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Prediction of Time-to-Attainment of Recovery for Borderline Patients Followed Prospectively for 16 Years

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Abstract

Objective—The purpose of this study was to determine the most clinically relevant baseline predictors of time-to-recovery from borderline personality disorder.

Method—290 inpatients meeting rigorous criteria for borderline personality disorder were assessed during their index admission using a series of semistructured interviews and self-report measures. Recovery status, which was defined as concurrent symptomatic remission and good social and full-time vocational functioning, was reassessed at eight contiguous two-year time periods. Survival analytic methods (Cox regression), which controlled for overall baseline severity, were used to estimate hazard ratios and their confidence intervals.

Results—All told, 60% of the borderline patients studied achieved a two-year recovery. In bivariate analyses, seventeen variables were found to be significant predictors of earlier time-to-recovery. Six of these predictors remained significant in multivariate analyses: no prior psychiatric hospitalizations, higher IQ, good full-time vocational record in two years prior to index admission, absence of an anxious cluster personality disorder, high extraversion, and high agreeableness.

Conclusions—Taken together, the results of this study suggest that prediction of time-to-recovery for borderline patients is multifactorial in nature, involving factors related to lack of chronicity, competence, and more adaptive aspects of temperament.

Two recent large-scale, long-term studies of the prospective course of borderline personality disorder (BPD) have documented high rates of symptomatic remission (1–3). However, one of these studies also assessed the more complex outcome of recovery—which was defined as symptomatic remission that was concurrent with good social and good full-time vocational functioning (3). In this study—the McLean Study of Adult Development (MSAD)—99% of borderline patients had attained a two-year remission of their BPD and 60% had attained a two-year recovery after 16 years of prospective follow-up.

However, the only information on predictors of the overall outcome of borderline personality disorder comes from four large-scale, long-term, follow-back studies that were

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conducted in the 1980s (4–7). Each of these studies (5,7–10) tried to determine the best predictors of general outcome a mean of 14–16 years after index admission. Five factors were found to be associated with a good long-term outcome: high IQ (7,8), being unusually talented or physically attractive (if female) (7), the absence of parental divorce and narcissistic entitlement (10), and the presence of physically self-destructive acts during the index admission (8). Nine factors were found to be associated with a poor long-term outcome: affective instability (8), chronic dysphoria (5), younger age at first treatment (5), length of prior hospitalization (8), antisocial behavior (7), substance abuse (7), parental brutality (7), a family history of psychiatric illness (5), and a problematic relationship with one's mother (but not one's father) (9).

While all of these studies of the course of BPD provided useful information and were considered state of the art at the time that they were conducted, all of them also suffered from one or more methodological problems that limited what could be generalized from their results. Chief among these limitations were the following: use of chart reviews to diagnose BPD, no comparison group or the use of less than optimal comparison subjects, many important predictor variables were either not assessed at all or were only assessed in the most rudimentary manner, typically only one post-baseline reassessment, non-blind post-baseline assessments, and variable number of years of follow-up in the same study. In addition, only one of these studies used a socioeconomically representative sample (5) and the results of this study may be misleading as it had a very low trace rate (32%). In addition, none of these studies assessed change from baseline. And none operationally defined the elements that comprise a good long-term outcome.

Aims of the Study

The study described below is the first study to assess the relationship between a full array of clinically relevant predictor variables assessed at baseline and time-to-recovery, which was assessed at eight contiguous two-year time periods. The sample of borderline patients being studied is large, carefully diagnosed, and socioeconomically diverse. In addition, all three aspects of two-year recovery (symptomatic remission, good social functioning, and good full-time vocational functioning) were assessed blind to baseline predictor values.

Methods

As noted above, the current study is part of a multifaceted longitudinal study of the course of borderline personality disorder--the McLean Study of Adult Development (MSAD) (11). All 290 borderline subjects were initially inpatients at McLean Hospital in Belmont, Massachusetts. Each patient was first screened to determine that he or she: 1) was between the ages of 18–35; 2) had a known or estimated IQ of 71 or higher; 3) had no history or current symptoms of an organic condition that could cause serious psychiatric symptoms (e.g., lupus, MS), schizophrenia, schizoaffective disorder, or bipolar I disorder; and 4) was fluent in English.

After the study procedures were explained, written informed consent was obtained. Each patient then met with a masters-level interviewer blind to the patient's clinical diagnoses for

a thorough psychosocial/treatment history and diagnostic assessment. Four semistructured interviews were administered. These diagnostic interviews were: 1) the Background Information Schedule (12,13), 2) the Structured Clinical Interview for DSM-III-R Axis I Disorders (14), 3) the Revised Diagnostic Interview for Borderlines (15), and 4) the Diagnostic Interview for DSM-III-R Personality Disorders (16). The inter-rater and test-retest reliability of the Background Information Schedule (12,13) and of the three diagnostic measures (17,18) have all been found to be good-excellent.

Childhood history of pathological and protective experiences, family history of psychiatric disorder, and adult experiences of violence were assessed using three semistructured interviews by a second rater blind to all previously collected information. Childhood experiences were assessed using the Revised Childhood Experiences Questionnaire (19), family history of psychiatric disorder was assessed using the Revised Family History Questionnaire (20), and adult experiences of violence were assessed using the Abuse History Interview (21). The inter-rater reliability of these three interviews has also been found to be good-excellent (22–24). In addition, self-report measures with well-established psychometric properties assessing temperament and intelligence were administered: the NEO Five Factor Inventory (25) and the Shipley Institute of Living Scale (26).

At each of eight follow-up waves, separated by 24 months, diagnostic status was reassessed via interview methods similar to the baseline procedures by staff members blind to baseline diagnoses. After informed consent was obtained, our diagnostic battery was re-administered. Social and vocational functioning was assessed at each time period using the follow-up analog of the Background Information Schedule.

We selected a Global Assessment of Functioning (GAF) score of 61 or higher as our measure of two-year recovery because it offers a reasonable description of a good overall outcome (i.e., some mild symptoms or some difficulty in social, occupational, or school functioning, but generally functioning pretty well, has some meaningful interpersonal relationships). We also chose it because it was close to the description of a good overall outcome used by the four follow-back studies described above (4–7). However, we operationalized this score to enhance its reliability and meaning. More specifically, to be given this score or higher, a subject typically had to have achieved a symptomatic remission, have at least one emotionally sustaining relationship with a close friend or life partner/spouse, and be able to work or go to school consistently, competently, and on a full-time basis (which included being a houseperson) during the two-year interval.

Statistical Analyses

Descriptive statistics for categorical data are reported as % (N); summaries of continuous data are reported as means with standard deviations (SD).

The Kaplan-Meier product-limit estimator (of the survival function) was used to assess time-to-two-year recovery. We defined time-to-attainment of this outcome as the follow-up period at which recovery was first achieved. Thus, possible values for this time-to-recovery measure were 1–8, with time=1 for persons first achieving recovery at the first two-year

follow-up period, time=2 for persons first achieving recovery at the second two-year follow-up period, etc.

Cox proportional hazards survival analyses were used to assess both bivariate and multivariate predictors of recovery. All of the Cox regression analyses adjusted for the effects of overall baseline severity (as assessed by baseline GAF scores) and provided estimates of the hazard ratios and their 95% confidence intervals (95% CIs).

In carrying out the time-to-recovery analyses summarized in this report, we first assessed the relationship between each baseline predictor variable and time-to-recovery. These 41 variables are laid out in 10 groupings or “families” of predictors and these families are similar to those used in recent studies of the course of dysthymic disorder (27) and bipolar I disorder (28). They are also the same predictors we used at 10-year follow-up to assess the best predictive model for time-to-remission (29).

To select the most salient subset of factors that are predictive of time-to-recovery, we entered all the significant ($p < 0.05$, 2-tailed) variables from the bivariate analyses simultaneously and followed a backward deletion procedure until all variables remaining were statistically significant at 2-tailed $p < 0.01$.

Results

Two hundred and ninety patients met both revised Diagnostic Interview for Borderlines and DSM-III-R criteria for borderline personality disorder. In terms of baseline demographic data, 80.3% ($N=233$) of the subjects were female and 87.2% ($N=253$) were white. The average age of the borderline subjects was 26.9 years ($SD=5.8$), their mean socioeconomic status was 3.4 ($SD=1.5$) (where 1=highest and 5=lowest), and their mean GAF score was 38.9 ($SD=7.5$) (indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood).

In terms of continuing participation, 87.5% ($N=231/264$) of surviving borderline patients were reinterviewed at all eight follow-up waves. Of the 26 who died, 13 committed suicide and 13 died of other causes.

Over the 16 years of follow-up, 60% of the borderline patients with at least one follow-up interview had a two-year recovery (3). In terms of time-to-recovery, 26% ($N=39$) of the 150 borderline patients who experienced a recovery first recovered by two-year follow-up, 22% ($N=33$) first recovered by four-year follow-up, 16% ($N=24$) first recovered by six-year follow-up, 11.3% ($N=17$) first recovered by eight-year follow-up, 6.7% ($N=10$) first recovered by 10-year follow-up, 4.7% ($N=7$) first recovered by 12-year follow-up, 10% ($N=15$) first recovered by 14-year follow-up, and 3.3% ($N=5$) first recovered by 16-year follow-up.

Figure 1 shows time-to-recovery graphically. It can be seen that the rate of recovery was faster in the first few rather than the later waves of follow-up.

Table 1 presents the baseline bivariate predictors of time-to-recovery. (As noted above, each row represents a separate survival analysis that controlled for the effect of overall baseline severity). As can be seen, 17 of the 41 variables considered were found to be significant in these bivariate analyses. These 17 variables are: younger age, no prior psychiatric hospitalizations, less severe childhood abuse of a verbal/emotional/physical nature, less severe childhood neglect, less severe violence witnessed as a child, higher degree of childhood competence, higher IQ, absence of ADHD, no family history of substance use disorder, absence of PTSD, absence of an odd cluster personality disorder, and absence of an anxious cluster personality disorder, a good vocational record (i.e., able to work or go to school competently, consistently, and on a full-time basis), number of friends, and three facets of normal personality (low neuroticism, high extraversion, and high agreeableness).

As an example of how to interpret results for a categorical predictor, the adjusted hazard ratio for age dichotomized at the median of 26 is 2.17. This suggests younger (25 years of age and younger) borderline patients are approximately twice as likely to achieve an earlier recovery when compared to older (26 years of age and older) borderline patients. As an example of how to interpret results for a continuous predictor, the adjusted hazard ratio for IQ is 1.05. This suggests that that each 5-point increase in IQ is associated with a 28% (or $HR = [1.05]^5 = 1.28$) increase in the likelihood (or hazard) of an earlier recovery.

Table 2 shows the significant multivariate predictors of earlier time-to-recovery. As in the analyses summarized in Table 1, baseline GAF score was included in these analyses to control for overall baseline severity. As can be seen, the remaining six predictors break down into three groups. The first, comprised of no prior psychiatric hospitalizations, is an indicator of lack of chronicity. The second concerns competence: higher IQ and good vocational record in the past two years. The third is comprised of three predictors representing underlying aspects of temperament: absence of the anxious cluster personality traits commonly found in borderline patients (30,31), and high extraversion and high agreeableness, two elements of the five-factor model of normal personality believed to underlie borderline psychopathology (32).

Discussion

All families of predictors were represented in the significant bivariate predictors of time-to-recovery, except for experiences of adult adversity. Thus, factors pertaining to demographics, treatment history, adverse childhood experiences, protective childhood experiences, family history of psychiatric disorder, co-occurring axis I disorders, axis II co-occurrence, facets of normal personality, and psychosocial functioning in the two years prior to index admission were all found to have a significant relationship to time-to-recovery. More specifically, 17 of the predictor variables that were studied were found to significantly predict earlier time-to-recovery after controlling for baseline severity. One of these predictors is demographic in nature (younger age), while another pertains to treatment history (no prior psychiatric hospitalizations). Three are from the adverse childhood experiences family of predictors (less severe childhood abuse of a verbal/emotional/physical nature, less severe childhood neglect, less severe violence witnessed as a child), three pertain to childhood protective factors (higher degree of childhood competence, higher IQ,

and the absence of ADHD), and one pertains to family history of psychiatric disorder (no family history of substance use disorder). Three are co-occurring disorders (absence of PTSD, absence of odd cluster personality disorders, and absence of anxious cluster personality disorders) and three are aspects of normal personality (low neuroticism and high extraversion and high agreeableness). Finally, two are elements of recent psychosocial functioning (a good full-time vocational record and number of friends).

The variables that were not found to be significant in these bivariate analyses are also interesting because of their presumed clinical importance (e.g., gender, early childhood separations, childhood sexual abuse) and the fact that some of them (e.g., younger age at first treatment, substance abuse, absence of parental divorce) have been found to be significant predictors of outcome in follow-back studies of the long-term course of borderline personality disorder (5,7,10).

The lack of a significant bivariate relationship between childhood sexual abuse and time-to-recovery is probably the most important of these factors. Many clinicians believe that a history of childhood sexual abuse leads to the development of key symptoms of borderline personality disorder (33). Some clinicians also believe that this type of abuse in childhood makes it very difficult, if not impossible, for someone to function effectively as an adult. The results of this study suggest that this may not be true for all borderline patients with such a history. In fact, the severity of other forms of childhood abuse, the severity of neglect, and the severity of witnessed violence all were significant bivariate predictors of time-to-recovery—suggesting that they play a more pronounced role in the overall symptomatic and functional outcome of those with borderline personality disorder than a childhood history of sexual abuse. Or looked at another way, childhood sexual abuse may well play a role in the development of BPD but it does not seem to directly play a role in recovery from BPD—which as noted below—seems more related to innate endowment or temperamental factors.

In terms of significant multivariate predictors, six of the bivariate predictors remained significant after controlling for overall baseline severity: no prior psychiatric hospitalizations, higher IQ, good vocational record, absence of an anxious cluster personality disorder, high extraversion, and high agreeableness. In terms of specific variables, one is associated with a lack of chronicity: no prior psychiatric hospitalizations. It is not surprising that borderline patients who have never been hospitalized before would have a better prognosis than borderline patients with a history of multiple hospitalizations. However, this finding may also represent a cohort effect as the length of hospitalizations shortened dramatically as the study was beginning and their purpose changed from emotional growth to symptom stabilization—both of which probably lessened the chances of a serious regression.

Two other variables are associated with competence: a higher IQ and a stable work or school history in the two years prior to index admission. Being more intelligent may make it easier to put the past in perspective or at least enhance one's chances of learning new ways of coping with old grievances and seemingly ingrained maladaptive patterns. Having a steady vocational record in the two years prior to index admission suggests a greater likelihood of

having the ability to work or go to school competently, consistently, and on a full-time basis over the years of follow-up, which is part of our definition of recovery, than someone who never had such a record or who had such a record of vocational achievement but relinquished it more than two years ago

The final three variables associated with an earlier time-to-recovery are aspects of temperament: being without the avoidance and dependency of anxious cluster personality disorders as well as exhibiting higher levels of extraversion and agreeableness. In the five-factor model, extraversion includes positive emotions as well as being outgoing, while agreeableness includes being cooperative as well as compassionate (25).

All three of these temperamental predictors suggest an easier path to fulfilling our definition of good social functioning—having a stable relationship with a close friend or spouse/life partner—than being avoidant, introverted, and/or prone to aggravation at the slightest disappointment or disagreement. All three may also make it easier to achieve a good vocational record—another part of our definition of recovery. Many borderline patients avoid getting a job or going to school, particularly on a full-time basis, because they fear that it will make them too anxious or overwhelmed. And being more outgoing makes it easier to deal with the interpersonal aspects of work or school. In addition, being more understanding of others may well lead to less conflict at work or school and opens the door to the possibility that this arena of functioning could lead to new sustaining relationships as well as a sense of accomplishment. In any event, full-time work or school provides structure to one's life and some degree, however limited, of social interaction.

The “families” of predictors that did not contribute to our multivariate model of factors associated with recovery are also telling: demography, childhood adversity, family history of psychiatric disorder, axis I psychopathology, and adult adversity or experiences of violence as an adult. In an earlier study, both the absence of childhood sexual abuse and the absence of a family history of substance use disorder were found to be significant multivariate predictors of time-to-remission from borderline personality disorder after 10 years of prospective follow-up (29). It may be that these factors are less relevant to recovery than remission. It may also be that their effect is attenuated after six additional years of follow-up.

The overall take home message of this study is that time-to-recovery is more related to enduring attributes that borderline patients may have than to things that were done to them or things that were not done for them. Nor to the axis I pathology from which they suffered or disorders that “ran” in their families through genetics, social learning, or some combination of the two.

The results of this study suggest that intelligence and industriousness, coupled with a more outgoing and empathic and less avoidant nature, may be the foundation upon which recovery rests. Yet as we have noted before, none of the five comprehensive empirically-based treatments for borderline personality disorder are aimed at these factors (34). In terms of remediation, we have suggested developing treatments focused on helping borderline patients learn to cope with temperamental symptoms or aspects of their personalities that are

less than helpful (34). We have also suggested a rehabilitation model for those borderline patients who cannot get a job or stay in school (3). And this is the crux of the matter, as we have previously found that the inability to work or go to school productively and on a full-time basis is the strongest reason for failure to achieve recovery or its loss for those with BPD (35).

In many ways, these results are sobering as they stress inborn abilities or aspects of temperament rather than adverse events that may have occurred or co-occurring illnesses that may have been experienced personally or in one's family. It is of course possible that these events and psychiatric disorders, such as childhood sexual abuse or PTSD, may have shaped the expression of one's abilities or negatively impacted one's temperament prior to index admission. In any case, patients, family members, and clinicians will have to work together to help the person with BPD to "get around" these factors if treatments are not available that focus on resilience in work or school or provide assistance in altering the expression of one's temperament just enough that it does not present a problem going forward. No one expects shy people to suddenly become outgoing but perhaps they can work on lessening the severity of the experiential avoidance that may be holding them back vocationally and socially. In a like manner, no one expects everyone with BPD to rapidly become very cooperative and compassionate but perhaps they may be amenable to handling things just differently enough that they get along with others more smoothly.

In addition, four recent studies have found that BPD and its four constituent sectors of psychopathology or the nine symptoms of BPD are highly heritable (36–39). This heritability may have partially underpinned some of the predictors of recovery that were found to be significant in multivariate analyses. For example, the heritability of interpersonal factors related to BPD may be related inversely to the absence of avoidant features and the higher levels of extraversion and agreeableness that were found to be strongly associated with time-to-recovery from BPD.

This study has two main limitations. One limitation of this study is that all of the patients were seriously ill inpatients at the start of the study. Another limitation is that about 90% of the borderline patients were in individual therapy and taking psychotropic medications at baseline (40). Thus, it is difficult to know if these results would generalize to a less disturbed group of patients or people meeting criteria for borderline personality disorder who were not in treatment—which in most cases was treatment as usual in the community as these predictors were assessed before the development and dissemination of the five comprehensive empirically-based treatments for borderline personality disorder.

In terms of directions for future research, it would be important to determine the best predictive model for loss of recovery as well as recurrence of BPD. It would also be important to determine the percentage of those with BPD who never recover, those with a stable recovery, and those with an oscillating course. We have presented some data pertaining to the loss of recovery after recoveries of various lengths (3) but are waiting until 20 years of prospective follow-up are complete to make a final determination of these outcomes and the best predictive model for stable vs. oscillating course.

Taken together, the results of this study suggest that prediction of time-to-recovery from BPD is multifactorial in nature, involving factors related to lack of chronicity, competence, and more adaptive aspects of temperament.

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Significant Outcomes

- Lack of chronicity as represented by the absence of a history of prior psychiatric hospitalizations was a strong multivariate predictor of time-to-recovery from BPD.
- Higher IQ and a good premorbid work or school record (i.e., being more industrious) were elements of competence related to this outcome.
- A temperament marked by low avoidance and dependence as well as by high positive emotions and a more cooperative style was also significantly related to time-to-recovery from BPD.
- No form of childhood or adult adversity, no type of axis I psychopathology, and no family history of psychiatric disorder was a significant multivariate predictor of time-to-recovery.

Limitations

- All subjects were initially inpatients and thus, the results of this study may not apply to less seriously ill outpatients or nonpatients.
- The majority of the sample was in outpatient treatment at study entry (typically treatment as usual in the community) and thus, the results may not generalize to untreated subjects.

Figure 1.
Cumulative Rates of Recovery over 16 Years of Prospective Follow-up

Table 1

Baseline Predictors of Time-to-Recovery over 16 Years of Prospective Follow-up

	% (N)	Mean (SD)	Hazard ^a Ratio	Z	P	95% CI
Demographic Characteristics						
25 Years Old or Younger at Index Admission (median age=26)	44.5 (N=129)		2.17	4.30	<0.001	1.53, 3.09
Female	80.3 (N=233)		1.05	0.22	0.824	.66, 1.67
White	87.2 (N=253)		.64	-1.74	0.082	.39, 1.06
Treatment History						
Age of Onset of Symptoms		10.8 (SD=5.3)	1.02	1.19	0.232	.99, 1.06
Age of First Treatment		17.3 (SD=6.2)	.99	-1.06	0.290	.96, 1.01
No Prior Hospitalizations	21.4 (N=62)		2.75	4.91	<0.001	1.84, 4.12
Pathological Childhood Experiences						
Absence of Sexual Abuse	37.6 (N=109)		1.40	1.82	0.068	.98, 2.00
Severity of Other Forms of Abuse		7.3 (SD=5.3)	.96	-2.45	0.014	.93, .99
Severity of Neglect		14.7 (SD=11)	.98	-2.37	0.018	.96, .99
Early Childhood Separations		0.9 (SD=2.8)	1.00	-0.03	0.974	.94, 1.07
No Parental Divorce	60.0 (N=174)		1.08	0.42	0.672	.76, 1.54
Severity of Witnessed Violence		3.4 (2.5)	.91	-2.58	0.010	.85, .98
Protective Childhood Experiences/Factors						
Degree of Childhood Competence		7.6 (SD=4.0)	1.06	2.66	0.008	1.02, 1.11
Number of Positive Relationships		7.2 (SD=4.1)	1.04	1.83	0.067	.99, 1.08
Degree of Parental Competence		17.7 (7.3)	1.01	1.16	0.246	.99, 1.04
Higher IQ		104.2 (SD=12)	1.05	5.14	<0.001	1.03, 1.07
No Attention Deficit Hyperactivity Disorder	72.4 (N=210)		1.69	2.44	0.015	1.11, 2.57
Family History of Psychiatric Disorder						
No Mood Disorder	26.6 (N=77)		1.26	1.17	0.243	.86, 1.85
No Substance Use Disorder	30.3 (N=88)		1.50	2.18	0.029	1.04, 2.16
No Anxiety Disorder	43.8 (N=127)		1.04	0.20	0.845	.73, 1.47
No Eating Disorder	71.7 (N=208)		.69	-1.90	0.057	.48, 1.01

	% (N)	Mean (SD)	Hazard ^a Ratio	Z	P	95% CI
Lifetime Axis I Disorders						
No Dramatic Cluster Disorder	65.2 (N=189)		1.06	0.32	0.750	.74, 1.52
Absence of Mood Disorder	3.1 (N=9)		2.14	1.39	0.165	.73, 6.25
Absence of Substance Use Disorder	37.9 (N=110)		.97	-0.19	0.852	.68, 1.38
Absence of PTSD	41.7 (N=121)		1.70	2.95	0.003	1.20, 2.41
Absence of Another Anxiety Disorder	19.7 (N=57)		1.49	1.86	0.062	.98, 2.28
Absence of Eating Disorder	46.2 (N=134)		1.15	0.80	0.426	.81, 1.63
Co-occurring Axis II Disorders						
Absence of Odd Cluster Disorder	74.1 (N=215)		1.54	1.96	0.050	.99, 2.37
Absence of Anxious Cluster Disorder	30.7 (N=89)		2.05	3.82	<0.001	1.42, 2.96
Absence of Non-BPD Dramatic Cluster Disorder	65.2 (N=189)		1.35	1.48	0.139	.91, 2.02
Aspects of Normal Temperament						
Neuroticism		35.1 (SD=7.0)	0.95	-4.06	<0.001	.93, .97
Extraversion		22.6 (SD=7.0)	1.05	3.64	<0.001	1.02, 1.08
Openness		29.8 (SD=6.6)	1.02	1.73	0.083	.99, 1.05
Agreeableness		30.4 (SD=6.7)	1.05	3.39	0.001	1.02, 1.08
Conscientiousness		28.6 (SD=7.8)	1.01	0.74	0.458	.99, 1.03
Aspects of Adult Competence (in the two years prior to index admission)						
Good Vocational Record (worked or went to school competently, consistently, and on a full-time basis)	34.5 (N=100)		2.08	3.82	<0.001	1.43, 3.03
Emotionally Sustaining Relationship with Partner	33.5 (N=97)		1.42	1.92	0.054	.99, 2.03
Emotionally Sustaining Relationship with Parent(s)	42.4 (N=123)		1.10	0.55	0.583	.78, 1.56
Number of Friends		3.9 (SD=3.5)	1.08	3.44	0.001	1.03, 1.13
Adult Adversity						
No Adult Rape History	68.6 (N=199)		1.37	1.54	0.124	.92, 2.03
No Physically Violent Partner	66.9 (N=194)		1.13	0.64	0.523	.77, 1.67

^a Hazard ratio > 1.0 indicates greater likelihood of earlier recovery.

Table 2

Significant Multivariate Predictors of Time-to-Recovery

Factor	Hazard ^a Ratio	SE	Z	P	95% CI
No Prior Psychiatric Hospitalizations	2.41	.54	3.91	<0.001	1.55, 3.76
Higher IQ	1.04	.01	4.53	<0.001	1.02, 1.06
Good Vocational Record	2.03	.42	3.39	0.001	1.35, 3.05
Absence of Co-occurring Anxious Cluster Psychopathology	1.69	.34	2.63	0.009	1.14, 2.50
Higher Extraversion Score	1.04	.02	2.73	0.006	1.01, 1.07
Higher Agreeableness Score	1.04	.01	3.07	0.002	1.02, 1.07

^a Hazard ratio > 1.0 indicates greater likelihood of earlier recovery.