

## **BORDERLINE PERSONALITY FEATURES: INSTABILITY OF SELF-ESTEEM AND AFFECT**

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On the basis of clinical literature pertaining to borderline personality disorder, it was hypothesized that individuals with borderline personality features would show evidence of self-esteem and affective instability. In addition to this instability, it was hypothesized that these individuals would show evidence of stronger reactions to daily interpersonal stress (i.e., lability). These hypotheses were examined through the employment of an experience-sampling design. The present findings suggest that individuals with borderline personality features possess unstable low self-esteem as well as negative affect that is high and unstable. Individuals with borderline personality features were also found to possess self-esteem and feelings of rejection that were labile in response to daily interpersonal stress.

The purpose of the present study was to examine whether features of borderline personality disorder (BPD) were associated with self-esteem and affective instability. BPD is characterized by a "pervasive pattern of instability" (American Psychiatric Association, 1994, p. 654) that is evident in three primary areas: self-image, affect, and interpersonal relationships. First, BPD is believed to be associated with dramatic shifts in feelings of self-worth. However, the link between BPD and unstable self-esteem has not been demonstrated empirically despite its theoretical and diagnostic importance. Second, BPD has been shown to predict a highly negative baseline mood (Trull, 2001; Trull, Sher, Minks-Brown, Durbin, & Burr, 2000) as well as affective instability (Cowdry, Gardner, O'Leary, Leibenluft, & Rubinow, 1991; Henry et al., 2001; Koenigsberg et al., 2002; Stein, 1995, 1996). Third, BPD has been found to be associated with significant interpersonal problems and relationships characterized by sudden shifts between the idealization and devaluation of others as

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individuals frantically strive to avoid either real or imagined abandonment (e.g., Jovev & Jackson, 2004).

The instability that characterizes BPD may explain the frequent difficulties in occupational, social, and academic areas that often accompany this diagnosis (Perry & Klerman, 1980; Skodol et al., 2002; Zweig-Frank & Paris, 2002). Although clinical samples have often been used to document the various dysfunctions associated with BPD, it is also important to examine individuals with borderline personality features—individuals who possess a number of the characteristics associated with BPD but may not necessarily meet the full diagnostic criteria. One reason that it may be important to examine borderline personality features in nonclinical samples is that personality disorders may be best conceptualized as continua rather than as discrete categorical diagnoses (Widiger, 1992). If personality disorders are viewed as continua, then individuals in the general population may possess differing levels of the features that characterize these disorders. Previous research has shown that borderline personality features are related to dysfunctions in a variety of areas within nonclinical samples. For example, borderline personality features have been shown to be associated with poor academic achievement and social maladjustment (Bagge et al., 2004), higher levels of interpersonal distress (Trull, 1995), and violence among prisoners (Raine, 1993). In addition, borderline personality features have been shown to be predictive of future interpersonal distress (Daley, Burge, & Hammen, 2000; Trull, Ueda, Conforti, & Doan, 1997).

Despite the clear consensus that individuals with borderline personality features should experience greater self-esteem and affective lability in response to their experiences, there is very little direct evidence in support of this contention. For example, Tolpin, Gunthert, Cohen, and O'Neill (2004) directly examined whether individuals with borderline personality features have stronger self-esteem and affective reactions to daily interpersonal stressors by using an experience-sampling approach. Although individuals with borderline personality features reported experiencing more interpersonal stressors, these individuals did not show evidence of the self-esteem and affective lability believed to characterize those with borderline personality features. However, the failure to find the expected self-esteem and affective lability may have been due to the objective checklist measure of daily interpersonal stressors employed in the study. The assumption underlying objective measures of stressors is that it is the event itself that leads to the consequence of interest (e.g., changes in self-esteem or affect). This is in contrast to views of stress that emphasize the importance of appraising events in terms of available coping resources (Lazarus & Folkman, 1984). From this perspective, stress occurs only when a situation is perceived as

threatening and the individual believes that insufficient resources are available to cope with the situation. The importance of cognitive appraisals suggests that even though an individual may experience many seemingly negative events on a particular day, these events may not lead to changes in self-esteem or affect if the individual does not perceive these events as stressful. Consequently, the hypothesized self-esteem and affective lability of individuals with borderline personality features may only emerge when their subjective experiences of stressful events are measured.

The present study examined two basic hypotheses. The first hypothesis was that borderline personality features would be associated with self-esteem and affective instability. That is, individuals with high levels of borderline personality features will experience more fluctuations in their state self-esteem and affect over time than individuals with low levels of borderline personality features. Further, it is possible that the instability that characterizes the experiences of those with borderline personality features may be tied to their perceptions of events in their lives (e.g., Kernberg, 1975). However, instability, as defined in the present study, does not account for the covariation of self-esteem and affect with perceptions of daily events (i.e., self-esteem and affective lability). In the present research, lability is assumed to be a specific instance of instability such that changes in self-esteem and affect are directly linked to daily experiences that occur in the individual's life (Barnett & Gotlib, 1988; Butler, Hokanson, & Flynn, 1994). Thus, the second hypothesis was that individuals with high levels of borderline personality features would be more labile in response to the perceived importance of positive and negative interpersonal events than individuals with low levels of borderline personality features. That is, it was predicted that individuals with high levels of borderline personality features would experience greater changes in their self-esteem and affect following interpersonal events than individuals with low levels of borderline personality features. Interpersonal events were chosen because individuals with borderline personality features should be especially sensitive to these events given the theoretical importance of negative relationships and fears of abandonment for BPD.

The present study makes use of experience-sampling, which allows for the documentation of thoughts, feelings, and behaviors within an individual's everyday life rather than within a laboratory context. By reporting their experiences each day, systematic recall biases are minimized in participants because their experiences are reported much closer in time to the actual experience rather than being averaged across a much longer period of time (Tennen & Affleck, 2002). Another important advantage of experience-sampling is that the temporal covariation

of internal states can be examined (Larsen, Billings, & Cutler, 1996; Larsen & Kasimatis, 1990; Tennen, Suls, & Affleck, 1991). In the present study, experience-sampling makes it possible to examine the extent to which state self-esteem, affect, and feelings of rejection are associated with interpersonal stress.

## METHOD

### PARTICIPANTS

Participants were 156 undergraduates (50 men and 106 women) enrolled in introductory psychology courses who participated in return for partial fulfillment of a research participation requirement. The mean age of participants was 19.04 years ( $SD = 2.07$ ). The racial/ethnic composition of the sample was 79% White, 5% Black, 5% Hispanic, 4% Asian, 4% Native American, and 3% Other.

### MEASURES

*Borderline Personality Features.* The Borderline Features Scale of the Personality Assessment Inventory (PAI-BOR; Morey, 1991) is a 24-item scale that measures four commonly agreed upon components of borderline personality functioning: affective instability, identity problems, negative relationships, and self-harm. Responses were made on scales ranging from 0 (false, not at all true) to 3 (very true). The PAI-BOR has been shown to possess strong psychometric properties (Kurtz, Morey, & Tomarken, 1993; Morey, 1991; Morey & Glutting, 1994; Trull, 1995). For the present study, the internal consistency of this measure was high,  $\alpha = .87$ .

*Self-Esteem Level.* Participants completed the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a well-validated measure of explicit self-esteem (Blaskovich & Tomaka, 1991; Demo, 1985). Participants were instructed to complete the scale according to how they typically or generally feel about themselves. Responses were made on scales ranging from 1 (strongly disagree) to 5 (strongly agree). For the present study, the internal consistency of this measure was high,  $\alpha = .85$ .

*State Self-Esteem and Self-Esteem Instability.* Participants were asked to complete modified versions of the RSES to assess state self-esteem. The RSES was modified so that participants were instructed to give the response that best reflected how they felt at the moment they completed the form. Responses were made on scales ranging from 1 (strongly disagree) to 10 (strongly agree). For the present study, the internal consistency of state self-esteem (averaged across the seven days) was .81. Con-

sistent with previous research concerning self-esteem instability (e.g., Kernis, Grannemann, & Barclay, 1989), the within-subject standard deviation across the repeated assessments of state self-esteem served as the index of self-esteem instability such that higher standard deviations indicated more unstable self-esteem.

*Affect Level.* Affect level was measured using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), which is a reliable and well-validated self-report measure of affect. The PANAS consists of scales that measure positive (e.g., interested, enthusiastic, proud) and negative affect (e.g., distressed, scared, hostile). Participants were instructed to complete the items according to how they typically or generally feel. Responses were made on scales ranging from 1 (very slightly or not at all) to 5 (extremely). For the present sample, the internal consistencies of these scales were high (.81 and .87 for positive affect and negative affect, respectively).

*State Affect and Affective Instability.* Participants were asked to complete a modified version of the PANAS to assess state affect. The PANAS was modified so that participants were instructed to give the response that best reflected how they felt at the moment they completed the form. Responses were made on scales ranging from 1 (very slightly or not at all) to 5 (extremely). For the present study, the internal consistency of state affect (averaged across the seven days) was .90 and .88 for state positive affect and state negative affect, respectively. For each participant, the within-subject standard deviation across the repeated assessments of state positive and negative affect served as the indices of affective instability, with higher standard deviations indicating more unstable affect.

*Perceived Rejection.* Because of the important role that abandonment fears and social rejection are believed to play in the etiology and expression of BPD (see Kernberg, 1984; Zanarini, Gunderson, Marino, Schwartz, & Frankenberg, 1989), participants were asked to indicate their current level of perceived social rejection by indicating their level of agreement with the statement "At this moment, I feel rejected by others." Responses were made on scales ranging from 1 (strongly disagree) to 10 (strongly agree).

*Daily Interpersonal Stress.* Participants were asked to record their daily social events each evening using a modified version of the Daily Events Survey (DES; Butler et al., 1994). The modifications to the DES employed in the current study were based on those used in previous research (e.g., Nezlek & Gable, 2001; Nezlek & Plesko, 2003). In the present study, seven positive social events (e.g., "Had especially good interactions with friend[s] or acquaintances") and six negative social events (e.g., "Was excluded or left out by my group of friends") were em-

ployed. In addition, two items were included to measure social events that may not have been captured by the primary items (i.e., "Had other type of pleasant event [not listed above] with friends, family, or date" and "Had other type of unpleasant event [not listed above] with friends, family, or date"). Each evening, participants rated each event using the following scale: 0 = did not occur, 1 = occurred and not important, 2 = occurred and somewhat important, 3 = occurred and pretty important, and 4 = occurred and extremely important. For the present study, the internal consistency (averaged across the seven days) was .77 and .83 for positive interpersonal events and negative interpersonal events, respectively.

### PROCEDURE

On the first day of the study, participants attended a laboratory session during which they were informed about the procedure for the study and completed the initial measures (i.e., demographic characteristics, PAI-BOR, RSES, and PANAS). Participants were then given the packet of daily measures (i.e., state RSES, state PANAS, perceived rejection, and DES) to be completed at 24-hour intervals (at approximately 10pm each evening) for seven consecutive days. To enhance compliance, participants were instructed to return the completed measures to a designated location every three to four days.

### RESULTS

Of the 156 participants who began the study, 33 participants were excluded due to failure to complete daily measures for five or more days. Analyses concerning daily measures were conducted using the 123 remaining participants. In sum, data were collected for 852 days.

### DESCRIPTIVE STATISTICS

In the present sample, 14% of the participants reported PAI-BOR scores greater than or equal to 38 ( $T$  scores  $\geq 70$ ), which is consistent with those reported previously (e.g., Tolpin et al., 2004; Trull, 1995). Although this criterion suggests the presence of prominent borderline personality features, it does not necessarily indicate that the individual would meet the full diagnostic criteria for BPD. Male and female participants did not differ in their PAI-BOR scores,  $t(121) = -.06$ , *ns*.

Table 1 presents the means, standard deviations, and intercorrelations for borderline personality features, self-esteem level, self-esteem insta-

TABLE 1. Intercorrelations and Descriptive Statistics

Variable	1	2	3	4	5	6	7
1. Borderline Personality Features	—						
2. Self-Esteem Level	-.49***	—					
3. Self-Esteem Instability	.36***	-.28**	—				
4. Positive Affect Level	-.33***	.52***	-.16†	—			
5. Positive Affect Instability	.27**	-.18*	.34***	-.24**	—		
6. Negative Affect Level	.58***	-.43***	.28**	-.11	.11	—	
7. Negative Affect Instability	.47***	-.16†	.39***	-.11	.55***	.32***	—
M	29.03	41.98	3.93	36.63	5.82	21.90	4.51
SD	12.06	5.86	3.58	5.68	3.23	6.92	3.05

Note. N = 123. †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

bility, positive affect level, positive affect instability, negative affect level, and negative affect instability. As in previous research, a negative correlation emerged between self-esteem level and self-esteem instability,  $r = -.28, p < .01$  (e.g., Greenier et al., 1999; Kernis et al., 1989). Similarly, positive affect level was negatively correlated with positive affect instability,  $r = -.24, p < .01$ , and negative affect level was positively correlated with negative affect instability,  $r = .32, p < .001$ . Taken together, these associations suggest those with poor psychological adjustment (i.e., low self-esteem, low positive affect, or high negative affect) possess psychological states that are relatively unstable.

#### BORDERLINE PERSONALITY FEATURES AND SELF-ESTEEM INSTABILITY

The present analysis examined the association between borderline personality features and self-esteem instability by regressing the PAI-BOR onto measures of self-esteem level and self-esteem instability. For this hierarchical multiple regression, all predictor variables were centered for the purpose of testing interactions (Aiken & West, 1991). On Step 1, the main effect terms for self-esteem level and self-esteem instability were entered. On Step 2, the interaction of self-esteem level and self-esteem instability was entered. The hypothesized main effect of self-esteem instability was significant such that individuals with unstable self-esteem tend to possess higher levels of borderline personality features,  $\beta = .24, p < .01$ . In addition, a main effect of self-esteem level emerged such that individuals with high levels of borderline personality features were found to possess lower self-esteem,  $\beta = .24, p < .01$ . However, these main effects were qualified by the interaction of self-esteem level and self-esteem instability that emerged,  $\beta = .17, p < .05$ .<sup>1</sup> Predicted values for this interaction are shown in Figure 1.

Because the interaction of self-esteem level and self-esteem instability was significant, the procedures recommended by Aiken and West (1991) were conducted in order to examine the pattern of this interaction. These simple slopes tests found that individuals with unstable self-esteem re-

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1. An additional exploratory analysis was conducted, which included gender in the model. In this analysis, a three-way interaction (self-esteem level  $\times$  self-esteem instability  $\times$  gender) emerged,  $\beta = .21, p < .05$ . The predicted values for this analysis suggest that the association between unstable high self-esteem and borderline personality features may be more pronounced among men. However, extreme caution should be used when considering this result because of the relatively small number of men who possessed unstable high self-esteem ( $n = 6$ ).



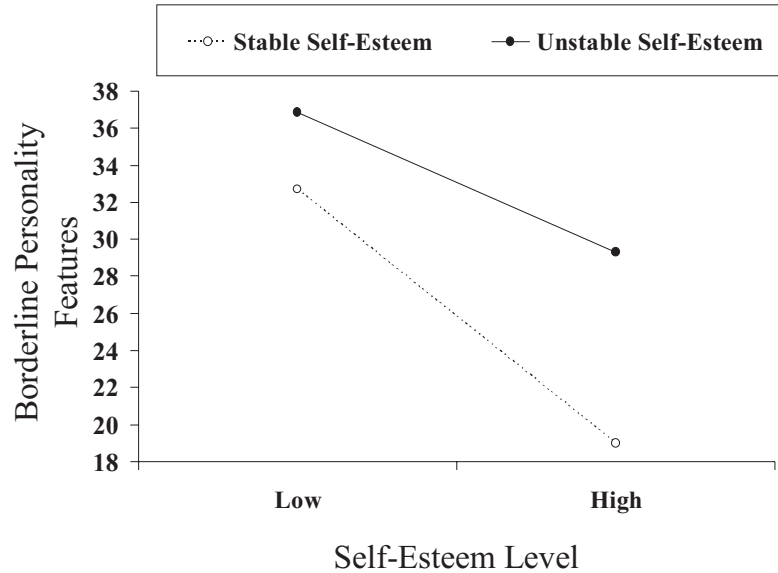


FIGURE 1. Predicted values for borderline personality features, illustrating the interaction of self-esteem level and self-esteem instability at values that are one standard deviation above and below the means.

ported higher levels of borderline personality features than those with stable self-esteem regardless of whether these individuals possessed low self-esteem  $\beta = .17, p < .05$  or high self-esteem  $\beta = .43, p < .001$ ). In addition, individuals with low self-esteem reported higher levels of borderline personality features among individuals with both stable self-esteem ( $\beta = -.57, p < .001$ ) and unstable self-esteem ( $\beta = -.31, p < .001$ ). Taken together, these results show that individuals with stable high self-esteem reported the lowest levels of borderline personality features, whereas individuals with unstable low self-esteem reported the highest levels of borderline personality features.

#### BORDERLINE PERSONALITY FEATURES AND POSITIVE AFFECT INSTABILITY

This analysis examined the association between borderline personality features and positive affect instability by regressing the PAI-BOR onto measures of positive affect level and positive affect instability. On Step 1, the main effect terms for positive affect level and positive affect instability were entered. On Step 2, the interaction of positive affect level and positive affect instability was entered. Significant main effects emerged for both positive affect level ( $\beta = -.28, p < .001$ ) and positive affect insta-

bility ( $\beta = .20, p < .03$ ). These main effects suggest that individuals with borderline personality features possess positive affect that is generally low and unstable. The interaction of positive affect level and positive affect instability did not approach conventional levels of significance,  $\beta = .03, ns$ .<sup>2</sup>

#### BORDERLINE PERSONALITY FEATURES AND NEGATIVE AFFECT INSTABILITY

The present analysis examined the association between borderline personality features and negative affect instability using the same approach as the previous analyses. Significant main effects emerged for both negative affect level ( $\beta = .48, p < .001$ ) and negative affect instability ( $\beta = .32, p < .001$ ). However, these main effects were qualified by the interaction of negative affect level and negative affect instability that emerged,  $\beta = -.16, p < .03$ .<sup>3</sup> Predicted values for this interaction are shown in Figure 2. Simple slopes tests found that individuals with unstable negative affect reported higher levels of borderline personality features than those with stable negative affect regardless of whether these individuals possessed levels of negative affect that were either chronically low ( $\beta = .49, p < .001$ ) or high ( $\beta = .21, p < .02$ ). In addition, individuals with chronically high levels of negative affect reported higher levels of borderline personality features than those with low levels of negative affect regardless of whether their negative affect was stable ( $\beta = .63, p < .001$ ) or unstable ( $\beta = .35, p < .001$ ). Taken together, these results show that individuals with unstable negative affect reported the highest levels of borderline personality features, whereas individuals with stable low negative affect reported the lowest levels of borderline personality features.

#### OVERVIEW OF LABILITY ANALYSES

The present analyses had two goals. The first goal was to examine the covariation between measures of state psychological adjustment (i.e., state self-esteem, state positive affect, state negative affect, and perceived social rejection) and daily interpersonal stress. The second goal

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2. No additional interactions emerged when gender was included in the model.

3. An additional two-way interaction (negative affect instability  $\times$  gender) emerged when gender was included in the model,  $\beta = .22, p < .01$ . The predicted values for this interaction suggest that the highest levels of borderline personality features may be found among men with unstable negative affect. However, this result should be interpreted cautiously given the small number of men who reported unstable negative affect ( $n = 13$ ).

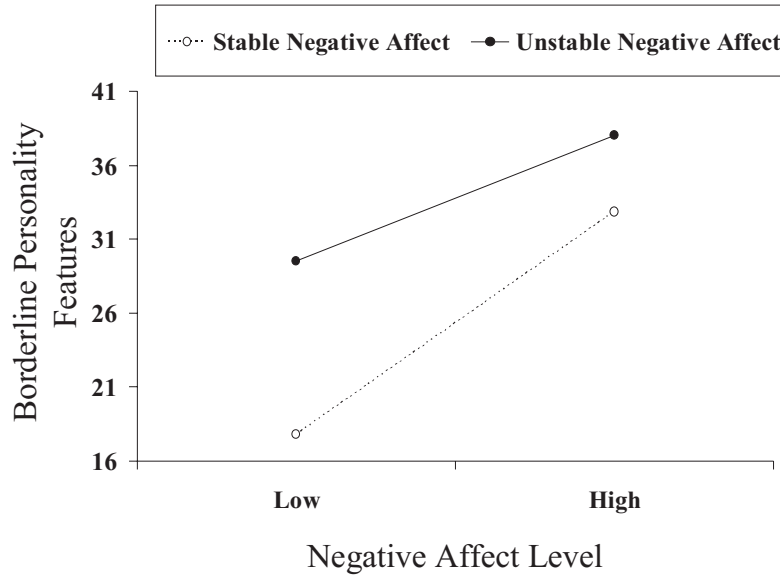


FIGURE 2. Predicted values for borderline personality features, illustrating the interaction of negative affect level and negative affect instability at values that are one standard deviation above and below the means.

was to examine how within-person relationships between the measures of state psychological adjustment and daily interpersonal stress varied as a function of borderline personality features. The daily measures from the present study comprised a multilevel data structure because observations at one level of analysis (i.e., days) were nested within another level of analysis (i.e., individuals). Due to the hierarchical structure of the data, a series of multilevel random coefficient models (MRCMs) using the program HLM (Bryk, Raudenbush, & Congdon, 1998) were employed. These models conceptually involved two steps. First, a regression equation was estimated for each individual at Level 1 (the within-person level) which yielded intercept and slope coefficients to index the association between variables at the daily level (e.g., "Does state self-esteem tend to decrease on days when important negative social events occur?"). Second, Level 2 (the between-persons level) examined whether the regression slopes obtained from the within-person level differed across individuals, depending on the level of an individual-difference variable (e.g., "Is the tendency to experience lower self-esteem on days when important negative social events occur especially strong for individuals with borderline personality features?").

### STATE PSYCHOLOGICAL ADJUSTMENT AND DAILY INTERPERSONAL STRESS

A two-level MRCM was used to examine within-person relationships between state psychological adjustment and daily interpersonal stress. The Level 1 model was as follows:

$$y_{ij} = \beta_{0j} + \beta_{1j}\text{POSITIVE SOCIAL EVENTS} + \beta_{2j}\text{NEGATIVE SOCIAL EVENTS} + r_{ij},$$

in which  $y$  is the state psychological adjustment of person  $j$  on day  $i$ ,  $\beta_{0j}$  is a random coefficient representing the intercept for person  $j$ ,  $\beta_{1j}$  is a random coefficient for positive social events,  $\beta_{2j}$  is a random coefficient for negative social events, and  $r_{ij}$  represents error. The average appraisal of positive and negative social events varied considerably across persons and days, such that positive social events were rated more important than negative social events [(11.98 vs. 4.31,  $t(122) = 15.74$ ,  $p < .001$ )]. To eliminate the influence of these differences on parameter estimates, appraisals were group-mean centered, with *group* being defined as the individual participant (Raudenbush & Bryk, 2002). Because of this group-mean centering, coefficients for appraisals describe relationships between the deviation from each person's average appraisal of events and deviations from that person's average level of state psychological adjustment. Appraisals of positive and negative social events were entered together in order to examine their unique associations with state psychological adjustment.

Within-person relationships between state psychological adjustment and daily interpersonal stress were examined by analyzing Level 1 (within-person level) coefficients at Level 2 (between-person level) using the following model:

$$\text{Intercept: } \beta_{0j} = \gamma_{00} + u_{0j};$$

$$\text{Positive Social Events: } \beta_{1j} = \gamma_{10} + u_{1j};$$

$$\text{Negative Social Events: } \beta_{2j} = \gamma_{20} + u_{2j}.$$

In this model,  $\gamma_{00}$  represented the average of the within-person intercepts, and  $\gamma_{10}$  and  $\gamma_{20}$  represented the average importance of the positive and negative social events, respectively. All three within-person coefficients are modeled as random (i.e.,  $u_{0j}$ ,  $u_{1j}$ , and  $u_{2j}$  terms are included). As expected, each measure of state psychological adjustment was associated with both positive social events ( $|\gamma_{10s}| > .05$ ,  $ps < .001$ ) and negative social events ( $|\gamma_{20s}| > .09$ ,  $ps < .01$ ). Across all participants, state psychological adjustment was higher on days when the appraisals of positive social events were more important and negative social events were less important.

## BORDERLINE PERSONALITY FEATURES AND DAILY MEASURES

A two-level MRCM was used to examine whether borderline personality features were associated with state psychological adjustment and daily interpersonal stress. These effects were examined at Level 2 by modeling the variability of  $\beta_{0j}$ , the coefficient from the Level 1 model representing the group mean. This type of analysis is referred to as a *means as outcomes* analysis (Bryk & Raudenbush, 1992; Nezlek & Zyzanski, 1998). To examine whether the average scores for state psychological adjustment and daily interpersonal stress were associated with borderline personality features, the following Level 2 model was used:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{PAI-BOR}) + u_{0j}.$$

Borderline personality features were found to be associated with the average level of each measure of state psychological adjustment such that individuals with high levels of borderline personality features tended to report lower levels of state psychological adjustment,  $|\gamma_{01s}| > .87, ps < .01$ . Borderline personality features were also associated with the importance of negative social events,  $\gamma_{01} = 1.65, p < .001$ , but were unrelated to the importance of positive social events,  $\gamma_{01} = .09, ns$ .

## BORDERLINE PERSONALITY FEATURES AS A MODERATOR OF WITHIN-PERSON RELATIONSHIPS BETWEEN STATE PSYCHOLOGICAL ADJUSTMENT AND DAILY INTERPERSONAL STRESS

This analysis examined whether individual differences in borderline personality features moderated the association between state psychological adjustment and daily interpersonal stress. To determine if the within-person relationships described in the previous analyses varied as a function of person-level differences in borderline personality features, coefficients from Level 1 were analyzed at Level 2 using a model such as the following:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{PAI-BOR}) + u_{0j};$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{PAI-BOR}) + u_{1j};$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\text{PAI-BOR}) + u_{2j}.$$

In these models, the moderating effect of borderline personality features was tested by the significance of the  $\gamma_{11}$  and  $\gamma_{21}$  coefficients (for positive and negative social events, respectively). These coefficients can be interpreted like standardized regression coefficients because Level 2 variables were standardized prior to analysis (Nezlek & Plesko, 2003).

Borderline personality features were found to moderate the association between negative social events and state self-esteem,  $\gamma_{21} = -.19, p < .03$ . To examine the pattern of this cross-level interaction, simple slopes tests were employed that have been adapted for multilevel models (Curran, Bauer, & Willoughby, 2004, 2006). These analyses showed that individuals with high levels of borderline features experienced a significant decrease in state self-esteem on days when the importance of their negative social events was high,  $\gamma_{21} = -.49, p < .001$ . However, individuals with low levels of borderline features did not experience a significant decrease in state self-esteem on days when important negative social events occurred,  $\gamma_{21} = -.12, ns$ . Taken together, these results reveal that the association between state self-esteem and the importance of negative social events is much stronger among individuals with high levels of borderline features. A complementary effect showing that individuals with high levels of borderline personality features experienced greater increases in state self-esteem on days with important positive social events approached conventional levels of significance,  $\gamma_{11} = .07, p < .07$ . It is important to note that these coefficients remained relatively unchanged when controlling for the present day's state affect or the previous day's state self-esteem.

Borderline personality features also moderated the covariation of perceived rejection with positive social events ( $\gamma_{11} = -.03, p < .04$ ) and negative social events ( $\gamma_{21} = .10, p < .001$ ). The predicted values for these results are shown in Figure 3. Simple slopes tests for these analyses showed that individuals with high levels of borderline features reported lower levels of perceived rejection on days when the importance of their positive social events was high ( $\gamma_{11} = -.07, p < .001$ ) and higher levels of perceived rejection on days when the importance of their negative social events was high ( $\gamma_{21} = .19, p < .001$ ). Perceived rejection was unrelated to daily interpersonal stress among individuals with low levels of borderline features,  $|\gamma\sigma| < .03, ns$ . Taken together, these results reveal that the feelings of rejection experienced by individuals with high levels of borderline personality features are closely tied to daily interpersonal stress. These coefficients remained relatively unchanged when controlling for the present day's state affect, the present day's state self-esteem, or the previous day's feelings of rejection.

Similar analyses were conducted separately for state positive affect and state negative affect. An effect showing that individuals high in borderline features reported higher levels of state negative affect on days with more important negative social events approached conventional levels of significance,  $\gamma_{21} = .12, p < .09$ . No other moderating effects of bor-

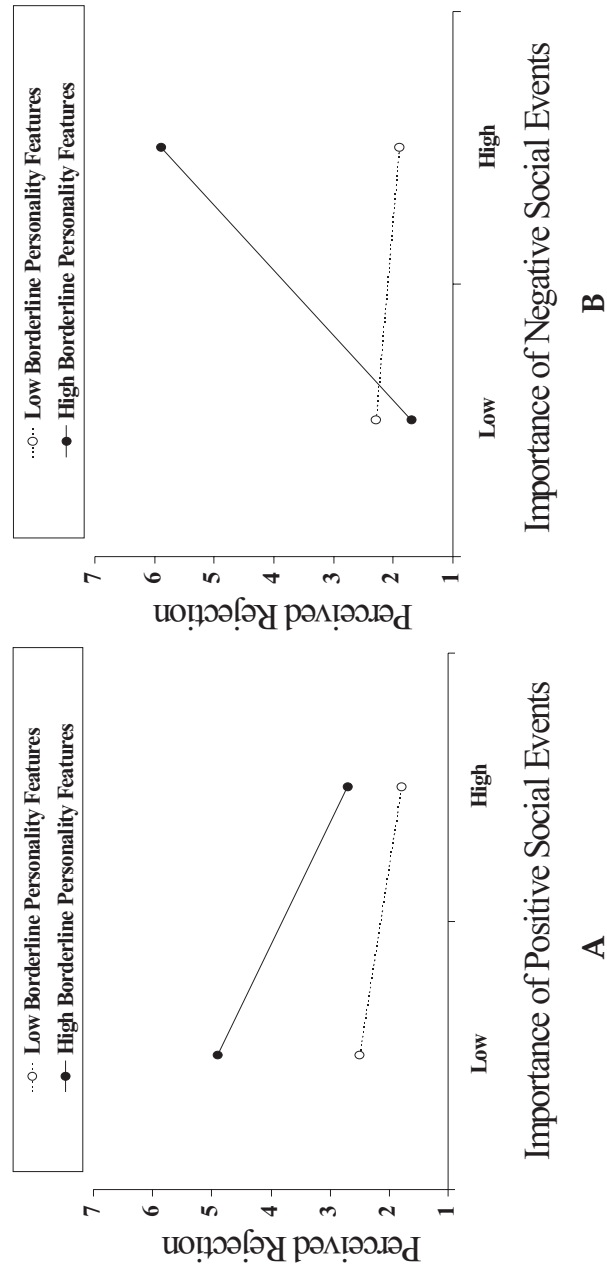


FIGURE 3. Adjusted predicted values for perceived rejection, illustrating the cross-level interaction of borderline personality features (one standard deviation above and below the grand mean) and the importance of (A) positive social events (two standard errors above and below the group mean) and (B) negative social events (two standard errors above and below the group mean).

derline personality features emerged between state affect and daily interpersonal stress.

## DISCUSSION

The present study used an experience-sampling design to examine the association between borderline personality features and the stability of self-esteem and affect. It was hypothesized that borderline personality features would be associated with self-esteem and affective instability. This simple hypothesis was supported for positive affect. That is, individuals with high levels of borderline personality features reported unstable positive affect. However, for state self-esteem and state negative affect, the relationship between borderline personality features and instability depended on the respective level of self-esteem and negative affect.

The present results show that individuals with stable high self-esteem report the lowest levels of borderline personality features, whereas individuals with unstable low self-esteem report the highest levels. This association between borderline personality features and self-esteem instability is consistent with previous research showing that individuals with unstable self-esteem are more reactive to daily events (Greenier et al., 1999; Kernis et al., 1998), focus more on the self-esteem-threatening aspects of unpleasant interpersonal situations (Waschull & Kernis, 1996), and possess impoverished self-concepts (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000). In order to more fully understand the self-esteem of individuals with borderline personality features, future research should examine whether these individuals possess discrepant self-esteem (e.g., Bosson, Brown, Zeigler-Hill, & Swann, 2003) or contingent self-esteem (e.g., Crocker & Wolfe, 2001).

Similar to the finding concerning self-esteem instability, it was the interaction of negative affect level and negative affect instability that was associated with borderline personality features. More specifically, the lowest levels of borderline personality features were found among individuals with stable low negative affect and the highest levels were found among those with unstable high negative affect. This result builds upon previous findings that suggest that BPD is characterized by unstable affect (e.g., Stein, 1995, 1996).

In addition to the instability of self-esteem and affect, the present study examined the lability of these constructs (i.e., their covariation with daily interpersonal stress). It was hypothesized that the self-esteem, affect, and perceived rejection of individuals with borderline personality features would be especially reactive to interpersonal stress. As expected, individuals with high levels of borderline personality features



reported experiencing more important negative interpersonal events than individuals with low levels of borderline personality features (see Tolpin et al., 2004 for similar results). More importantly for the present study, the results found that the state self-esteem and feelings of rejection of individuals with high levels of borderline personality features are especially reactive to interpersonal stress. This suggests that certain aspects of psychological adjustment may be closely tied to level of interpersonal stress experienced by individuals with borderline personality features. On days when their social interactions are positive, these individuals may experience feelings of relatively high self-worth and feel accepted; however, on days when their social interactions are negative, their self-worth may plummet and they may feel rejected.

It should be noted that there are important limitations associated with the present study. First, the present sample consisted of college students with the majority (86%) failing to report significant borderline personality features (i.e., these participants had PAI-BOR raw scores less than 38 or *T* scores less than 70). Because the present sample was drawn from a nonclinical population, it is difficult to generalize to individuals who meet the full diagnostic criteria for BPD. Second, the present study relied on subjective ratings of event importance. This may be considered problematic because ratings of daily events (or the mere recollection of daily events) may be associated with borderline personality features. However, the purpose of the present study was to examine the lability of individuals with high levels of borderline personality features in accordance with their *perceptions* of daily events rather than their responses to objective events. Third, the date and time that participants provided their responses were not recorded or verified (cf. Reis & Gable, 2000; Tennen & Affleck, 2002). This is an important limitation considering that large numbers of participants delay completing one or more daily measures during their participation in experience-sampling projects (Gable, Reis, & Elliot, 2000; Litt, Cooney, & Morse, 1998). Despite this limitation, participants did appear to comply with instructions (e.g., returned the daily measures every three to four days and skipped days when they forgot to complete the daily measures).

## CONCLUSION

The present study found that individuals with borderline personality features were characterized by unstable low self-esteem, unstable positive affect, and unstable high negative affect. In addition, these individuals were found to possess state self-esteem and feelings of perceived rejection that were highly reactive to daily interpersonal stress. Despite the considerable importance of instability to the diagnosis and under-

standing of BPD, it appears that this is the first study to demonstrate the instability and lability of individuals with borderline personality features through the use of an experience-sampling design.

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