to observe and interact with the patient in most instances for at least 4 weeks. This process reflects common clinical practice in which therapist and supervisor meet to discuss the patient and diagnosis. Use of the checklist indicated that 74% of the DIB borderlines met DSM-III for BPD, a percentage similar to that reported by other researchers.[31,32] Furthermore, use of the checklist showed clear statistical significance for every DSM-III BPD criterion

between borderlines and controls. Nevertheless, reliability for scoring schizotypal symptoms could be lower than reliability for scoring borderline symptoms.

Whether at diagnosis or at outcome, a concurrent affective episode clearly affects how borderlines appear, how they behave, and how they respond to treatment. Thus, for research with borderlines to be meaningful as well as clinically relevant, studies should not overlook axis I comorbidity, not only for mood disorders, but also for anxiety disorders, somatoform disorders, dissociative disorders, and sexual disorders.

Axis II comorbidity is another important and potentially confounding issue. The concurrence of SPD and BPD diagnoses has been common. Our study shows that changes in DSM-III-R reduce the overlap between these two diagnoses, and we hope that both clinical practice and research may benefit from the change.

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