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A Longitudinal Study of the 10-Year Course of Interpersonal Features in Borderline Personality Disorder

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Abstract

Background—The literature on borderline personality disorder (BPD) describes interpersonal disturbances as a core sector of psychopathology. The longitudinal course of these features remains poorly understood.

Aim—To describe the course of interpersonal features of BPD in a more detailed way than has been done previously.

Method—20 interpersonal aspects of borderline psychopathology were assessed using two reliable semi-structured diagnostic interviews at baseline and at five successive two-year follow-up waves in the ongoing McLean Study for Adult Development.

Results—Behaviorally oriented features, such as recurrent breakups, sadism, demandingness, entitlement, regression in treatment, and boundary violations, remitted quickly and were rare at the end of follow-up. The interpersonal features slowest to remit were affective responses to being alone, active caretaking, discomfort with care, and dependency.

Conclusion—The *behavioral* interpersonal features of BPD remit rapidly, while core *affectively*-oriented features related to intolerance of aloneness and conflicts over dependency are more persistent.

Interpersonal disturbances have been central to characterizations of borderline personality disorder (BPD) since its earliest descriptions in the psychiatric literature (Stern, 1938; Knight, 1954; Kernberg, 1967; Masterson, 1972; Adler & Buie, 1979; Gunderson, 1984, 1996; Benjamin, 1993, Fonagy, Target, & Gergeley, 2000). The first study to establish interpersonal features as part of an empirically derived set of criteria for BPD described both features of anaclitic relationships as well as depression in response to loneliness (Grinker, Werble, & Drye, 1968). More recently, modern factor analytic studies of BPD have suggested three core sectors of psychopathology: 1) interpersonal disturbances, 2) affective or emotional dysregulation, and 3) impulsivity or behavioral dyscontrol (Skodol et al., 2002; Clarkin et al., 1993). Of these three, the interpersonal features are among the most discriminating features of the diagnosis (Modestin, 1987; Zanarini et al., 1990).

While the earliest longitudinal studies of BPD indicated stability of symptoms over relatively short periods of time (i.e 3–7 years) (Pope et al., 1983; Barasch et al., 1985), subsequent studies revealed that borderlines, if followed long enough, eventually improved (McGlashan, 1986; Plakun; 1986; Paris et al, 1987). The findings of two more recent major longitudinal studies of BPD-- the McLean Study for Adult Development (MSAD) and the

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Collaborative Longitudinal Personality Disorders Study (CLPS) -- have provided a model for understanding the configuration of symptoms within these three core sectors in BPD as either *complex* (Zanarini et al., 2003; Zanarini et al., 2007) or *hybrid* (McGlashan et al., 2005), where some features of the disorder are described as acute, symptomatic, intermittent, and reactive, while others are described as more stable, chronic, trait-like, and temperamental. The longitudinal course of the symptoms within the interpersonal sector of BPD has been described in two reports. In a study of two-year prevalence of DSM-IV criteria for BPD and other axis II disorders, McGlashan et al. (2005) reported that the criteria of unstable relationships was relatively stable while that of frantic efforts to avoid abandonment was most "changeable." Reporting on a longer follow-up period of 10 years, Zanarini et al. (2007) examined interpersonal features in more detail, assessing nine interpersonal features from the Revised Diagnostic Interview for Borderlines (DIB-R) (Zanarini et al., 1989) rather than just the two relevant DSM-IV diagnostic criteria. Over the ten years of follow-up, the more reactive, behavioral features (i.e., stormy relationships, devaluation/manipulation/sadism, demandingness/entitlement, treatment regressions, and countertransference problems/boundary violations in treatment) remitted quickly and thus were deemed as acute, while more chronic and persistent interpersonal features (i.e., intolerance of aloneness, abandonment/engulfment/annihilation concerns, counterdependency/conflicts about care, and dependency/masochism) were considered more stable and temperamental.

Reports from both MSAD and CLPS have provided a more complex and nuanced understanding of the interpersonal phenomenology of BPD over time than previously described. Because the centrality of interpersonal disturbances to the BPD diagnosis and the effect of these symptoms on both treatment relationships and social functioning, the long-term course of the interpersonal symptoms of BPD deserves closer study. The study described below assesses time-to-remission of twenty interpersonal BPD symptoms over ten years of prospective follow-up. This is the first study to examine the course of these symptoms in a fine grained way, providing a more detailed picture of which aspects of the BPD interpersonal style are more acute, reactive, and symptomatic and which may be more trait-like or temperamental.

Methods

Subjects between 18–35 years old were recruited initially from inpatient units at McLean Hospital in Belmont, Massachusetts. Exclusion criteria included 1) had a known or estimated IQ of 70 of lower, 2) a history or current symptoms of schizophrenia, schizoaffective disorder, bipolar I disorder, or an organic condition that could cause psychiatric symptoms, and 3) lack of fluency in English.

Study procedures were explained and then written informed consent was obtained. A masters-level interviewer blind to the patient's clinical diagnoses administered three semi-structured diagnostic interviews to each patient, including 1) the Structured Clinical Interview for DSM-III-R Axis I Disorders (SCID-I) (Spitzer et al., 1992), 2) the Revised Diagnostic Interview for Borderlines (DIB-R) (Zanarini et al., 1989), and 3) the Diagnostic Interview for DSM-III-R Personality Disorders (DIPD-R) (Zanarini et al., 1987). The inter-rater and test-retest reliability of all three of these measures have been found to be good-excellent (Zanarini & Frankenburg, 2001; Zanarini, Frankenburg, Vujanovic, 2002).

Each of the five follow-up waves was separated by 24 months. At each follow-up, axis I and II psychopathology was reassessed by staff members blind to baseline diagnoses. After informed consent was obtained, our diagnostic battery was re-administered (a change version of the SCID-I [pertaining only to the past two years], the DIB-R, and the DIPD-R).

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The follow-up interrater reliability and follow-up longitudinal reliability of these three measures have also been found to be good-excellent (Zanarini & Frankenburg, 2001; Zanarini, Frankenburg, Vujanovic, 2002).

Interpersonal features were assessed using responses from the Interpersonal Relationship Section of the DIB-R. Rather than using the scores from the nine summary statements within this section of the DIB-R as has been reported previously (Zanarini et al., 2007), we assessed twenty features using the responses from twenty six questions as outlined in Table 1.

Time-to-remission was defined as the follow-up period at which remission for a particular symptom was first achieved. We compared time-to-remission between patient groups using a Cox proportional hazards model that accounted for discrete failure times by use of the exact partial likelihood (equivalent to conditional logistic regression where groups are defined by the risk sets and the outcome is remission), as implemented in Stata 9.2 software. Gender was included in these models as a covariate. Alpha was set at $p<0.05$, two-tailed.

Results

Two hundred and ninety patients met both DIB-R and DSM-III-R criteria for BPD and 72 met DSM-III-R criteria for at least one non-borderline axis II disorder (and neither criteria set for BPD). Baseline demographic data have been reported before (Zanarini et al., 2003). Briefly, 77.1% (N=279) of the subjects were female and 87% (N=315) were white. The average age of the subjects was 27 years (SD=6.3), the mean socioeconomic status was 3.3 (SD=1.5) (where 1=highest and 5=lowest), and their mean GAF score was 39.8 (SD=7.8) (indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood).

In terms of continuing participation, 275 borderline patients were re-interviewed at two years, 269 at four years, 264 at six years, 255 at eight years, and 249 at ten years. In terms of axis II comparison subjects, 67 were re-interviewed at two years, 64 at four years, 63 at six years, 61 at eight years, and 60 at ten years. At the ten-year assessment, 41 borderline patients were no longer in the study: 12 had committed suicide, seven died of other causes, 10 discontinued their participation, and 13 were lost to follow-up. By this time, 12 axis II subjects were no longer participating in the study: one had committed suicide, four discontinued their participation, and seven were lost to follow-up. As previously reported, retention of subjects over the course of the study was high, with 90.4% (N=309) of surviving patients being re-interviewed at all five follow-up waves (Zanarini et al., 2007). More specifically, 91.9% of surviving borderline patients (249/271) and 84.5% of surviving axis II comparison subjects (60/71) were evaluated six times (baseline and five follow-up periods).

The percentage of initially symptomatic borderline patients and axis II comparison subjects endorsing each of 20 interpersonal features of BPD throughout the follow-up intervals declined substantially over time. In both groups, less than 25% of individuals endorsing each of the 20 interpersonal features at baseline continued to endorse those characteristics at the end of 10 years of follow-up. (Table 1).

For the 16 symptoms where formal statistical comparisons could be made, borderline patients showed a significantly slower time-to-remission than axis II comparison subjects for 6 of these symptoms (Table 1): fear of abandonment (HR = 0.35, $p < 0.001$), fear of annihilation (HR = 0.50, $p = 0.04$), discomfort with care (HR = 0.55, $p = 0.006$), recurrent arguments (HR = 0.39, $p = 0.002$), dependency (HR = 0.46, $p = 0.002$), and manipulation (HR = 0.38, $p = 0.003$). The hazard ratios for these 6 features ranged from 0.35–0.55,

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indicating that the non-borderline axis II group remitted at approximately twice to three times the rate of the borderline group.

We note that the comparisons of the borderline patients versus axis II comparison subjects in Table 1 make no corrections for multiple testing. When the p-values for the comparison of the 16 interpersonal features are adjusted for multiplicity using the false discovery rate (FDR) method of Benjamini and Hochberg (1995), the adjusted p-value for fear of annihilation (adjusted $p = 0.11$) is no longer significant at the conventional 0.05 significance level; however, the adjusted p-values for the other 5 comparisons remain significant. The FDR method controls the expected proportion of incorrectly rejected hypotheses among all rejected hypotheses and is less conservative than the use of standard Bonferroni corrections.

For the other 10 symptoms, there were no statistically discernible differences in the rates of remission for the two groups of patients. (Direct comparisons of symptoms related to troubled psychiatric relationships were not possible due to too few events in the non-borderline axis II group.)

When the 20 interpersonal features are compared informally in terms of their median time-to-remission, 50% of BPD subjects endorsing 16 of these symptoms at baseline first achieved a remission of these symptoms sometime before the four-year follow-up (Table 2). These 16 symptoms which remit more quickly include fear of engulfment, recurrent breakups, sadism, demandingness, entitlement, regression in individual treatment, regression in inpatient settings, countertransference problems with staff or individual clinicians, boundary violations, active efforts to avoid abandonment, fear of abandonment, fear of annihilaton, recurrent arguments, masochism, devaluation, and manipulation. Fifty percent of those BPD subjects initially exhibiting features of active caretaking, discomfort with care, and dependency at baseline first achieved a remission of these symptoms sometime between the four and six year follow-up. The last interpersonal feature to remit in 50% of those BPD subjects initially exhibiting it was affective dysphoria (i.e., anxiety, depression, anger, or emptiness) when alone.

Discussion

Three main findings have emerged from this study. First, we find that most of the interpersonal symptoms of BPD remit significantly over time in both the BPD and axis II comparison group. This finding contradicts the notion that the interpersonal functioning in personality disorders is part of an “enduring pattern” which is both “inflexible” and “pervasive” (DSM-IV, 2000). Commonly held clinical beliefs that these interpersonal traits within BPD are inflexible and persistent have contributed to a sense of despair about the disorder’s prognosis. Our finding that most interpersonal features of BPD remit over 10 years implies an improved prognosis for interpersonal functioning for individuals with BPD.

Second, in comparison to axis II comparison patients, borderline patients show a slower time-to-remission for 5 interpersonal symptoms including fear of abandonment, discomfort with care, recurrent arguments, dependency, and manipulation. This finding confirms these five interpersonal symptoms are more stable in BPD than in axis II comparison subjects.

Lastly, only five symptoms studied decline less substantially than the rest, with about 15–25% of borderline subjects who exhibited them at baseline still exhibiting them at 10-year follow-up. Four out of five of these more persistent features--affective consequences when alone, fear of abandonment, discomfort with care, and dependency—describe affectively oriented facets of interpersonal experiences in BPD. The one exception is active caretaking, which while less affective, can be considered the least maladaptive of the twenty interpersonal features considered. The stability of these five features over time suggests that

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these features may be temperamental or trait-like interpersonal features of BPD in contrast to those that remit more quickly which can be considered more acute and symptomatic.

This division between more acute and symptomatic versus more persistent temperamental or trait-like features can be explained in two important ways. First, the acute interpersonal symptoms can be seen as more reactive and behaviorally dyscontrolled. In contrast, most temperamental or trait-like symptoms seem to be affective in nature. This finding seems to fit with earlier findings that affective features in BPD are more persistent than impulsive features (Zanarini et al., 2007). Second, the interpersonal features that are more destructive, that is more predictably destabilizing on relationships, fail to "survive" while the more relationship preserving features persist. These features may persist because they are more adaptive interpersonal characteristics in contrast to the more destructive behavioral characteristics outlined in the acute, symptomatic group of interpersonal features. That is, individuals with BPD may learn through the contingencies of experience which interpersonal strategies work and which do not. The finding that more destructive behaviors in the interpersonal realm remit significantly and relatively early in the course of BPD mirrors the finding that other self-destructive behaviors largely and quickly remit as well (Zanarini et al., 2008).

The five temperamental or trait-like interpersonal features identified here combine to describe the prototypical BPD attachment style, which is characterized by conflicts between dependency versus counterdependency, relationship preoccupation versus avoidance, and need versus fear (Perry & Cooper, 1986; Melges & Swartz, 1989; Gunderson, 1996; Agrawal et al., 2004). These more trait-like tempermental features may represent a more deeply ingrained fundamental attachment style, while the more acute interpersonal features reflect less enduring but maladaptive ways of coping with relationships in the context of attachment vulnerabilities.

The last interpersonal feature to remit, that is affective consequences of being alone, has been identified in clinical theory as a core feature in BPD (Modell, 1963; Winnicott, 1965; Masterson, 1972; Adler & Buie, 1979; Gunderson, 1984). Modell, Winnicott, and Masterson described the processes relevant to the developmental milestones of separation and acquiring the ability to be alone. Adler and Buie (1979) emphasized the specific inability of those who do not achieve such milestones to conjure up or evoke positive and soothing representation of others while alone (i.e., failure to achieve object constancy). Gunderson (1996) defined this as a core problem which renders borderline individuals more reactive to interpersonal slights, which in turn explains the rapid fluctuations in their interpersonal phenomenology. These descriptions of the intolerance of aloneness and failure of object constancy associated with BPD have been confirmed empirically (Richman & Sokolove, 1992) and appear to be reflected in the most persistent and stable interpersonal feature of BPD found in our study.

Our findings are consistent with the larger finding in the MSAD study that more dramatic and impulsive symptoms in BPD remit more quickly than core affectively oriented symptoms related to chronic dysphoria and interpersonal difficulties with dependency and aloneness. What this current study adds is a more detailed account of which specific facets of the interpersonal sector of symptoms in BPD are more symptomatic and acute and which symptoms are more likely to be enduring personality features. The findings in this current study diverge from the previous findings from CLPS that in a shorter period of two years of follow-up, unstable relationships are more stable than abandonment fears (McGlashan et al., 2005). The difference in the findings here and those reported in CLPS can be attributed to 1) the additional eight years included in follow-up which lend to a longer range picture of the course, 2) a difference in assessment of interpersonal features which uses a finer grained

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look at interpersonal factors that contribute to the presence of abandonment fears and unstable relations, and 3) a difference in recruitment settings.

In conclusion, the results of this study suggest that the interpersonal style of BPD consists of both symptoms that seem to be manifestations of acute illness and symptoms that seem to represent more enduring traits and temperament, which are reflective of a particular attachment style. The more interpersonally challenging and dramatic interpersonal traits associated with BPD are shown here to be relatively short-lived and symptomatic of acute phases of the illness while the more persistent and stable interpersonal traits appear to be more affectively oriented and reflect a conflicted attachment style characterized by both dependency on and avoidance of caretaking relationships.

Limitations

The main limitation of this study is that all of its subjects were initially inpatients. It may well be that the symptoms of BPD resolve more quickly for less severely ill patients. A second limitation is that most of the patients in the study were in some form of treatment over time (Zanarini et al., 2004) and thus, the results of the study may not apply to untreated borderline patients (or axis II comparison subjects). Finally, our study cannot assess what causes the changes in symptoms, whether it is natural change of normal personality, treatment, or other environmental factors.

Directions for Future Research and Clinical Care

The findings from this study point to future directions in research as well as implications for clinical care. We describe a complex model of interpersonal symptoms within BPD consisting of acute features as well as tempermental or trait-like features. One interpretation is that acute interpersonal features represent symptoms and pathological features of borderline personality disorder, while the more stable features may reflect aspects of personality which are in fact more enduring and not necessarily in themselves pathological. Another related speculative interpretation is that the more acute symptoms may represent efforts to adapt to environmental factors (however maladaptively) (Zanarini & Frankenburg, 1994) while the more persistent trait-like temperamental features may be innate, due to neurobiological and genetic factors. The question of whether the more temperamental features of the borderline interpersonal phenotype are more genetically determined than the acute features is a topic for future research (Gunderson, 2007).

Clinically, our findings may be supportive of the view that behavioral treatments, which effectively and primarily target more dramatic, destructive, and dysregulated behaviors, may be more critical in the initial phases of treatment for stabilizing such behaviors in the interpersonal realm, whereas treatments such as Transference Focused Psychotherapy (Clarkin et al., 2007) and Mentalization Based Treatment (Bateman & Fonagy, 1999) which focus on facilitating a capacity for plausible and complex mental representations of self and other in relationship, may be more effective in addressing the core, persistent, interpersonal traits in BPD. Many of the current empirical validation studies for manualized treatments for BPD focus on changes in the more dramatic and behavioral features of the illness. However, these quieter, more persistent, and still significant symptoms likely cause ongoing distress and dysfunction and should be targeted in treatments for BPD (Zanarini et al., 2007).

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Table 1

Percentage of Borderline Patients and Axis II Comparison Subjects Who Initially Exhibited Interpersonal Borderline Symptoms at Baseline and Continued to Exhibit Them at Five Contiguous Follow-up Periods

	Borderline Patients						Axis II Comparison Subjects						
	BL	**2 Yr FU**	**4 Yr FU**	**6 Yr FU**	**8 Yr FU**	**10 Yr FU**	**BL**	**2 Yr FU**	**4 Yr FU**	**6 Yr FU**	**8 Yr FU**	**10Yr FU**	**HR 95%CI p-value**
Intolerance of Aloneness													
Active efforts to avoid abandonment (85,86)	N=211	60.8	37.3	29.0	18.1	10.1	N=32	64.5	44.7	17.2	6.9	6.9	.85 .51, 1.43 0.546
Affective consequences (anxiety or depression) when alone (87,88)	N=262	77.9	62.7	52.2	38.7	23.5	N=46	65.1	43.8	36.3	31.1	12.8	.66 .42, 1.02 0.060
Abandonment/Engulfment/Anni hilation Concerns													
Fear of abandonment (90)	N=231	70.6	49.3	40.3	26.9	16.8	N=35	40.6	23.7	9.1	4.6	4.6	.35 .20, .61 <0.001
Fear of engulfment (91)	N=113	47.9	25.4	16.8	9.9	5.3	N=18	42.9	12.2	6.12	6.12	6.12	.79 .36, 1.75 0.568
Fear of annihilation (92)	N=198	56.1	35.0	22.5	13.8	6.3	N=25	43.5	13.0	8.7	0.0	0.0	.50 .26, .97 0.040
Counterdependency													
Active caretaking (94,95)	N=255	76.1	54.7	43.8	31.2	17.0	N=58	68.5	55.0	43.2	37.3	21.8	1.09 .73, 1.63 0.68
Discomfort with care (96, 97)	N=259	79.5	61.0	46.5	37.4	19.6	N=51	59.2	40.5	27.4	20.5	13.1	.55 .36, .85 0.006
Unstable Relationships													
Recurrent arguments (101)	N=208	72.8	48.7	34.7	20.8	10.4	N=34	39.0	17.7	14.2	3.5	3.5	.39 .22, .72 0.002
Recurrent breakups (102)	N=110	24.6	12.8	5.9	1.0	1.0	N=16	40.0	20.0	0.0	0.0	0.0	1.46 .55, 3.86 0.44

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	Borderline Patients						Axis II Comparison Subjects						
	BL	**2 Yr FU**	**4 Yr FU**	**6 Yr FU**	**8 Yr FU**	**10 Yr FU**	**BL**	**2 Yr FU**	**4 Yr FU**	**6 Yr FU**	**8 Yr FU**	**10Yr FU**	**HR 95%CI p-value**
Dependency (104)	N=254	72.0	55.0	42.7	34.0	16.8	N=38	46.0	24.3	18.9	16.2	8.1	.46 .28, .75 0.002
Masochism (105)	N=187	62.8	40.2	26.3	8.4	3.4	N=21	45.0	30.0	15.0	5.0	5.0	.65 .33, 1.29 0.220
Devaluation (107)	N=134	59.4	34.3	20.6	11.2	3.7	N=24	43.5	25.2	15.1	10.1	10.1	.76 .39, 1.49 0.426
Manipulation (108)	N=245	70.1	40.3	17.9	10.7	5.5	N=31	32.1	17.0	8.5	5.5	5.5	.38 .20, .72 0.003
Sadism (109)	N=94	44.8	18.2	7.4	0.0	0.0	N=13	27.3	16.4	0.0	0.0	0.0	.79 .25, 2.50 0.684
Demandingness (111)	N=168	47.7	28.3	6.4	2.4	0.5	N=18	37.5	10.2	0.0	0.0	0.0	.52 .21, 1.28 0.153
Entitlement (112)	N=114	43.8	29.0	15.6	6.7	6.7	N=13	30.8	13.2	0.0	0.0	0.0	50 .17, 1.41 0.187
Troubled Psychiatric Relationships													
Regression in individual treatment (116)	N=81	25.7	12.2	1.35	0.0	0.0	N=5	0.0	0.0	0.0	0.0	0.0	
Regression in inpatient settings (119)	N=86	47.8	13.8	3.8	1.3	0.0	N=3	33.3	0.0	0.0	0.0	0.0	
Countertransference problems with staff or individual clinicians (121, 122)	N=142	45.7	16.7	5.3	1.5	0.0	N=7	0.0	0.0	0.0	0.0	0.0	
Boundary violations in treatment (123, 124)	N=23	9.5	0.0	0.0	0.0	0.0	N=0	0.0	0.0	0.0	0.0	0.0	

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Table 2

Time-to-Remission for Interpersonal Symptoms among Subjects with BPD

Years to Remission	Number of Symptoms	Symptoms Subdivided by Time-to-Remission
0–2	9	Fear of engulfment
		Recurrent breakups
		Sadism
		Demandingness
		Entitlement
		Regression in individual treatment
		Regression in inpatient settings
		Countertransference problems
		Boundary violations
2–4	7	Active efforts to avoid abandonment
		Fear of abandonment
		Fear of annihilation
		Recurrent arguments
		Masochism
		Devaluation
		Manipulation
4–6	3	Active caretaking
		Discomfort with care
		Dependency
6–8	1	Affective/dysphoric consequences when alone