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Maternal Borderline Personality Disorder Symptoms and Adolescent Psychosocial Functioning

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Abstract

Borderline personality disorder (BPD) is characterized by severe disruption of interpersonal relationships, yet very little research has examined the relationship between maternal BPD and offspring psychosocial functioning. The present study examined 815 mothers and their 15-year-old children from a community-based sample to determine 1) if there is an association between mothers' BPD symptoms and the interpersonal functioning, attachment cognitions, and depressive symptoms of their offspring, and 2) if the association of maternal BPD and youth outcomes is independent of maternal and youth depression. Measures of youth psychosocial functioning included self, mother, interviewer rated, and teacher reports. Results indicated that there was a significant association between maternal BPD symptoms and youth outcomes, and that this association remained even after controlling for maternal lifetime history of major depression, maternal history of dysthymic disorder, and youth depressive symptoms. This study provides some of the first empirical evidence for a link between mother's BPD symptoms and youth psychosocial outcomes.

Keywords: borderline personality disorder, major depression, psychosocial functioning, mothers, adolescents

Maternal Borderline Personality Disorder Symptoms and Adolescent Psychosocial Functioning

Borderline personality disorder (BPD) is a severe condition marked by dysfunction in interpersonal relatedness, emotion regulation, and behavioral control (e.g., Skodol, et al. 2002). For women with BPD who become mothers, the consistent finding that individuals with BPD have impaired interpersonal and family functioning (e.g., Chen et al., 2004; Zimmerman & Coryell, 1989) has led to the suggestion that their offspring may also be at risk for various psychosocial problems (Newman & Stevenson, 2005). Unfortunately, few empirical studies have examined characteristics of the children of BPD patients so the specific risks to children are, for the most part, only speculative.

Researchers have primarily examined family factors in BPD through genetic studies. For instance, Fruzzetti, Shenk, and Hoffman (2005) concluded that genes only modestly contribute to BPD traits. Family aggregation studies also tend to support the notion that borderline traits, rather than the complete disorder, are found more frequently among relatives of people with BPD than in relatives of control subjects (e.g., Siever, Torgersen, Gunderson, Livesley, & Kendler, 2002). Traits such as aggression or impulsivity may be passed to offspring, who do not meet criteria for BPD, but still experience the effects of these traits in their interpersonal relationships. Many of these family and genetic studies are limited by the lack of direct interviews with relatives, and by a focus on the family of origin rather than on the offspring of individuals with BPD.

An examination of the impact that maternal BPD has on offspring should also extend beyond parent-child diagnostic concordance by including other psychosocial outcomes. A model for studying the impact of parental BPD can be drawn from research with depressed mothers. Children of depressed mothers have been found to be at risk for both affective disorders

(Downey & Coyne, 1990) and other serious mental disorders (Hammen, Burge, Burney, & Adrian, 1990). Researchers have also found evidence of higher levels of social stress, poorer offspring interpersonal functioning, worse school behaviors, and other psychosocial functioning deficits among children with depressed mothers (e.g., Adrian & Hammen, 1993; Anderson & Hammen, 1993).

Despite the interpersonal and affective problems associated with BPD, only recently have studies of BPD begun to include similar analyses of offspring psychosocial outcomes. For instance, Weiss et al. (1996) reported that children of BPD mothers had higher rates of psychiatric disorders than children of mothers with other personality diagnoses. Another study found that infant children of BPD mothers were likely to have disorganized attachment to their mothers at one year of age (Hobson, Patrick, Crandell, Garcia-Perez, & Lee, 2005). Children of BPD mothers have also been shown to have more emotional and behavioral problems than children of depressed mothers (Barnow, Spitzer, Grabe, Kessler, & Freyberger, 2006). Furthermore, children of mothers with comorbid major depressive disorder (MDD) and BPD have been shown to exhibit more cognitive and interpersonal vulnerabilities than children of parents with MDD alone (Abela, Skitch, Auerbach, & Adams 2005). These studies are generally limited by small sample sizes, but cumulatively suggest that children of BPD mothers are at risk for certain adverse outcomes. More research is needed, however, that supports and elaborates these findings and that focuses specifically on the interpersonal adjustment of youths with BPD mothers.

The primary goal of the present study was to address the relationship between maternal BPD symptoms and youth psychosocial functioning. The current dataset did not include maternal Axis II diagnoses, but we concluded that a symptom approach was suitable for our aims because

a large number of women self-reported a high number of BPD symptoms, and there is considerable evidence that the diagnostic thresholds for BPD, and personality disorders generally, are arbitrarily drawn and that significant impairment occurs at subthreshold levels (e.g., Skodol et al., 2005; Trull, Ueda, Conforti, & Doan, 1997; Widiger, 1992). Because interpersonal dysfunction is a central characteristic of BPD, we hypothesized that higher levels of maternal BPD symptoms would be associated with poorer youth interpersonal and family functioning, less secure attachment representations, and greater depressive symptoms. The assessment battery includes an array of measures that have previously been shown to be indicative of psychosocial problems in depressed youth (e.g., Hammen & Brennan, 2001).

Furthermore, despite the high rates of comorbidity between BPD and depression, there is evidence that personality pathology has an effect on family functioning that is independent of the effect of depressive disorders (Miller, et al., 2000). We hypothesized, therefore, that maternal BPD symptoms would be related to youth psychosocial functioning even after controlling for maternal lifetime history of depression. Maternal MDD and dysthymic disorder (DD) were examined separately because there is evidence that DD may share common etiological factors with BPD and because BPD has been shown to occur more frequently among individuals with DD than among those with MDD (e.g., Klein & Schwartz, 2002). One strength of the study was the examination of our hypotheses in a large, community-based sample of 815 mothers and their adolescent children. In addition, the study improved on previous research by using self-report, mother report, teacher report, and interviewer rated measures to assess the relationship between maternal BPD symptoms and youth psychosocial functioning.

Method

Participants

Participants for the present study were selected from an initial sample consisting of mother-child pairs selected from a birth cohort of 7,775 children born between 1981 and 1984 at the Mater Misericordiae Mother's Hospital in Brisbane, Queensland, Australia as part of the Mater-University of Queensland Study of Pregnancy (MUSP; Keeping et al., 1989). When the youths were 15 years old, a subsample was recruited that oversampled mothers with previously reported depressive symptoms varying in chronicity and severity over four testings between pregnancy and child age 5 (formal depression diagnoses were subsequently ascertained, as described below). A comparison group of mothers with no or few depressive symptoms was also selected. Of the 991 families that were selected for the sample, 815 mother-child pairs agreed to participate. Approximately half of the children (49.3%) were female. The overall sample was 92% Caucasian and 8% other ethnicity (Asian, Pacific Islander, and Aboriginal). Among the mothers, 636 (78%) indicated that they currently lived with a partner. Median family income was in the level of Australian middle- and working-class socioeconomic status.

The sample consisted of 354 women with a lifetime history of MDD (189), DD (83), or both (82) and 461 women who were never depressed. As noted above, the high rate of depression was due to the oversampling of women who were at risk for major depression. There were 110 youths (14%) who met criteria for a current or past diagnosis of MDD or DD.

Procedure

The study was approved by the Institutional Review Boards of the University of Queensland, University of California, Los Angeles, and Emory University. Participants were interviewed and completed a battery of questionnaires in their homes. Parents and adolescents gave written informed consent (assent) and were paid for their participation. Interviewers were initially blind to the parents' depression status, and a team of two interviewers conducted each

parent and youth interview separately and privately.

Measures

Maternal Psychological Functioning

Mother diagnostic evaluation. The presence of past and current diagnoses from the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [DSM-IV]; American Psychological Association, 1994) was determined using the Structured Clinical Interview for DSM-IV (SCID-IV; First, Spitzer, Gibbon, & Williams, 1995) conducted when the youth was age 15. Reliability analyses yielded weighted κ values of .87 for current diagnoses of MDD, DD, or subsyndromal depression and .84 for past diagnoses.

Maternal borderline personality disorder symptoms. Mothers' current symptoms of BPD were assessed with the self-reported personality disorders section of the *Structured Clinical Interview for DSM—III-R, Patient Version* (SCID-Q; Spitzer, Williams, Gibbon, & First, 1990). The BPD subscale consists of 13 “yes or no” questions which correspond to the eight BPD criteria in the *DSM-III-R*. The subscale has been shown to have a Kuder Richardson-20 value of .75 indicating good internal consistency and a test-retest reliability at a one year follow-up that is comparable to the reliability of personality dimensions in the “five-factor” model (Ball, Rounsaville, Tennen, & Kranzler, 2001). Participants were considered to have endorsed a symptom if they responded “yes” to any of the corresponding items on the SCID-Q such that the final range of scores was 0-8, indicating the total number of symptoms endorsed.

The present study used total symptom scores rather than diagnostic thresholds in all analyses; however, there is evidence that the instrument has diagnostic validity. At the standard cutoff of five endorsed items the BPD subscale has been shown to have a positive predictive power of 30.8 (Jacobsberg, Perry, & Frances, 1995), and when the cutoff is increased by one, the

subscale has been shown to better approximate interviewer determined diagnoses (Ekselius, Lindstrom, Knorrning, Bodlund, and Kullgren, 1994). Seventy mothers (9%) in the present study were above this increased cutoff level (six), indicating that the sample included many mothers in the high range of BPD symptoms, some of whom would likely be above the diagnostic threshold for BPD.

Youth Depression

Youth diagnostic evaluation. The presence of current and lifetime depressive disorders in the youths was determined using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Epidemiologic version revised for *DSM-IV* (Orvaschel, 1995), administered separately to the parent and the youth and blind to mothers' depression status. Diagnostic decisions were reviewed by the clinical rating team with best-estimate judgments based on all available information. The weighted κ values for youth diagnoses were .82 for current depressive diagnoses (MDD or DD) or subclinical depression and .73 for past diagnoses.

Youth depressive symptoms. Youths completed the Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961), a widely used and well-validated (e.g., Beck, Steer, & Garbin, 1988) self-report instrument for assessing severity of depressive symptomatology.

Youth Psychosocial Outcomes

Chronic social stress. The chronic stress interview developed by Hammen and adapted for use with youths (YCS; e.g., Adrian & Hammen, 1993) was used to assess the youths' ongoing, typical functioning in several role areas. In the interview, various domains are probed, and then rated by the interviewer on a five-point scale with behaviorally specific anchor points. The ratings range from exceptionally good conditions (1) to extreme adversity and impairment

(5). Two youth reported domains were included in the present study to evaluate social relationships: Close Friendship and Social Life. Interrater reliabilities (intraclass correlation) based on independent judges' ratings were .76 and .63, respectively.

Youth interpersonal self-perception. The 15-year-olds were administered the Self-Perception Profile for Adolescents (Harter, 1988), a 45-item self-report scale assessing domain-specific areas of competence. Two five-item subscales were included in the present study: Close Friendship (perceived ability to make close friends) and Social Acceptance (acceptance by peers, has friends, easy to like). Scores were summed across the five items of each subscale to form totals, with higher scores representing more positive self-perceptions. Harter reported that both subscales have a mean internal consistency of .82.

Teacher report of youth interpersonal functioning. Classroom (homeroom) teachers rated each youth's level of peer rejection and popularity. This measure was developed and reported by Rudolph, Hammen, and Burge (1994; 1997). Rejection was rated on a scale of 1 (not at all rejected) to 5 (to a large degree rejected). Popularity was rated on a scale of 1 (extremely popular) to 5 (not at all popular). Previous research based on peer reports has shown that these categories discriminate between different types of children (e.g., Coie & Kupersmidt, 1983). While data have not been reported on the use of these items with 15-year-olds, significant associations between the teacher ratings and other interpersonal variables in the present study are in the predicted direction, suggesting construct validity.

Bartholomew attachment prototypes. Youths completed a questionnaire assessing four attachment prototypes developed by Bartholomew and Horowitz (1991). The prototypes are Secure (comfortable depending on others and having them depend on me, don't worry about being alone), Dismissing (prefer not to depend on others or have them depend on me),

Preoccupied (wish to be emotionally intimate with others but find that others reluctant to get as close as I like), and Fearful (want emotionally close relationships but find it difficult to trust others). Participants rated a statement corresponding to each domain on a seven-point scale ranging from 1 (not at all like me) to 7 (very much like me). Construct and convergent validity of these prototypes were reported by Bartholomew and Horowitz (1991) and Carnelley, Pietromonaco, and Jaffe (1994).

Mother-Youth Relationship Measures

Chronic family stress. The chronic stress interview, described above, was also administered to examine youth family relationship outcomes. Interviewers rated the youths' description of chronic stress in the Family domain on the same 1 to 5 scale. In addition, interviewers rated the mothers' description of chronic stress (MCS) in the Mother-Youth relationship. Interrater reliabilities, based on independent judges' ratings were .84 and .82 for these measures, respectively.

Perceived parenting quality. A maternal parenting quality questionnaire, completed by the youths, contained two subscales measuring their perceptions of the mother's warmth (9 items) and hostility (15 items), scored on seven-point scales (1=*always*, 7=*never*). The questionnaire was developed by the Iowa Youth and Families Project on the basis of their observational measures of the same constructs (e.g., Ge, Best, Conger, & Simons, 1996), with high internal reliability and good correlations with observed parental warmth and hostility. In the present study, the warmth scale had an internal consistency reliability of .91, and the hostility scale had an alpha of .92.

Results

Means, standard deviations, and correlations between measures are presented in Table 1.

While maternal BPD symptoms were not related to youth history of depressive disorder, significantly more of the mothers with a history of MDD or DD than the mothers with no history of depression had offspring with a history of any depressive disorder (18% vs. 10%, $\chi^2[1, N=815] = 12.42, p < .001$). Zero-order correlations indicate that maternal BPD symptoms were significantly associated with maternal lifetime MDD and DD, as well as with most youth psychosocial outcome measures. All correlations were in the predicted direction, indicating that increased maternal BPD symptoms were associated with poorer youth psychosocial functioning on all measures except dismissing and preoccupied attachment and teacher reported rejection by peers. Maternal lifetime MDD and DD were also associated with many of the youth outcomes. While most of the youth outcome variables were significantly associated with one another, the correlations were modest enough to warrant separate analyses for each measure.

Hierarchical regression analyses were run for each dependent youth psychosocial functioning variable. Family income and youth gender were related to several of the youth psychosocial outcomes, so these variables were entered on the first step in each regression model to control for their effect. Additional analyses (not presented) indicated that there were no significant interactions between youth gender and maternal BPD symptoms.

After entering the control variables, maternal BPD symptoms were entered into the equations in Model 1 and maternal lifetime MDD and DD were added in Model 2, thus controlling for maternal lifetime depression when assessing the impact of maternal BPD symptoms. Finally, youth BDI was entered in Model 3 to control for the potentially confounding effects of youth current depression on social functioning. We chose to use youth BDI instead of youth depression diagnosis because, as seen in Table 1, it was more strongly related to the outcome measures. Results are presented in Tables 2 and 3 and summarized below.

Youth depressive symptoms as outcomes. The relationship between maternal BPD symptoms and youth depressive symptoms (BDI) was examined (see Table 2). Despite an insignificant zero-order correlation, maternal BPD symptoms were related to youth BDI after controlling for maternal income and youth gender. Adding maternal lifetime MDD and DD in Model 2 did not explain significantly more of the variance; however, maternal BPD symptoms were no longer significantly related to youth BDI because maternal lifetime MDD fully accounted for this relationship.

Youth interpersonal functioning. Each youth interpersonal functioning measure was entered as a dependent variable in separate regression equations. As shown in Table 2, maternal BPD symptoms were associated with both Harter measures after controlling for the demographic variables in Model 1. Maternal BPD symptoms were not significantly related to any other youth interpersonal outcomes. When maternal lifetime MDD and DD were added to the equations in Model 2, no additional variance in the Harter measures was accounted for and maternal BPD symptoms continued to be significantly associated with both Harter measures. Adding maternal MDD and DD did explain significantly more variance of the Close Friend YCS, but neither depression variable accounted for more variance than the other. While the full models were significant for Social Life YCS and the teacher rated measures, none of the maternal variables had a unique association with these youth outcomes.

When youth BDI was included in Model 3, youth depressive symptoms accounted for a significant amount of additional variance of all youth interpersonal outcomes. Adding youth BDI fully accounted for the previously significant relationship between maternal depressive disorders and Close Friend YCS. Maternal BPD symptoms, however, continued to explain variance on the Harter measures that was not accounted for by youth BDI.

Youth attachment cognitions. The four attachment domain measures were entered as dependent variables in separate regression analyses (see Table 3). In Model 1, maternal BPD symptoms were associated with youth secure and fearful attachment after controlling for the demographic variables. Adding maternal lifetime MDD and DD to the equations in Model 2 did not explain more variance of any of the youth attachment measures. With maternal depression history in the model, maternal BPD symptoms were no longer uniquely associated with youth secure attachment, but they continued to explain a significant amount of the variance of youth fearful attachment. The full model was significant for youth dismissing attachment, but none of the maternal variables uniquely accounted for any variance of the measure. The full model was not significant for preoccupied attachment. Although youth BDI accounted for a significant amount of the variance of all attachment measures in Model 3, maternal BPD symptoms continued to significantly explain some of the variance of youth fearful attachment.

Mother-youth relationship. Among the mother-youth relationship measures, maternal BPD symptoms were significantly related to Family YCS, Mother-Youth MCS, and youth-perceived hostility (but not warmth) after controlling for the demographic variables in Model 1. Adding maternal lifetime MDD and DD in Model 2 accounted for significantly more of the variance of Family YCS and Mother-Youth MCS. The maternal depression variables fully accounted for the previous relationship between maternal BPD symptoms and Family YCS, with maternal lifetime MDD and DD each separately explaining some of the variance. All three maternal variables uniquely explained some of the variance of Mother-Youth MCS. Adding maternal MDD and DD did not explain any further variance of youth-perceived warmth or hostility, and maternal BPD symptoms remained significantly associated with hostility. The full model for youth-perceived warmth was not significant.

Adding youth BDI in Model 3 significantly explained more of the variance of all mother-youth relationship variables. Maternal MDD and DD each continued to account for some of the variance of Family YCS and Mother-Youth MCS. Maternal BPD symptoms continued to account for some of the variance of Mother-Youth MCS and youth-perceived hostility.

Moderation analyses. Follow-up analyses were conducted to examine interactions between maternal lifetime MDD or DD and maternal BPD symptoms on youth outcomes. The interaction terms were entered as independent variables in each of the regression equations in Model 2. There was a significant interaction on the Family YCS such that increased maternal BPD symptoms were related to higher youth reported family stress among mothers with a history of MDD, but not among mothers with no history of MDD. There was also a significant interaction on youth secure attachment such that increased maternal BPD symptoms were related to lower youth secure attachment among mothers with a history of DD, but not among mothers with no history of DD. For all other dependent variables, the interaction terms were not significant.

Discussion

The present study examined the association between maternal BPD symptoms and adolescent psychosocial functioning in a large community sample of youth at risk for depression, while controlling for the effects of maternal lifetime history of major depression and dysthymic disorder. As expected (e.g., Downey & Coyne, 1990), maternal history of depressive disorder was associated with youth interpersonal functioning, family problems, and insecure attachment. Maternal BPD symptoms, however, were also found to be associated with several youth psychosocial outcomes, thus extending limited prior research with BPD mothers (e.g., Abela et al., 2005; Barnow et al., 2006). Specifically, even after controlling for maternal depressive

disorders, higher maternal BPD symptoms were independently related to 1) youth self-reported poor self-perception of the ability to make close friends and be socially accepted, 2) youth self-reported fearful attachment cognitions, 3) interviewer ratings of mother reported chronic stress in the parent-youth relationship, and 4). youth perception of maternal hostility. In addition, when analyzed together, maternal BPD symptoms, maternal lifetime MDD, and maternal lifetime DD remained independently significant for many of the youth family functioning variables and there were few interactions between maternal BPD symptoms and depression diagnoses, suggesting that maternal BPD symptoms and depressive disorders may be separate risk factors for mother-youth relationship problems.

Also as expected (e.g., Hammen & Brennan, 2001), when youth depressive symptoms were entered into the model they were strongly associated with nearly all of the youth outcome variables. Yet even after this stricter test, all significant associations between maternal BPD and youth outcomes survived. These associations suggest that increased maternal BPD symptoms are a risk factor, independent of both maternal and youth depression, for youths having more fearful attachment cognitions and problems in their interpersonal and family relationships in a depression high-risk sample. One interpretation of these results is that they are an indication that interpersonal traits may be passed genetically from a BPD mother to her child, as in prior research showing that impulsivity and affective instability are found frequently among first-degree relatives of BPD probands (e.g., Siever et al., 2002). Alternatively, the affective, interpersonal, and emotion regulation problems of mothers with many BPD symptoms may lead to problems in their role as a parent and adversely impact their children's psychosocial development.

There are several limitations of the present study. First, the BPD symptom measure used

is not an ideal diagnostic tool for assessing BPD. Results based on these symptoms, rather than diagnoses, may not generalize to clinical samples and populations that are assessed using more extensive interview-based measures. However, more than half of the women with elevated self-reported symptoms on the SCID-Q would likely have met diagnostic criteria (e.g., Ekselius et al., 1994), and subclinical levels are still likely to be associated with significant impairment (e.g., Widiger, 1992). It is also possible that a more clinical sample would have further strengthened the findings. The study was also limited by the effect sizes of the associations between maternal BPD symptoms and youth outcomes, which were all in the small range. This suggests that high maternal BPD symptoms are only one of many risk factors that are associated with poorer youth interpersonal functioning. Nonetheless, maternal BPD symptoms emerged as an important factor that was separate from the youths' own depressive symptoms and that accounted for more of the variance of several psychosocial outcomes than did maternal lifetime depressive disorders. Finally, the present analyses are primarily correlational in nature and conclusions cannot be made about causation. Additional research is needed to examine whether maternal BPD symptoms cause or contribute to youth psychosocial problems, whether both are linked to shared genetic factors, or whether there are other reasons for the association.

Overall, this study provides some of the first empirical evidence that a mother's BPD symptoms are related to interpersonal difficulties, family relationship problems, and fearful attachment in her adolescent offspring. These relationships are not fully accounted for by the mother's history of major depression or dysthymia or the youth's own depressive symptoms. The findings suggest that interventions involving a mother with BPD traits should consider targeting her relationship with her child, which may improve her family environment and may also reduce the youth's risk for psychosocial problems. Alternatively, when an adolescent or adult child of a

mother with BPD presents for treatment, the findings suggest that interventions may need to address problems in both family and non-family relationships.

In conclusion, the results of the present study may best serve as a starting point for future research. Subsequent studies would benefit from the inclusion of father data in the analyses. The possible additive effect that father psychopathology might contribute in the context of maternal BPD or the protective effect that a supportive father may have on children of mothers with BPD are both important areas deserving of more attention. Furthermore, longitudinal analyses are needed that continue to explore possible causal links between maternal BPD and youth psychosocial outcomes from adolescence into adulthood.

References

- Abela, J.R.Z., Skitch, S.A., Auerbach, R.P., Adams, P. (2005). The impact of parental borderline personality disorder on vulnerability to depression in children of affectively ill parents. *Journal of Personality Disorders, 19*, 68-83.
- Adrian, C. & Hammen, C. (1993). Stress exposure and stress generation in children of depressed mothers. *Journal of Consulting and Clinical Psychology, 61*, 354-359.
- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders. (4th ed.). Washington, DC: Author.
- Anderson, C.A. & Hammen, C.L. (1993). Psychosocial outcomes of children of unipolar depressed, bipolar, medically ill, and normal women: A longitudinal study. *Journal of Consulting and Clinical Psychology, 61*, 448-454.
- Ball, S.A., Rounsaville, B.J., Tennen, H., & Kranzler, H.R. (2001). Reliability of personality disorder symptoms and personality traits in substance-dependent inpatients. *Journal of Abnormal Psychology, 110*, 341-352.
- Barnow, S., Spitzer, C., Grabe, H.J., Kessler, C., Freyberger, H.J. (2006). Individual characteristics, familial experience, and psychopathology in children of mothers with borderline personality disorder. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*, 965-972.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226-244.
- Beck, A.T., Steer, R.A., & Garbin, M.G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Beck, A.T., Ward, C.H., Mendelsohn, M., Mock, J., & Erbaugh, J. (1961). An inventory for

- measuring depression. *Archives of General Psychiatry*, 32, 723-730.
- Carnelley, K. B., Pietromonaco, P. R., & Jaffe, K. (1994). Depression, working models of others, and relationship functioning. *Journal of Personality and Social Psychology*, 66, 127-140.
- Chen, H., Cohen, P., Johnson, J.G., Kasen, S., Sneed J.R., & Crawford, T.N. (2004). Adolescent personality disorders and conflict with romantic partners during the transition to adulthood. *Journal of Personality Disorders*, 18, 507-525.
- Coie, J.D., & Kupersmidt, J.B. (1983). A behavioral analysis of emerging social status in boys' groups. *Child Development*, 54, 1400-1416.
- Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin*, 108, 50-76.
- Ekselius, L., Lindstrom, E., von Knorring, L., Bodlund, O., & Kullgren, G. (1994). SCID II interviews and the SCID Screen questionnaire as diagnostic tools for personality disorders in DSM-III-R. *Acta Psychiatrica Scandinavica*, 90, 120-123.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1995). Structured Clinical Interview for DSM-IV Axis I Disorders. American Psychiatric Press, Washington, DC.
- Fruzzetti, A.E., Shenk, C., Hoffman, P.D. (2005). Family interaction and the development of borderline personality disorder: A transactional model. *Developmental and Psychopathology*, 17, 1007-1030.
- Ge, X., Best, K. M., Conger, R. D., & Simons, R. L. (1996). Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. *Developmental Psychology*, 32, 717-731.
- Hammen, C., & Brennan, P.A. (2001). Depressed adolescents of depressed and nondepressed mother: Tests of an interpersonal impairment hypothesis. *Journal of Consulting and Clinical*

Psychology, 69, 284-294.

Hammen, C., Burge, D., Burney, E., & Adrian, C. (1990). Longitudinal study of diagnoses in children of women with unipolar and bipolar affective disorder. *Archives of General Psychiatry*, 47, 1112-1117.

Harter, S. (1988). Developmental and dynamic changes in the nature of the self-concept: Implications for child psychotherapy. In S. R. Shirk (Ed.), *Cognitive development and child psychotherapy* (pp. xv-344). New York: Plenum Press.

Hobson, R.P., Patrick, M., Crandell, L., Garcia-Perez, R., & Lee, A. (2005) Personal relatedness and attachment in infants of mothers with borderline personality disorder. *Development and Psychopathology*, 17, 329-347.

Jacobsberg, L., Perry, S., & Frances, A. (1995). Diagnostic agreement between the SCID--II screening questionnaire and the personality disorder examination. *Journal of Personality Assessment*, 65, 428-433.

Keeping, J. D., Najman, J. M., Morrison, J., Western, J. S., Andersen, M. J., & Williams, G. M. (1989). A prospective longitudinal study of social, psychological, and obstetrical factors in pregnancy: Response rates and demographic characteristics of the 8,556 respondents. *British Journal of Obstetrics and Gynecology*, 96, 289-297.

Klein, D.N., & Schwartz, J.E. (2002). The relation between depressive symptoms and borderline personality disorder features over time in dysthymic disorder. *Journal of Personality Disorders*, 16, 523-535.

Miller, I.W., McDermut, W., Gordon, K.C., Keitner, G.I., Ryan, C.E., & Norman, W. (2000). Personality and family functioning in families of depressed patients. *Journal of Abnormal Psychology*, 109, 539-545.

- Newman, L. & Stevenson, C. (2005). Parenting and borderline personality disorder: Ghosts in the nursery. *Clinical Child Psychology and Psychiatry, 10*, 395-394.
- Orvaschel, H. (1995). *Schedule for Affective Disorder and Schizophrenia for School-Age Children Epidemiologic Version 5*. Ft. Lauderdale, FL: Center for Psychological Studies, Nova Southeastern University.
- Rudolph, K.D., Hammen, C., Burge, D. (1994). Interpersonal functioning and depressive symptoms in childhood: addressing the issues of specificity and comorbidity. *Journal of Abnormal Child Psychology, 22*, 355-371.
- Rudolph, K.D., Hammen, C., Burge, D. (1997). A cognitive-interpersonal approach to depressive symptoms in preadolescent children. *Journal of Abnormal Child Psychology, 25*, 33-45.
- Siever, L.J., Torgersen, S., Gunderson, J.G., Livesley, W.J., & Kendler, K.S. (2002). The borderline diagnosis III: Identifying endophenotypes for genetic studies. *Society of Biological Psychiatry, 51*, 964-968.
- Skodol, A.E., Gunderson, J.G., Pfohl, B., Widiger, T.A., Livesley, W.J., & Siever, L.J. (2002). The borderline diagnosis I: Psychopathology, comorbidity, and personality structure. *Biological Psychiatry, 51*, 936-950.
- Skodol, A.E., Oldham, J.M., Bender, D.S., Dyck, I.R., Stout, R.L., & Morey, L.C. et al. (2005). Dimensional representations of DSM-IV personality disorders: Relationships to functional impairment. *American Journal of Psychiatry, 162*, 1919-1925.
- Spitzer, R. L., Williams, J. B. W., Gibbon, M., & First, M. (1990). *Structured Clinical Interview for DSM—III-R, Patient Version (with Psychotic Screen; Personality Disorders)*. Washington, DC: American Psychiatric Press.
- Trull, T.J., Ueda, D., Conforti, K., & Doan, B. (1997). Borderline personality disorder features

in nonclinical young adults: 2. Two-year outcome. *Journal of Abnormal Psychology*, *106*, 307-314.

Weiss, M., Zelkowitz, P., Feldman, R.B., Vogel, J., Heyman, M., & Paris, J. (1996).

Psychopathology in offspring of mothers with borderline personality disorder: A pilot study. *Canadian Journal of Psychiatry*, *41*, 285-290.

Widiger, T.A. (1992). Categorical versus dimensional classification: Implications from and for research. *Journal of Personality Disorders*, *6*, 287-300.

Zimmerman, M., & Coryell, W. (1989). DSM-III personality disorder diagnoses in a nonpatient sample: Demographic correlates and comorbidity. *Archives of General Psychiatry*, *46*, 682-689.

Table 1
Correlations and means (sd)

	1	2 ^a	3 ^b	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Maternal BPD symps.	2.3(2.1)																		
2. Mother Lifetime MDD	.26***	35%																	
3. Mother Lifetime DD	.25***	.18***	20%																
4. Youth Lifetime depression	.06	.12***	.11***	14%															
5. Youth BDI - age 15	.09*	.11**	.06	.24***	6.0(6.8)														
6. YCS-Close Friend	.07*	.09**	.09*	.10**	.08*	2.2(0.5)													
7. YCS-Social Life	.09*	.09*	.09*	.16***	.18***	.48***	2.3(0.5)												
8. HAR-Close Friend	-.12***	-.09*	-.05	-.04	-.22***	-.37***	-.31***	16.6(3.2)											
9. HAR-Social Accept	-.13***	-.08*	-.09**	-.09*	-.24***	-.24***	-.45***	-.49***	15.7(2.9)										
10. Teacher-Popularity	-.09*	-.06	-.01	-.08*	-.15***	-.10*	-.23***	-.14***	.26***	4.5(1.2)									
11. Teacher-Rejected	.08	.08*	.04	.09*	.13**	.11**	.24***	-.11**	-.20***	-.65***	2.4(1.3)								
12. ATT-Secure	-.10**	-.08	-.07	-.07	-.28***	-.20***	-.21***	.40***	.36***	.25***	-.20***	5.1(1.6)							
13. ATT-Dismissing	.05	-.03	.02	.01	.08*	.12***	.06	-.24***	-.12***	.00	.04	-.06	3.2(1.7)						
14. ATT-Preoccupied	.05	.01	.04	.01	.27***	.06	.08*	-.26***	-.24***	-.16***	.17***	-.16***	.12***	2.8(1.6)					
15. ATT-Fearful	.15***	.07*	.09*	.11***	.26***	.12***	.15***	-.31***	-.28***	-.12**	.14***	-.21***	.23***	.39***	2.5(1.6)				
16. YCS-Family Relation	.15***	.16***	.18***	.24***	.32***	.21***	.20***	-.11**	-.08*	-.11**	.15***	-.16***	.03	.07*	.10**	2.3(0.6)			
17. MCS-Relat. w/ Youth	.24***	.17***	.19***	.10**	.20***	.12***	.13***	-.11**	-.04	-.16***	.17***	-.13***	.03	.09*	.10**	.42***	2.2(0.5)		
18. Maternal Warmth	-.07*	-.02	-.05	-.11***	-.30***	-.10**	-.13***	.21***	.17***	.10*	-.12**	.17***	-.04	-.16***	-.13***	-.43***	-.30***	27.5(11.1)	
19. Maternal Hostility	.17***	.11***	.10**	.16***	.39***	.08*	.11**	-.19***	-.14***	-.14***	.12**	-.25***	.07*	.15***	.19***	.41***	.35***	-.47***	85.6(14.2)

*p < .05, **p < .01, ***p < .001

BDI=Beck Depression Inventory; YCS=Youth Chronic Stress Interview; MCS=Mother Chronic Stress Interview; ATT=Bartholomew Attachment; HAR=Harter Self-Perception

Table 2
 Relationship between maternal BPD symptoms and youth depressive and interpersonal outcomes, controlling for maternal lifetime depressive disorder (Model 2) and youth BDI (Model 3)

Dependent variable	Model 1: Maternal BPD Symptoms					Model 2: Maternal BPD Symptoms Maternal Lifetime DD					Model 3: Maternal BPD Symptoms Maternal Lifetime DD Maternal Lifetime MDD Youth BDI				
	B	SE	B beta	R ² †	R ² change	B	SE	B beta	R ² †	R ² change ‡	B	SE	B beta	R ² †	R ² change
Youth BDI	.25	.12	.08*	.035***	.006*	.16	.12	.05							
						.36	.62	.02			N/A				
						1.20	.53	.08*	.042***	.007					
YCS-Close Friend	.01	.01	.06	.023***	.003	.01	.01	.03			.01	.01	.03		
						.07	.05	.06			.07	.05	.06		
						.07	.04	.07	.031***	.008*	.06	.04	.06		
											.006	.003	.08*	.037***	.006*
YCS-Social Life	.01	.01	.06	.036***	.004	.01	.01	.04			.01	.01	.03		
						.06	.04	.05			.06	.04	.05		
						.05	.04	.05	.042***	.006	.04	.04	.04		
											.011	.002	.16***	.066***	.024***
HAR-Close Friend	-.18	.06	-.12**	.045***	.013**	-.15	.06	-.10*			-.13	.06	-.09*		
						-.12	.30	-.01			-.08	.29	-.01		
						-.41	.26	-.06	.048***	.004	-.27	.25	-.04		
											-.11	.02	-.23***	.10***	.052***
HAR-Social Accept	-.17	.05	-.12***	.023***	.014***	-.14	.05	-.10*			-.12	.05	-.08*		
						-.39	.27	-.05			-.35	.27	-.05		
						-.26	.24	-.04	.028***	.005	-.14	.23	-.02		
											-.10	.02	-.24***	.081***	.053***
Teacher-Popularity	-.04	.02	-.08	.025**	.006	-.04	.03	-.07			-.04	.03	-.07		
						.07	.13	.02			.08	.13	.03		
						-.11	.11	-.04	.027**	.002	-.07	.11	-.03		
											-.03	.01	-.16***	.050***	.023***
Teacher-Rejected	.04	.03	.07	.031***	.004	.03	.03	.05			.03	.03	.05		
						-.01	.15	.00			-.02	.15	.00		
						.17	.12	.06	.034**	.003	.14	.12	.05		
											.02	.01	.12**	.048***	.014**

*p < .05, **p < .01, ***p < .001

† R² values are for the full models which include family income and youth gender.

‡ R² change indicates the increase in R² when both Maternal Lifetime MDE and Maternal Lifetime DD are entered in Model 2.

BDI=Beck Depression Inventory; YCS=Youth Chronic Stress Interview; MCS=Mother Chronic Stress Interview; ATT=Bartholomew Attachment; HAR=Harter Self-Perception

Table 3
 Relationship between maternal BPD symptoms and youth attachment and family relationship outcomes, controlling for maternal lifetime depressive disorder (Model 2) and youth BDI (Model 3)

Dependent variable	Model 1: Maternal BPD Symptoms					Model 2: Maternal BPD Symptoms					Model 3: Maternal BPD Symptoms				
	B	SE B	beta	R ² †	R ² change	B	SE B	beta	R ² †	R ² change ‡	B	SE B	beta	R ² †	R ² change
ATT-Secure	-.07	.03	-.09*	.032***	.008*	-.06	.03	-.07	.035***	.004	-.05	.03	-.06	.116***	.081***
						-.13	.15	-.03			-.11	.15	-.03		
						-.18	.13	-.05			-.09	.13	-.03		
ATT-Dismissing	.03	.03	.04	.023***	.002	.04	.03	.05	.026***	.003	.04	.03	.05	.035***	.009**
						.04	.16	.01			.03	.16	.01		
						-.20	.14	-.06			-.23	.14	-.06		
ATT-Preoccupied	.01	.03	.02	.01	.000	.01	.03	.01	.011	.001	.00	.03	-.01	.035***	.009**
						.12	.16	.03			.10	.15	.02		
						-.02	.13	.00			-.10	.13	-.03		
ATT-Fearful	.10	.03	.13***	.046***	.016***	.09	.03	.11**	.048***	.002	.08	.03	.10**	.107***	.058***
						.16	.15	.04			.13	.15	.03		
						.08	.13	.02			.00	.13	.00		
YCS-Family Relation	.04	.01	.13***	.049***	.016***	.02	.02	.07	.076***	.028***	.02	.01	.06	.156***	.079***
						.19	.05	.13***			.18	.05	.12***		
						.13	.05	.10**			.10	.04	.08*		
MCS-Relat. w/ Youth	.06	.01	.23***	.064***	.051***	.04	.01	.18***	.088***	.024***	.04	.01	.17***	.118***	.030***
						.15	.05	.12***			.14	.04	.12***		
						.11	.04	.10**			.09	.04	.08*		
Maternal Warmth	-.37	.19	-.07	.007	.005	-.34	.20	-.06	.008	.001	-.25	.19	-.05	.101***	.094***
						-.83	1.03	-.03			-.65	.98	-.02		
						.15	.88	.01			.76	.84	.03		
Maternal Hostility	1.07	.24	.16***	.034***	.024***	.89	.26	.13***	.041***	.007	.75	.24	.11**	.182***	.141***
						1.81	1.30	.05			1.52	1.21	.04		
						1.95	1.12	.07			.98	1.03	.03		
											.81	.07	.38***		

*p < .05, **p < .01, ***p < .001

† R² values are for the full models which include family income and youth gender.

‡ R² change indicates the increase in R² when both Maternal Lifetime MDE and Maternal Lifetime DD are entered in Model 2.

BDI=Beck Depression Inventory; YCS=Youth Chronic Stress Interview; MCS=Mother Chronic Stress Interview; ATT=Bartholomew Attachment; HAR=Harter Self-Perception