Journal of Family Psychology
2008, Vol. 22, No. 6, 885–893

0893-3200/08/$12.00 DOI: 10.1037/a0013673

Features of Borderline Personality Disorder, Perceived Childhood Emotional Invalidation, and Dysfunction Within Current Romantic Relationships

Edward A. Selby, Scott R. Braithwaite, Thomas E. Joiner Jr., and Frank D. Fincham
Florida State University

The mechanisms through which current romantic relationship dysfunction develops in individuals with borderline personality disorder (BPD) symptoms are still unclear. One possible pathway may be childhood experiences of emotional invalidation by parents, which may result in the development of poor social problem-solving skills or cognitive responses such as splitting, which impair current romantic relationships. This study examines the relationship between features of BPD and current romantic relationship dysfunction, and demonstrates that perceived emotional invalidation by parents during childhood mediates the relationship between BPD features and current romantic relationship dysfunction. Structural equations modeling was used to test the hypothesized model in 758 young adults in an ethnically diverse community sample. The proposed model fit the data well; perceived childhood emotional invalidation partially mediated the relationship between features of BPD and romantic relationship dysfunction, even when controlling for the presence of a major depressive episode in the last year. The findings of this study suggest that individuals with features of BPD experience relationship dysfunction that cannot be accounted for by comorbid depression and that perceived childhood emotional invalidation may contribute to these problems.

Keywords: borderline personality disorder, romantic relationships, emotional invalidation, depression

One of the hallmarks of borderline personality disorder (BPD) is the presence of stormy interpersonal relationships. Specifically, individuals with BPD often experience "a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation" (American Psychiatric Association, 1994, p. 710). Yet, the mechanisms through which these interpersonal problems may develop are still unclear. One construct that may provide some insight into these issues is emotional invalidation (Linehan, 1993). Emotional invalidation refers to pervasive criticizing, or trivializing of the communication of internal experiences, as well as repeated punishment of appropriate emotional expression coupled with intermittent reinforcement of extreme emotional displays. An important form of emotional invalidation that may contribute to the development of BPD symptoms is childhood emotional invalidation by parents. Parental emotional invalidation may have particularly important implications for current relationship functioning because childhood emotional invalidation may influence an individual's current romantic relationships through the development of difficulties in social problem-solving abilities or cognitive disturbances such as splitting. The purpose of this study was to explore the effect of BPD symptomatology on current romantic relationships and furthermore, to examine whether perceived childhood emotional invalidation mediates the relationship between BPD symptomatology and current romantic relationship dysfunction. Another purpose of this study was to test the robustness of the relationship between features of BPD and current romantic relationship dysfunction in the presence of depression.

BPD and Relationship Impairment

Current research documents a connection between BPD and problems with general interpersonal functioning. For example, Zeigler-Hill and Abraham (2006) found that individuals with high levels of BPD features reported experiencing more key negative interpersonal events during a period of self-monitoring than did non-BPD controls. They also found that state self-esteem and feelings of rejection of individuals with high levels of BPD features were influenced by interpersonal stress. In another self-monitoring study, Russell, Moskowitz, Zuroff, Sookman, & Paris (2007) found that individuals with BPD demonstrated less dominant, more submissive, and more quarrelsome interpersonal behavior than did a nonclinical

Edward A. Selby, Scott R. Braithwaite, Thomas E. Joiner Jr., and Frank D. Fincham, Department of Psychology, Florida State University.

Correspondence concerning this article should be addressed to Thomas E. Joiner Jr., Florida State University, Tallahassee, FL 32306-1270. E-mail: joiner@psy.fsu.edu

control group. Finally, Bagge et al. (2004) examined BPD features in young adults and found that BPD features prospectively predicted social maladjustment, even when controlling for Axis I and II pathology. In this study, the researchers operationalized social maladjustment as dysfunction in academic work, social leisure activities, relationships with extended family, and occupational functioning.

Some evidence also suggests a more specific association between BPD symptomatology and romantic relationship dysfunction. In a recent assessment of social network functioning, Clifton, Pilkonis, and McCarty (2007) found that individuals with BPD had a greater number of former romantic relationship partners and terminated more relationships in their social network in comparison with patients with no personality disorder diagnosis. Furthermore, Hill and colleagues (2008) found evidence that BPD was the only disorder that specifically predicted romantic relationship dysfunction (including both Axis I and Axis II disorders), although individuals with BPD reported social difficulties at work and with friends as well.

Although the study by Hill et al. (2008) found that individuals with BPD had more romantic relationship dysfunction when compared with other Axis I and II disorders, other studies suggest that the effects of BPD symptomatology on romantic relationships may be attenuated when accounting for depression and other personality disorders. Skodol et al. (2002) found that individuals with Obsessive Compulsive, Avoidant, Schizotypal, and Borderline Personality disorders experienced more impairment than did depressed individuals across a number of different types of interpersonal relationships except romantic relationships. In another study, Daley, Burge, and Hammen (2000) tracked high school– aged girls over 4 years and explored the effects of Axis II psychopathology on romantic relationships. They found that individuals with BPD had significantly more romantic relationships, more conflict in those relationships, lower partner satisfaction in those relationships, and higher rates of unplanned pregnancy and abuse by a romantic partner. These associations disappeared, however, when symptoms of depression and non-BPD Axis II symptoms were included in the statistical model. Thus, more research is needed to determine the robustness of the relationship between BPD and romantic relationship dysfunction in the context of other conditions such as depression.

Emotional Invalidation and BPD Symptomatology

One important theory of the development of interpersonal dysfunction in BPD is Linehan's biopsychosocial theory (Linehan, 1993). This theory states that emotional invalidation from others results in emotional and behavioral dysregulation in the individual with BPD symptomatology. Although emotional invalidation has not been explored much in research, there is some evidence that childhood emotional invalidation may play a role in BPD interpersonal dysfunction. For example, Klonsky, Oltmanns, Turkheimer, Fiedler (2000) found that individuals with features of BPD reported increased feelings of conflict with parents and less support from their families during childhood, even after controlling for general personality pathology. Furthermore, patients with BPD tend to report decreased parental support and involvement (Zanarini et al., 1997). There are a number of plausible ways in which childhood emotional invalidation may contribute to poor relationship functioning in individuals with symptoms of BPD. For example, the experience of childhood emotional invalidation may interfere with the development of social problem-solving skills, leaving individuals who later develop symptoms of BPD without knowledge of appropriate ways to handle difficulties within romantic relationships (Bray, Barrowclough, & Lobban, 2007). This may be because reasonable attempts at social problem-solving (such as trying to communicate a problem) are discouraged or punished in an invalidating environment, forcing individuals with BPD to resort to extreme strategies such as threatening or pleading.

Another possibility is that childhood emotional invalidation may result in a cognitive disturbance where perceptions of others fluctuate between dichotomies such as "good" and "bad," often referred to as "splitting." Graham and Clark (2006) have suggested that splitting may be a cognitive phenomenon in which individuals with low self-esteem (relevant to individuals with BPD, who have been found to have unstable self-esteem; Zeigler-Hill & Abraham, 2006) functionally segregate negative and positive information about a relationship partner in their memory, and their perceptions of that person shift according to which category is activated in their memory at the time (in contrast to high-self-esteem individuals who integrate these memories). Childhood emotional invalidation may contribute to this phenomenon because it may contribute to unstable self-esteem, which may result in more dichotomous views of others. Alternatively, variability in emotional invalidation by parents may result in individuals having experienced their parents as either good or bad most of the time depending on how the parent acted toward them (i.e., most of the time the parent may have responded negatively toward them, but there may have been occasional positive interactions). Another plausible reason that childhood emotional invalidation may contribute to romantic relationship dysfunction is that it may lead to global perceptions of invalidation within a relationship, whether invalidation is actually present or not. For example, an individual with BPD may perceive a partner's innocuous actions (such as spending time with friends) as invalidation because of negative attribution biases (i.e., fears of abandonment), which were learned in childhood in part via parental emotional invalidation.

In the following study we hypothesized that the presence of BPD features (at both clinical and subclinical levels) would predict current romantic relationship dysfunction (see Figure 1). Exploring features of BPD, especially in the context of romantic relationship dysfunction, is important because current evidence supports the presence of BPD symptoms on a continuum rather than as a taxon (Rothschild, Cleland, Haslam, & Zimmerman, 2003), meaning that individuals with subclinical features of BPD may still experience relevant dysfunction, just at a less severe level. For

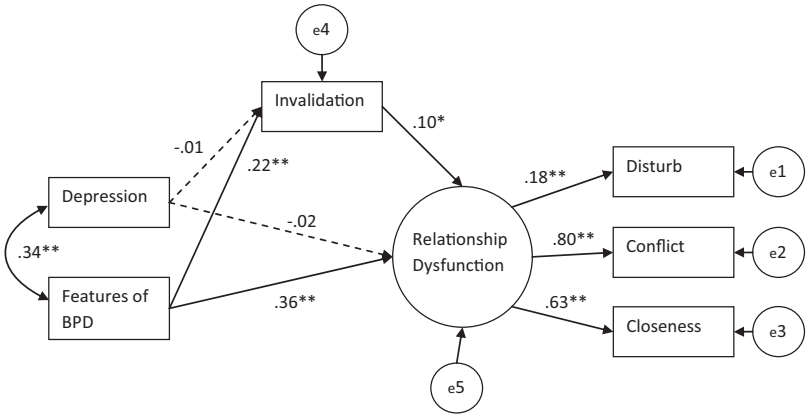

Figure 1. Display of Model 1: partial mediation. $N = 758$. Dashed lines indicate nonsignificant paths. Invalidation = perceived childhood emotional invalidation, BPD = features of borderline personality disorder, Disturb = relationship disturbances, Conflict = relationship conflict, Closeness = closeness to partner. All path coefficients are standardized. Asterisk indicates path significant at $p < .05$; double asterisk indicates path significant at $p < .001$.

instance, Daley et al. (2000) found that nonspecific cluster B symptomatology was more predictive of romantic relationship dysfunction than was an outright diagnosis of BPD. There have also been suggestions that future versions of the DSM may take a dimensional view of personality disorders (Widiger & Trull, 2007), so examination of the entire continuum of personality disorder symptoms is warranted.

Additionally, we hypothesized that perceived childhood emotional invalidation would mediate the relationship between BPD and current romantic relationship dysfunction. We hypothesized that invalidation would mediate this relationship because the experience of childhood emotional invalidation may cause deficits in developing social problem-solving skills, and the invalidation may also result in the development of maladaptive cognitions and beliefs. These developmental problems, which may be impacted by invalidation, may then lead to problems in romantic relationships as an adult. Another purpose of this study was to explore whether the functional impairment in romantic relationships associated with BPD symptomatology was incremental to the impairment associated with a diagnosis of Major Depressive Disorder (MDD). This is important because the relationship between BPD and romantic relationship problems has not maintained significance after controlling for depression in a few studies (Daley et al., 2000; Skodol et al., 2002). In these studies, diagnoses of depression accounted for more variance in relationship dysfunction than did BPD diagnoses. As such, diagnosis of MDD in the past year was included in our model as a fixed covariate.

Method

Participants

This study consisted of a representative community sample of 758 participants (48% female) between the ages of 18 and 23, all of whom were interviewed as part of a larger study ($N = 1803$) on substance abuse in young adults. These data were collected between 1998 and 2000 as part of a follow-up to an original investigation when the participants were in middle and high school in Miami–Dade County (for more information, see Vega & Gil, 1998, and Turner & Gil, 2002). All 48 of the county's public middle schools and all 25 public high schools and alternative schools participated in the previous investigation. For inclusion in the current study all participants were required to report currently being in a romantic relationship. All participants completed face-to-face (70%) or phone (30%) interviews. The larger sample was purposely recruited to have much higher proportions of ethnic minorities, with the subsample in this report containing 27% ($N = 202$) non-Hispanic White (Caucasian) participants, 46% ($N = 346$) Hispanic participants, 23% ($N = 173$) African-American participants, 2% ($N = 20$) mixed Hispanic/African- American participants, and 2% ($N = 16$) other. The subsample used for this study was representative of the larger sample with respect to gender, ethnicity, and age. Informed consent was obtained from all study participants after complete description of the study to the participants. The institutional review board of Florida State University approved the procedures used for obtaining informed consent and protecting the rights and welfare of the participants.

Measures

BPD features. Participants answered eight questions taken from the International Personality Disorder Examination (IPDE) screening questionnaire (Loranger et al., 1994), designed to measure BPD symptoms. Participants were asked to answer each of these questions with regard to how they felt about themselves on a 3-point Likert scale (1 = *very true*, 2 = *somewhat true*, and 3 = *not at all true*). All items were summed (and reverse coded as needed) so that a higher score indicates a greater number of BPD features present in the participant, resulting in a scale that measures

not only potentially clinical symptoms of BPD, but subclinical symptoms as well. The items used in the IPDE screener have evidence supporting their validity for assessing personality disorder pathology, with high scores on the screening questions indicating a higher probability of personality disorder diagnosis obtained with structured clinical interviews (Lenzenweger, Loranger, Korfine, & Neff, 1997). Cronbach's alpha for the BPD items was .66, and the items for this measure are reported in the Appendix. Although the Cronbach's alpha for this measure is somewhat low, this may reflect the true nature of the BPD construct. Factor analytic studies suggest that the BPD construct has 3–4 factors, and these factors have been found to differ somewhat as a function of ethnicity (Sanislow et al., 2002; Selby & Joiner, in press). In addition, these data were analyzed by using structural equations modeling, which deals elegantly with measurement error and allows for optimized estimation of the relationships between variables of interest.

Childhood emotional invalidation by parents. All participants were administered questions pertaining to their family history. The items used to assess childhood emotional invalidation consist of six questions about the participants' emotional closeness to their mothers and the same six questions about their emotional closeness with their fathers. These questions were rated on a Likert scale from 1 (*never*) to 4 (*very often*). Items consisted of questions such as "[Please tell me how much your mother/father]: was affectionate with you" and "seemed emotionally cold to you." All items were summed (and reverse coded as needed) so that a higher score indicated more emotional invalidation toward a participant by his or her parents. Also, because there were 304 individuals who came from single-parent homes, the measure was transformed so that scores represented the average invalidation score for two-parent households, or the total invalidation score for single-parent households, thus giving an overall measure of invalidation for each participant's parent (or parents). Cronbach's alpha for the invalidation items was .86. Because these items are not from a standardized measure, they are listed in the Appendix.

Depressive episode over the last year. Data on the experience of major depression over the last year were obtained through computer-assisted personal interviews that allowed estimation of *DSM–IV* diagnoses. The basic instrument was the Michigan Composite International Diagnostic Interview (CIDI) that was used in the National Comorbidity Survey (NCS; Kessler, McGonagle, Zhao, & Nelson, 1994). The CIDI is a fully structured interview, based substantially on the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981), and is designed to be administered by nonclinicians trained in its use (Robins, Wing, Wittchen, & Helzer, 1988; World Health Organization, 1990). These latter two modules had been borrowed from the DIS (Robins et al., 1981) for the NCS. Evidence for the validity of Michigan CIDI diagnostic estimates, evaluated against Structured Clinical re-interviews (Spitzer, Williams, Gibbon, & First, 1990), have been reported for most NCS disorders, including mood disorders (Blazer, Kessler, McGonagle, & Swartz, 1994). Data regarding depressive episodes over the last year were used as a fixed covariate in the model.

Relationship Dysfunction Measures

Closeness to partner. These questions were asked to participants in order to determine their level of closeness to their current romantic partner. The items consisted of statements such as, "You feel very close to your boyfriend/ girlfriend/ partner" and "No matter what happens, you know your boyfriend/ girlfriend/ partner will always be there for you." All items were rated on a Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). All items were summed so that a higher score reflected more relationship dissatisfaction. Because these items are not from a standard measure, they are listed in the Appendix. Cronbach's alpha for the Closeness to Partner items was .85.

Relationship conflict. These questions were asked to participants in order to determine the level of stress and conflict they are experiencing in their current romantic relationship. The items consisted of questions such as, "You have a lot of conflict with your boyfriend/ girlfriend/ partner" and "You are not sure you can trust your boyfriend/ girlfriend/ partner." Items were rated on a Likert scale from 1 (*not true*) to 3 (*very true*). All items were summed (and reverse coded as needed) so that a higher score indicated higher levels of relationship conflict. Because these items are not from a standard measure, they are listed in the Appendix. Cronbach's alpha for the Relationship Conflict items was .73.

Relationship disturbances in the last year. Participants reported which major life events (with regard to romantic relationships) they had experienced over the last 12 months. This scale consisted of 5 items pertaining to breakups, betrayals, and increasing arguments, with participants answering questions such as, "Found out boyfriend/ girlfriend/ partner was unfaithful" and "A romantic relationship ended." All items were answered either *yes* or *no* and were summed together so that a higher score indicated more relationship disturbances experienced over the last 12 months. Because these items are not from a standard measure, they are listed in the Appendix. Cronbach's alpha for the Relationship Disturbances items was .51. Although the internal consistency for this measure is low, again, it likely reflects the true nature of the construct. Our measure is made up of low base-rate phenomena, and some of the items pertain to the romantic partner's behavior as well as the participant's behavior—which are not always consistent with one another. This measure also had significant positive correlations with the other measures of relationship difficulties (see Table 1). In light of these considerations, these data are ideally suited to data analysis with structural equation modeling because it parses out measurement error, thus allowing for optimal estimation of the relationships between variables.

Data Analytic Strategy

The data for this study were analyzed by using structural equation modeling (SEM). All analyses were conducted by

Table 1
Means (M) and Standard Deviations (SD) for, and Intercorrelations Between, All Measures

Variable	1	2	3	4	5	6	7
1. Emotional invalidation	—						
2. BPD features	.21**	—					
3. Closeness to partner	.20**	.21**	—				
4. Relationship conflict	.10**	.31**	.50**	—			
5. Relationship disturbances	−.01	.07	.12**	.15**	—		
6. Depression in last year	−.01	.34**	.04	.11*	.01	—	
7. Gender	.02	.14**	.02	.08*	−.02	.08*	—
M	11.01	10.50	8.66	7.13	9.00	(6.30)	(48.0)
SD	3.66	2.30	3.21	1.85	1.24	—	—

Note. $N = 758$. BPD = bipolar disorder. For Depression in last year and Gender, the parentheses in the row *M* represent the percentage of the sample who experienced a depressive episode in the last 12 months or were female, respectively.
* $p < .05$. ** $p < .01$.

using AMOS 6.0 (Arbuckle & Wothke, 1999). Structural equation modeling allows for a hypothesized model of relationships between variables to be tested, and allows determination of whether that model provides a good fit to the data. As is displayed in Figure 1, the Relationship Dysfunction latent variable comprised the Closeness to Partner, Relationship Conflict, and Relationship Disturbances scales, and was created to capture the shared variance (while partitioning out measurement error) between these scales and to provide an overall measure of dysfunction within participants' current romantic relationships. The creation of this latent variable was important, given that none of the measures used to assess romantic relationship functioning have been subject to rigorous psychometric analysis. Residual predictors for BPD features and Relationship Dysfunction also appear in the model.

In order to evaluate the overall model, the maximum likelihood chi-square statistic (χ^2) was used (with nonsignificance indicating that the model fit the data perfectly). Because of the chi-square's sensitivity to large sample sizes, other fit indices were also used, including the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA), and the Tucker-Lewis Index (TLI). Standard cut-off criteria for good fit consisted of CFI values greater than .95, RMSEA values of less than .06, and TLI values of .9 or higher (Hu & Bentler, 1999). To test individual parameter estimates, a cut-off criterion value for significance was set at $p = .05$. Because of missing data for some of the variables (30 individuals were missing data at random; fewer than 4% of data were missing for the whole sample), full information maximum likelihood estimation (FIML; Anderson, 1957) was used; FIML provides less biased information than do ad hoc procedures such as listwise deletion, pairwise deletion, or imputation of means (Little & Rubin, 1987; Schafer, 1997). It was hypothesized that a partially mediating model would provide the best fit, as there may be some effect that features of BPD have on current relationship functioning that is not accounted for by perceived childhood emotional invalidation.

Results

Descriptive Statistics

The correlations, means, standard deviations, and alphas for the variables used in this study are presented in Table 1. Because SEM can be sensitive to nonnormal variable distributions, univariate analyses of normality were conducted. An assessment of univariate normality revealed that none of the variables were significantly skewed or kurtotic. There were also no significant outliers present in the data (defined as being 3 standard deviations above or below the mean). Also, because this was such a diverse sample, analyses of variance (ANOVAs) were conducted to determine whether there were any effects of ethnicity on any of the variables, as well as whether there was a significant gender difference on any of the variables. There were no significant effects for ethnicity on any of the variables at the $p = .05$ level, but there was a significant ($p < .001$) gender difference for the BPD Features variable, with girls having higher scores than did boys (male $M = 10.19$, $SD = 1.96$; female $M = 10.82$, $SD = 2.58$).

Measurement Model

Because the Relationship Dysfunction latent variable used nonstandard measures as indicators, it was important to evaluate the fit of the measurement model for this variable. The measurement model for Relationship Dysfunction was not identified (because it did not pass the *t* rule), thus it was necessary to include an additional variable in the measurement model in order to generate fit indices. To do this, we examined the fit of the measurement model where the latent variable was allowed to correlate with gender. The gender variable was chosen as a correlate in the measurement model because it had a small correlation with relationship conflict but not the other observed measures, so it was unlikely to improve the fit of the model. Using this configuration, the measurement model fit the data well, $\chi^2(2) = 2.37$, $p = .30$, CFI = .998, RMSEA = .016, and all observed variables significantly loaded onto the latent variable (Closeness $\beta = .59$, Conflict $\beta = .86$, and

Disturbance $\beta = .18$). The correlation between gender and the latent variable was nonsignificant, which suggests that it did not improve the fit of the model beyond the fit of the latent variable.

Model Evaluation

Model 1: Partial mediation. Model 1 is displayed in Figure 1. This model provided a good fit to the data, $\chi^2(6) = 18.54$, $p = .005$, CFI = .972, RMSEA = .053, TLI = .901. In addition, all parameter estimates were significant ($p < .05$), with the exception of the effect of depression on Emotional Invalidation and Relationship Dysfunction. The correlation between depression and features of BPD was significant ($r = .34$, $p < .05$). BPD symptoms had a significant direct effect on Relationship Dysfunction. It was predicted that BPD symptoms would influence Relationship Dysfunction through Emotional Invalidation; the indirect effect for this relationship was $\beta = .023$. The experience of Major Depressive Disorder in the past year was not significantly related to Emotional Invalidation or the Relationship Dysfunction latent variable.

The PRODCLIN program developed by MacKinnon, Fritz, Williams, and Lockwood (2007) was used to examine the impact of the mediating variables in the structural model on Relationship Dysfunction and does so without some of the problems inherent in other methods of testing for mediation (e.g., inflated rates of Type I error; see MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Furthermore, the logic for this method is suited to testing for mediation in structural equation modeling (Bollen, 1987). PRODCLIN examines the product of the unstandardized path coefficients divided by the pooled standard error of the path coefficients ($\alpha\beta/\sigma_\alpha\beta$), and a confidence interval is generated. If the values between the upper and lower confidence limits include zero, this suggests the absence of a statistically significant mediation effect. The unstandardized path coefficients and standard errors of the path coefficients for the indirect effect of emotional invalidation on Relationship Dysfunction via BPD symptoms were entered into PRODCLIN to yield lower and upper 95% confidence limits of .00001 and 0.004. Although the mediation effect was supported by the PRODCLIN analysis, the lower bound was extremely close to zero, so a Sobel (1982) Test was conducted to provide additional evidence for the mediation effect. The Sobel Test also supported the meditational effect ($z = 1.89$, $p < .05$). This suggests that perceived childhood emotional invalidation mediates the association between features of BPD and Relationship Dysfunction.

Model 2: Full mediation. A full mediation model was tested by constraining the direct path from features of BPD to Relationship Dysfunction to zero. This model provided a poor fit to the data, $\chi^2(7) = 75.3$, $p < .001$, CFI = .846, RMSEA = .113, TLI = .539. Because we examined two nested models, their fit to the data could be directly compared. Doing so showed that the partial mediation model provided a better fit to the data than did a full mediation model, $\Delta\chi^2(1) = 56.46$, $p < .001$.

Discussion

The present study addresses important gaps in research on BPD symptomatology and romantic relationship dysfunction. The hypothesized structural equation model in which perceived childhood emotional invalidation partially mediates the relationship between features of BPD and current relationship dysfunction provided a good fit to the data. This partial mediation model fit the data significantly better than did a full mediation model. This finding is important because current theories of BPD point to emotional invalidation as an important cause of symptoms in the disorder (Linehan, 1993), but few research studies have actually documented a relationship between childhood emotional invalidation and functional impairment in interpersonal relationships in individuals with symptoms of BPD. The results of this study suggest that the presence of BPD symptoms predicts current romantic relationship dysfunction, and it does so, at least in part, via self-reported childhood emotional invalidation by parents. Importantly, the association between BPD syptomotology and romantic relationship dysfunction was not attenuated even when we accounted for a diagnosis of major depression over the last year.

There may be many different reasons for why emotional invalidation in childhood may influence current romantic relationship problems, and social problem-solving deficits and splitting may be important results of invalidation. For example, emotional invalidation by parents may result in maladaptive beliefs, such as beliefs about being unlovable or that communicating problems within an intimate relationship is not acceptable. Childhood emotional invalidation may also lead individuals with features of BPD to behave in provocative ways to receive emotional responses from others, as this may have been a way of eliciting emotional responses from their parents during childhood. It is also important to note that features of BPD still predicted current relationship dysfunction even when accounting for childhood emotional invalidation. This suggests that features of BPD may lead to relationship problems even in individuals who do not perceive their parents as having been emotionally invalidating, which indicates that other factors may contribute to relationship dysfunction. Other types of childhood emotional invalidation may be involved in the development of future relationship dysfunction, such as invalidation by siblings, extended family, or peers; each of these may also contribute to the development of BPD features and romantic relationship dysfunction.

Another important finding of this study is that features of BPD significantly predicted current romantic relationship dysfunction even after controlling for a diagnosis of depression within the last year. This finding suggests that features of BPD contribute to functional impairment in romantic relationships above and beyond the impairment associated with Major Depressive Disorder. This finding, however, raises new questions about what exactly individuals with BPD are doing that is resulting in interpersonal dysfunction. On the basis of the findings of Russell et al. (2007), who showed that individuals with BPD demonstrated more quar-

relsome interpersonal behavior did than a nonclinical control group, it seems possible that individuals with BPD features may be more sensitive to emotional invalidation (perceived or real) within romantic relationships and respond with maladaptive behaviors such as verbal attacks and impulsive behaviors (e.g., self-injury and substance abuse).

It is important, also, to note that in our model, the path from depression to relationship dysfunction was not significant. This finding was unexpected, given the interpersonal problems usually associated with depression. One possible explanation for this finding is that the Relationship Dysfunction indicators had more items pertaining to overt relationship conflict and problematic events, and less to do with overall relationship satisfaction (for both partners). Depression likely effects relationship satisfaction overall, but perhaps it does not contribute to overt relationship problems as much as features of BPD do. Also, depression in the last year did not predict perceived childhood emotional invalidation, which provides some initial evidence of specificity in the relationship between emotional invalidation and BPD.

One caution when considering the findings of the current study is that actual emotional invalidation by parents during childhood was not assessed, but rather the perceptions by the individual that they experienced emotional invalidation by their parents during childhood were assessed. This is an important distinction, because if individuals with features of BPD have distorted cognitions about their relationships, these distortions are likely to influence their beliefs about their parents during childhood just as much as these beliefs will influence their perception of their current relationship. Thus, an individual with features of BPD may have a more negative perception of his or her relationship with his or her parents during childhood than was actually true.

Another potential limitation to this study is that validated measures of relationship dysfunction were not used, and the Relationship Disturbances indicator had low internal consistency. Although this is a limitation, the questions appeared face-valid and the relationship disturbances measure had significant positive correlations with the other relationship dysfunction indicators (as was expected). Furthermore, all three relationship indicators significantly loaded onto a latent variable of relationship dysfunction, providing some confidence that the measurement of relationship dysfunction in this study was reasonably valid. Because of the use of unstandardized measures of relationship dysfunction, however, future studies should attempt to replicate these results with standardized measures. Another limitation is that the individuals in this study were not formally diagnosed with BPD but rather were assessed for symptoms of BPD. Thus, the findings of this study may not generalize to individuals with actual BPD. Future studies should examine current romantic relationship functioning in individuals diagnosed with BPD by means of a structured clinical interview.

The findings of the current study have potentially important clinical implications. In particular, the finding that BPD features predicted romantic relationship dysfunction above and beyond problems associated with a diagnosis of depression in the last year suggests that therapists should pay special attention to the romantic relationships of their patients with features of BPD. Given that interpersonal problems may contribute to low self-esteem in these patients, and low self-esteem has been linked to splitting (Graham & Clark, 2006), helping these patients overcome romantic relationship problems may inhibit a potential reciprocal relationship between low self-esteem and splitting. Additionally, it may be helpful in clinical interventions to treat maladaptive beliefs, social problem-solving skills deficits, and splitting tendencies in individuals with features of BPD who report romantic relationship dysfunction. Finally, another important aspect of this study is that it was conducted on a large, ethnically diverse community sample, which suggests that the findings of the study may generalize to White, Hispanic, and African-American ethnic groups as well as to community treatment facilities.

In summary, the findings of this study point to the importance of romantic relationship functioning in understanding BPD. Should the results be replicated, they will draw attention to the importance of interventions for interpersonal functioning in the treatment of BPD.

References

American Psychiatric Association. (1994). *The diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Anderson, T. W. (1957). Maximum likelihood estimates for a multivariate normal distribution when some observations are missing. *Journal of American Statistical Association, 52,* 200–203.

Arbuckle, J. L., & Wothke, W. (1999). *AMOS 4.0.* Chicago, IL: SPSS, Inc.

Bagge, C., Nickell, A., Stepp, S., Durrett, C., Jackson, K., & Trull, T. J. (2004). Borderline personality disorder features predict negative outcomes 2 years later. *Journal of Abnormal Psychology, 113*, 279–288.

Blazer, D. G., Kessler, R. C., McGonagle, K. A., & Swartz, M. S. (1994). The prevalence and distribution of major depression in a national community sample: The National Comorbidity Survey. *American Journal of Psychiatry, 151*, 979–986.

Bollen, K. A. (1987). Total, direct, and indirect effects in structural equation models. *Sociological Methodology, 17,* 37–69.

Bray, S., Barrowclough, C., & Lobban, F. (2007). The social problem-solving abilities of people with borderline personality disorder. *Behaviour Research and Therapy, 45,* 1409–1417.

Clifton, A., Pilkonis, P. A., & McCarty, C. (2007). Social networks in borderline personality disorder. *Journal of Personality Disorders, 21*, 434–441.

Daley, S. E., Burge, D., & Hammen, C. (2000). Borderline personality disorder symptoms as predictors of 4-year romantic relationship dysfunction in young women: Addressing issues of specificity. *Journal of Abnormal Psychology, 109,* 451–460.

Graham, S. M., & Clark, M. S. (2006). Self-esteem and organization of valenced information about others: The "Jekyll and Hyde"-ing of relationship partners. *Journal of Personality and Social Psychology, 90*, 652–665.

Hill, J., Pilkonis, P., Morse, J., Feske, U., Reynolds, S., Hope, H., et al. (2008). Social domain dysfunction and disorganization in borderline personality disorder. *Psychological Medicine, 38,* 135–146.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in

covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B. (1994). Lifetime and 12-month prevalence of *DSM-III-R* psychiatric disorders in the United States: Results from the National Comorbidity Study. *Archives of General Psychiatry, 51*, 8–19.
Klonsky, E. D., Oltmanns, T. F., Turkheimer, E., & Fiedler, E. R. (2000). Recollections of conflict with parents and family support in the personality disorders. *Journal of Personality Disorders, 14*, 327–338.
Lenzenweger, M. F., Loranger, A. W., Korfine, L., & Neff, C. (1997). Detecting personality disorders in a nonclinical population: Application of a 2-stage for case identification. *Archives of General Psychiatry, 54*, 345–351.
Linehan, M. M. (1993). *Cognitive-behavioral treatment for borderline personality disorder.* New York: Guilford Press.
Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data.* New York: Wiley.
Loranger, A. W., Sartorius, N., Andreoli, A., Berger, P., Buchheim, P., Channabasavanna, S. M., et al. (1994). The international personality disorder examination. *Archives of General Psychiatry, 51,* 215–224.
MacKinnon, D. P., Fritz, M. S., Williams, J., & Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavior Research Methods, 39*, 384–389.
MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83–104.
Robins, L. N., Helzer, J. E., Croughan, J. L., & Ratcliff, K. S. (1981). National Institute of Mental Health diagnostic interview schedule: Its history, characteristics, and validity. *Archives of General Psychiatry, 38*, 381–389.
Robins, L. N., Wing, J., Wittchen, H. U., & Helzer, J. E. (1988). The Composite International Diagnostic Interview: An epidemiologic instrument for use in conjunction with different diagnostic systems and in different cultures. *Archives of General Psychiatry, 45*, 1069–1077.
Rothschild, L., Cleland, C., Haslam, N., & Zimmerman, M. (2003). A taxometric study of borderline personality disorder. *Journal of Abnormal Psychology, 112*, 657–666.
Russell, J. J., Moskowitz, D. S., Zuroff, D. C., Sookman, D., & Paris, J. (2007). Stability and variability of affective experience and interpersonal behavior in borderline personality disorder. *Journal of Abnormal Psychology, 116,* 578–588.
Sanislow, C. A., Grilo, C. M., Morey, L. C., Bender, D. S., Skodol, A. E., Gunderson, J. G., et al. (2002). Confirmatory factor analysis of *DSM-IV* criteria for borderline personality disorder: Findings from the Collaborative Longitudinal Personality Disorders Study. *American Journal of Psychiatry, 159,* 284–290.
Schafer, J. L. (1997). *Analysis of incomplete multivariate data.* London: Chapman & Hall.
Selby, E. A., & Joiner, T. E. (in press). Ethnic variations in the structure of borderline personality disorder symptomatology. *Journal of Psychiatric Research.*
Skodol, A. E., Gunderson, J. G., McGlashan, T. H., Dyck, I. R., Stout, R. L., Bender, D. S., et al. (2002). Functional impairment in patients with schizotypal, borderline, avoidant, or obsessive-compulsive personality disorder. *American Journal of Psychiatry, 159,* 276–283.
Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290–312). Washington, DC: American Sociological Association.
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: SCID.* Washington, DC: American Psychiatric Association.
Turner, R. J., & Gil, A. G. (2002). Psychiatric and substance use disorders in south Florida: Racial/ethnic and gender contrasts in a young adult cohort. *Archives of General Psychiatry, 59,* 43–50.
Vega, W. A., & Gil, A. G. (1998). *Drug use and ethnicity in early adolescence.* New York: Plenum Press.
Widiger, T. A., & Trull, T. J. (2007). Plate tectonics in the classification of personality disorder: Shifting to a dimensional model. *American Psychologist, 62,* 71–83.
World Health Organization. (1990). *Composite International Diagnostic Interview.* Retrieved on February 13, 2008, from http://www.hcp.med.harvard.edu/wmhcidi/about.php
Zanarini, M. C., Williams, A. A., Lewis, R. E., Reich, R. B., Soledad, C. V., Marino, M. F., et al. (1997). Reported pathological childhood experiences associated with the development of borderline personality disorder. *American Journal of Psychiatry, 154,* 1101–1106.
Zeigler-Hill, V., & Abraham, J. (2006). Borderline personality features: Instability of self-esteem and affect. *Journal of Social and Clinical Psychology, 25*, 668–687.

Appendix

Items for Measures Used

BPD Questions

Giving into some of my urges gets me into trouble.
I get into very intense relationships that don't last.
I've never threatened suicide or injured myself on purpose.
I often feel empty inside.
I have tantrums or angry outbursts.
I'm very moody.
When I'm under stress, things around me don't seem real.
I go to extremes to try to keep people from leaving me.

Emotional Invalidation Items

—Each question for relationship with mother and relationship with father:

Please tell me how much he/she:
Spoke to you with a warm and friendly voice.
Seemed emotionally cold to you.
Was affectionate with you.
Enjoyed talking things over with you.
Could make you feel better when you were upset.
Seemed to understand your problems or worries.

Closeness to Partner Items

You feel very close to your partner/boyfriend/girlfriend.
Your partner/boyfriend/girlfriend always takes time to talk over your problems with you.

When you are with your partner/boyfriend/girlfriend you feel completely able to relax yourself.
Now matter what happens, you know that your partner/boyfriend/girlfriend will always be there for you.
You know that partner/boyfriend/girlfriend has confidence in you.
Your partner/boyfriend/girlfriend often lets you know that he/she thinks you are a worthwhile person.

Relationship Conflict Items

You have a lot of conflict with your partner/boyfriend/girlfriend.
Your partner/boyfriend/girlfriend doesn't understand you.
Your partner/boyfriend/girlfriend expects too much of you.
Your partner/boyfriend/girlfriend doesn't show enough affection.
Your partner/boyfriend/girlfriend is not committed enough to your relationship.
You are not sure you can trust your partner/boyfriend/girlfriend.

Relationship Disturbances Items

In the past 12 months, which of the following has happened to you:
Found out your partner/boyfriend/girlfriend was unfaithful.
A romantic relationship ended.
A close relationship ended.
Partner/boyfriend/girlfriend found out you were unfaithful.
Increased arguments with your partner/boyfriend/girlfriend.

Received January 25, 2008
Revision received July 28, 2008
Accepted July 28, 2008 ■