

Maternal Depression and Its Relationship to Life Stress, Perceptions of Child Behavior Problems, Parenting Behaviors, and Child Conduct Problems

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This study examined the relationship of reported maternal depression to prior and current life stressors, and to mother perceptions of child adjustment, parenting behaviors, and child conduct problems. Forty-six depressed mothers and 49 nondepressed mothers and their clinic-referred children (aged 3-8 years) participated. Depressed mothers were more critical than nondepressed mothers, but the behavior of children of depressed and nondepressed mothers showed no significant differences. Depressed mothers were more likely to have experienced child abuse, spouse abuse, or more negative life events than nondepressed mothers. Maternal reports of stress related to mother characteristics and to negative life events were the most potent variables discriminating depressed from nondepressed mother families.

Mothers of conduct problem clinic-referred children have been reported to have higher levels of maternal depression than mothers of nonclinic children

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(Griest, Forehand, Wells, & McMahon, 1980; Mash & Johnston, 1983a; Patterson, 1982). Although there has been much theorizing that maternal depression leads to child conduct problems, research evaluating the relationship between maternal reports of depression and direct observations of depressed and nondepressed mothers' behaviors and their children's behaviors has yielded conflicting conclusions. Rickard, Forehand, Wells, Griest, and McMahon (1981) first reported that depressed mothers of clinic-referred children had fewer beta commands and less deviant children. Rogers and Forehand (1983) found no relationship between maternal depression and maternal behavior toward children. Forehand and Brody (1985) found maternal depression to be related to maternal perceptions of child maladjustment but not to maternal behaviors. However, a later study (Forehand, Lautenschlager, Faust, & Graziano, 1986) indicated that there were significant paths from maternal depression to maternal perceptions of child maladjustment, to increased beta commands, and to increased child noncompliance. Finally, in the most recent study using extensive observational analyses and a normal control group (Hops et al., 1987), it was reported that depressed mothers' behaviors actually suppressed or reduced children's aggressive behaviors. Therefore, conclusions about how parental depression influences parenting behaviors and in turn their children's behaviors is contradictory and cannot be reliably determined. Moreover, prior studies of depressed mothers have been hampered by methodological problems such as small sample sizes, lack of an appropriate control group, and reliance on data from lower-class clinic-referred mothers. Thus, confounding factors such as poverty, single parenthood, low education, and increased life stresses may have had more to do with the findings than maternal depression per se.

To understand the effects of maternal depression on children's behavior it is necessary to replicate previous studies using similar diagnostic criteria and measures and to obtain multiple independent sources of data, such as father and teacher reports. There also is a need to examine further other types of social and environmental life stress factors that may relate to maternal depression and play an important role in the development of conduct problems. The purpose of this study was to investigate the relationship of maternal depression to prior and current life stressors, to maternal and paternal perception of child adjustment, to parent behaviors, and to child conduct problems. Depressed mothers with conduct problem children were compared with nondepressed mothers and fathers with conduct problem children. Detailed information was obtained from middle-class as well as lower-class mothers and fathers about their family backgrounds, stress levels, and perceptions of their children's behaviors. Direct observations of parent-child interactions and teacher reports were also obtained.

METHOD

Subjects

The sample, consisting of 95 families, was recruited from a behavioral clinic that announced a specialized program for conduct problem children. Criteria for study entry were the following: The child was between 3 and 8 years old, with no debilitating physical impairment, intellectual deficit, or history of psychosis, and the primary referral problem was child conduct problems occurring for more than 6 months (e.g., noncompliance, aggression, and oppositional behavior). The families were divided into two groups: those with a depressed mother ($n = 46$) and those in which the mother was not depressed ($n = 49$). To be classified as depressed the mother had to have scored 10 or more on the Beck Depression Inventory (BDI; Beck, 1982). The

Table 1. Demographic Variables for Depressed ($N = 46$) and Nondepressed ($N = 49$) Mothers' Families

Demographic variables	Depressed	Nondepressed
	<i>M(SD)</i>	<i>M(SD)</i>
Child's mean age (months)	58.67 (13.3)	58.86 (15.9)
Mean number of children	1.98 (.77)	2.00 (1.1)
Mother's mean age	31.30 (4.9)	33.30 (4.9)
Father's mean age	34.40 (4.6)	35.10 (4.2)
Mean social position score ^b	45.39 (16.6)	40.12 (15.6)
Child's sex ^a	<i>N</i>	<i>N</i>
Male	32	31
Female	14	17
Education ^a		
Some high school	3	3
High school completed	18	13
Some college	14	16
College completed	11	17
Social class ^{a,b}		
I	1	3
II	6	8
III	12	19
IV	15	13
V	12	6
Marital status ^a		
Married	27	37
Single	19	12

^aReflects actual number of families in each category.

^bBased on Hollingshead and Redlich's (1958) Two Factor Index of Social Position (education and occupation). Chi-square analyses and ANOVA indicated no significant differences on any of these demographic variables.

decision to use the BDI cutoff score of 10 to divide the groups was based on a review of the earlier observational studies using this measure to divide mothers into depressed or "distressed" groups (e.g., Brody & Forehand, 1986; Forehand & Brody, 1985; Forehand, Furey, & McMahon, 1984). In these earlier studies, BDI mean scores ranging from 10 to 16 were used as cutting scores for the depressed sample. It is understood that the BDI is not sufficient to diagnose depression but rather is an indication of levels of depressive symptomatology (Rehm, 1981). The depressed group of mothers had a mean BDI score of 16.0 (SD = 6.3) while the nondepressed mothers' mean score was 3.9 (SD = 2.8). ANOVA and χ^2 analyses indicated no significant differences between the two groups on the demographic variables of age and sex of child, number of children in family, age of parent, marital status, and socioeconomic status (see Table I).

Parent Perception of Child Adjustment

Child Behavior Checklist. The parent form of the CBCL (Achenbach & Edelbrock, 1983) has been shown to discriminate clinic-referred from non-referred children. Analyses have shown that the scales form two broad-based groupings in all sex/age groups: Externalizing (aggressive, antisocial, and undercontrolled) and Internalizing (fearful, inhibited, and overcontrolled). In this study, scores from the Internalizing and Externalizing broad-band scales were employed. Scores from the narrow-band Depression scale were also used because of their potential relationship to maternal depression.

Mother Observations

Parent Daily Reports. The PDR (Chamberlain, 1980; Chamberlain & Reid, 1987) consists of a list of 19 negative behaviors commonly exhibited by children. Parents were asked to select those they felt were major problems. These checklists were used as the basis for phone calls conducted biweekly for 2 weeks. During phone calls, the checklist of targeted negative behaviors was read to the mothers, who were then asked to report on the occurrence or nonoccurrence of the specific behaviors for the previous 24 hours. After asking about the negative behaviors on the PDR, the interviewer then asked about the frequency of spanking. Previous studies (Chamberlain, 1980; Patterson, 1982) have reported test-retest reliability of the PDR from .60 to .82.

Teacher Perceptions of Child Adjustment

Behar Preschool Questionnaire. The PBQ (Behar, 1977) is designed to be filled out by teachers of children who are 3 to 7 years old. Test-retest reliabilities have ranged from .60 to .99.

Social and Environmental Stressors

Family Interview. During an interview mothers were asked whether they had been abused by their parents when they were children or whether they had observed their parents abuse each other. They were asked to rate each of their parents as to whether they were supportive or nonsupportive on a 3-point scale. They were asked about experiences with spouse abuse by either their current or a former partner. Finally, questions were asked about the occurrence of depression, alcoholism, or drug abuse in relation to themselves, their partners, or their own parents.

Life Experiences Survey. The LES (Sarason, Johnson, & Seigel, 1978) permits the respondent to assess positive and negative life experiences over the previous year. It has been shown to have adequate test-retest reliability. In this study, the score related to negative life events was employed because of its potential importance to depression.

Parent Personal Adjustment

Parenting Stress Index. The PSI (Abidin, 1983) contains two major domains reflecting stress in the parent-child relationship. The Total Child Domain Score consists of six subscales: Adaptability, Acceptability, Demandingness, Mood, Distractibility and Activity, and Reinforcement. In general, children who are high (e.g., 122) on this domain are not seen as a source of reinforcement for the parent, and, in fact, parents may feel rejected by the child. The Total Parent Domain Score consists of seven subscales: Depression, Attachment, Restricted Role, Competence, Isolation, Spouse Support, and Health. In general, parents who are high (e.g., 153) on this domain suggest stress related to parental functioning. The PSI has been shown by the authors to have acceptable content, concurrent, and construct validity. Alpha reliability coefficients for the total stress score was reported to be .95, and test-retest reliabilities ranged from .82 to .71.

Beck Depression Inventory. The BDI (Beck, 1982) has been shown to correlate significantly with clinicians' ratings of depression and with objective behavioral measures of depression with a split-half reliability of .93. The BDI continues to be regarded as the best self-report measure of general depression available (Rehm, 1981).

Marital Adjustment Inventory. The MAT (Locke & Wallace, 1959) is a self-report measure of marital satisfaction. It has been found to be both reliable and valid (Kimmel & VanderVeen, 1971).

Home Observations

All families were observed at home. The Dyadic Parent-Child Interaction Coding System (DPICS; Robinson & Eyberg, 1981), consisting of 29

Table II. Interrater Reliabilities for Each Behavior Dimension on Home Visits

Behavior category and subject	Reliability coefficient ^c
Mother behaviors	
Praise ^a	.90
Total commands ^a	.96
Critical statements ^a	.96
Physical negative ^a	.86
Total interaction ^{a, b}	.99
Child behaviors	
Total deviance ^a	.95
Total noncompliance ^a	.93

^aBehavior categories are from the Dyadic Parent-Child Interaction Coding System (Robinson & Eyberg, 1981).

^bTotal of reflective and descriptive comments and questions.

^cReliability coefficients computed as correlations between scores from two observers during home visits.

behavior categories, was used to observe parent-child interactions. From the behavior categories, five parent summary behaviors were formed: Total Praise, Total Critical Statements, Total Commands, Total Interactions, and Physical Negative Behaviors. For the target child there were two variables: Total Deviance and Noncompliance. The parent categories were selected to focus on those suggested in the literature as reflective of depressed mothers' parenting styles.

Home observations were made by eight trained observers who were blind to the hypotheses and group membership of the subjects. Initially the observers received extensive training and had to maintain 80% reliability with practice tapes before conducting home observations. It took approximately 4 months for observers to become reliable. To maintain accuracy observers had weekly training sessions and practices on videotaped interactions. To assess reliability a second observer was present for at least 40% of all observations. Reliability was calculated in two ways: ratio of percent of agreements to total number of agreements and disagreements, and Pearson product-moment correlations between ratings for each separate behavior dimension. Mean overall interrater agreement was 78%, and the product-moment correlations calculated between observers for each behavior are shown in Table II.

Home Observations Checklist

The observers also filled out a checklist concerning their overall impressions of the home visit. The checklist developed by DuHamel (1974) is a child abuse screening inventory and consists of 25 items, such as parental attitude toward their children, willingness to be observed, level of control,

self-esteem, and developmental appropriateness of parents' interactions with their children. In addition, the checklist covers child observations, such as apprehensiveness toward parents, likability, need for attention and reassurance, and need to take care of parent. Interrater reliability correlation based on total score was .94. Reliability on individual items ranged from 63 to 100%. Overall average interrater reliability was 88.2%. Alpha coefficient was .88.2%.

Procedure

All the measures were administered as part of an ongoing research project evaluating different treatment approaches for families with conduct problem children. There were 95 families: 64 married or living with a boyfriend, and 31 single. When possible, both fathers and mothers completed the checklists concerning perceptions of child behavior, personal adjustment measures, and behavioral observations. In two-parent families, instructions were given to complete the questionnaires independently. Owing to practical limitations, only the mothers were interviewed and received the biweekly telephone calls. The mother interviews were conducted first, followed by completion of questionnaires and home visits. For children who were in school ($n = 84$), the PBQ was sent to teachers to complete. The teachers were not told that the children had behavior problems, rather that the parents were participating in a child development study.

The 30-minute home observations were conducted on 2 evenings during the week between 4:30 and 7:30 p.m., usually during the family's dinner hour. If the father lived at home, he was asked to be present for home observations. During these observations an attempt was made to impose as little structure as possible, and family members were asked "to do what you would normally do," except for the limitation that they were not to talk to the observers, watch television, or talk on the telephone.

RESULTS

Separate Hotelling's T^2 analyses were conducted on each of the sets of dependent measures: parental perceptions of child adjustment, maternal daily observations of child, negative life stresses, personal adjustment measures, child behaviors, and parent behaviors. When the Hotelling's T^2 revealed a significant effect, the individual measures were submitted to t tests for the preplanned comparisons. For each set of dependent variables the Dunn-Bonferroni tables were used to determine the critical values in order to correct for the number of individual comparisons. Analyses of data also consisted of χ^2 analyses to compare the two groups' family background factors.

Table III. Comparison of Depressed and Nondepressed Mother Group Means on Mother and Teacher Reports^a

Mother reports	Depressed (<i>n</i> = 46)		Nondepressed (<i>n</i> = 49)		<i>t</i> value
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	
1. Perceptions of child adjustment (CBCL)					
Internalizing score	24.35	(10.2)	17.35	(10.6)	3.27 ^e
Externalizing score	34.56	(10.5)	27.43	(12.2)	3.07 ^e
Depression score	11.3	(6.3)	7.51	(6.4)	2.74 ^e
2. Mother daily reports (PDR)					
Spanking by mothers	2.88	(5.9)	1.14	(2.1)	1.80
Spanking by fathers ^b	.42	(.69)	.61	(1.3)	.76
Mean negative behavior	7.03	(3.3)	6.14	(2.9)	1.36
3. Personal adjustment					
PSI Child Domain Score	138.98	(17.2)	133.08	(15.9)	1.73
PSI Mother Domain Score	160.17	(27.2)	133.18	(20.6)	5.43 ^f
Depression	27.93	(6.6)	20.88	(5.5)	5.63 ^f
Attachment	16.19	(3.6)	13.92	(2.9)	3.36 ^f
Restricted Role	22.52	(5.7)	19.61	(4.6)	2.73 ^e
Competence	38.91	(7.5)	33.61	(5.6)	3.88 ^f
Social Isolation	17.76	(5.1)	13.04	(3.4)	5.24 ^f
Spouse Support	21.91	(5.4)	20.37	(4.9)	1.45
Health	14.93	(4.0)	11.82	(3.0)	4.26 ^f
Marital Adjustment (MAT)	98.04	(21.3)	106.92	(14.7)	1.10
Beck Depression Inventory (BDI)	16.00	(6.3)	3.94	(2.8)	11.90 ^f
4. Teacher perceptions^c					
Behar total behavior problem score (PBQ)	12.71	(10.3)	17.35	(10.2)	2.06 ^d

^aPSI = Parenting Stress Index. Using Bonferroni procedures, the critical significance level for the individual *t* tests for CBCL was $p < .017$ and for PSI was $p < .025$.

^bThese were mother observations of father spans in the previous 24 hours.

^cFor depressed group $n = 46$ and for nondepressed group $n = 38$.

^d $p < .05$.

^e $p < .01$.

^f $p < .001$.

Tables III–VI present the mean scores, standard deviations, and percentages for each of the dependent variables for the depressed and nondepressed groups.

Depressed versus Nondepressed Mothers

A Hotelling's T^2 analysis of the parent perception of child adjustment measures for the depressed and nondepressed groups indicated that depressed mothers perceived their children as having significantly more behavior problems than did mothers in the nondepressed group, $F(3, 91) = 4.20$, p

< .007. On the CBCL, depressed mothers reported their children to be significantly higher on the Externalizing, Internalizing, and Depression scales ($p < .01$ in all cases). Results from a Hotelling's T^2 analysis of mothers' bi-weekly telephone observations and reports (PDR) revealed no significant differences between the two groups. However, there was a trend ($p < .07$) for depressed mothers to spank their children more often than nondepressed mothers (on the average of three times a day versus once a day for nondepressed mothers) (see Table III).

A Hotelling's T^2 analysis of the Parenting Stress Index (PSI) indicated that the depressed mothers reported significantly higher PSI scores than the nondepressed mothers, $F(2, 92) = 15.15, p < .0000$. In particular depressed mothers reported significantly higher stress levels on the PSI Parent Domain score than the nondepressed mothers, whereas they did not differ from the nondepressed mothers on the PSI Child Domain score. When the subscales of the PSI Parent Domain Scale were further analyzed, it was found that depressed mothers reported significantly more problems related to attachment, depression, role restriction, low sense of competence, social isolation, and health, $F(7, 87) = 8.06, p < .0000$. On the marital satisfaction inventory, however, there was no difference between the married depressed and nondepressed mothers' reports.

Analyses of the LES indicated that depressed women reported significantly more negative life events over the previous year, $t(94) = 4.14, p < .0001$, than nondepressed women. In terms of the interviews concerning family background measures, χ^2 analyses indicated that 30% of the depressed mothers reported they had been abused as children versus 10% of nondepressed mothers. This difference was significant, $\chi^2(1, 94) = 4.87, p < .02$. However, there was no difference in how supportive they perceived either their fathers or mothers to be. Depressed mothers tended to report more depression in their own mothers (32%) than did nondepressed mothers (16%), although this did not quite reach significant levels ($p < .10$). Forty-seven percent of depressed mothers reported some experience with spouse abuse versus 26% of nondepressed mothers. This difference was significant, $\chi^2(1, 94) = 3.75, p < .05$ (Table IV).

The results of the multivariate analysis of all five mother behavioral measures revealed no significant difference between the depressed and nondepressed groups, $F(5, 89) = 1.19, p < .32$. However, there was a strong trend ($p < .05$) for mother critical statements to be higher for the depressed mothers. Depressed mothers gave a critical statement to their children once every 1 ½ minutes. For the two child variables, Hotelling's T^2 indicated no significant differences between the groups in terms of frequency of deviance or noncompliance. Finally, on the home observer checklist, there was no significant difference between the two groups (Table V).

Table IV. Comparison of Depressed and Nondepressed Mother Group Measures on Social and Environmental Measures

Social and environmental measures	Depressed (<i>n</i> = 46)	Nondepressed (<i>n</i> = 49)	χ^2
	<i>N</i> (%)	<i>N</i> (%)	
Mother abused as child	14 (30.4)	5 (10.2)	4.87 ^c
Partner abuse	22 (47.8)	13 (26.5)	3.75 ^b
Mother drug, alcohol use	8 (17.4)	4 (8.2)	1.09
Father drug, alcohol use	19 (44.2)	15 (31.3)	1.11
Drug, alcohol extended family	27 (60.0)	30 (61.2)	1.00
Mother's mother nonsupportive	15 (32.6)	12 (24.5)	.42
Mother's father nonsupportive	18 (40.0)	13 (27.1)	1.21
Mother's parents abused each other	10 (21.7)	8 (16.3)	.17
Mother's parents depressed	15 (32.6)	8 (16.3)	2.59
Negative life events ^a	6.43 (4.0)	3.35 (3.2)	4.14 ^d

^aScores reflect mean, standard deviation, and *t* tests on Life Events Survey.

^b*p* < .05.

^c*p* < .01.

^d*p* < .001.

Table V. Comparison of Depressed and Nondepressed Mother Group Means on Mother and Child Interactions

DPICS home observations	Depressed (<i>n</i> = 46)	Nondepressed (<i>n</i> = 49)	<i>t</i> values ^b
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
Mother behaviors ^a			
Praise	3.81 (4.1)	4.23 (3.7)	.51
Total commands	32.17 (19.8)	29.29 (17.4)	.75
Critical statements	19.63 (16.2)	14.18 (9.1)	2.00 ^b
Physical negative	1.14 (1.5)	.76 (1.2)	1.39
Total interaction	67.33 (47.1)	66.60 (47.9)	.07
Child behaviors ^a			
Total deviance	16.36 (14.0)	12.68 (10.8)	1.42
Total noncompliance	24.46 (15.1)	21.81 (13.7)	.89
Observer report			
Total abuse score	3.30 (2.6)	2.61 (2.1)	1.37

^aMean rate per 30 minutes of observation.

^b*p* < .05.

Depressed Mothers versus Spouses and Teachers

Mothers' reports and behaviors were compared with fathers by means of a repeated-measures ANOVA, with depression as one factor and sex of parent as another factor. Analyses indicated that there was a significant interaction between depression and sex of parent for all three of the child ad-

Table VI. Comparison of Depressed and Nondepressed Mothers and Their Spouses

Reports	Depressed mother group (<i>n</i> = 27)		Nondepressed mother group (<i>n</i> = 37)		<i>F</i> (group × parent)
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	
1. Perception of child adjustment (CBCL)					
Internalizing score					
Mother	21.96	(9.8)	17.30	(10.4)	4.2 ^b
Father	18.11	(8.7)	19.35	(13.2)	
Externalizing score					
Mother	33.11	(11.6)	26.59	(11.8)	7.7 ^c
Father	26.44	(11.1)	27.22	(9.9)	
Depression score					
Mother	10.59	(6.9)	7.40	(6.4)	4.2 ^b
Father	8.00	(5.1)	7.70	(4.4)	
2. Personal adjustment					
PSI Child domain score ^a					
Mother	140.26	(16.2)	143.89	(16.2)	2.5
Father	121.56	(18.9)	125.79	(17.6)	
PSI Parent domain score					
Mother	157.93	(27.8)	131.08	(21.3)	4.2 ^b
Father	136.96	(23.4)	125.18	(17.9)	
Marital adjustment					
Mother	95.67	(21.5)	105.26	(15.8)	2.0
Father	99.67	(21.5)	107.58	(16.1)	
Beck Depression Inventory					
Mother	14.18	(4.8)	3.95	(2.9)	31.50 ^d
Father	5.81	(5.2)	4.10	(5.2)	

^aPSI = Parenting Stress Index.

^b*p* < .05.

^c*p* < .01.

^d*p* < .001.

justment measures. Post hoc tests indicated that depressed mothers perceived their children as being significantly higher on the Internalizing scale, $F(1, 26) = 4.1, p < .05$, Externalizing scale, $F(1, 26) = 11.85, p < .001$, and Depression scale, $F(1, 26) = 6.0, p < .02$, than their spouses. On the Child Domain score of the PSI, both depressed and nondepressed groups of mothers saw their children as having significantly more difficult temperaments than the fathers, $F(1, 63) = 17.9, p < .001$; however, there was no significant interaction between depression and sex of parent. On the other hand, for the Parent Domain score of the PSI, there was a significant interaction, with depressed mothers reporting significantly higher parent stress scores than their spouses, $F(1, 63) = 4.2, p < .04$. There were no overall differences between parents and no significant interactions between sex of the parent and depression for any of the behavioral measures (Table VI).

Table VII. Correlation Coefficients Between the Six Significant Variables and Depressed Mothers

	1	2	3	4	5	6	7
1. Child Behavior Checklist ^a							
2. PSI mother domain score ^b	.37 ^f	.27 ^e	.06	.36 ^f	.42 ^f	.42 ^f	.31 ^f
3. Mother abused as child			.31 ^f	.21 ^d	.15	.29 ^e	.46 ^f
4. Partner abuse				.27 ^e	.31 ^f	.44 ^f	.25 ^e
5. Critical statements					.04	.22 ^e	.21 ^e
6. Negative life events						.31 ^f	.21 ^e
7. Depressed group ^c							.39 ^f

^aThe Total Behavior Problem Score was used for this analysis, which includes both internalizing and externalizing behaviors of the CBCL.

^bDepression subscale removed.

^cBased on the dichotomous grouping of depressed mothers.

^d $p < .05$.

^e $p < .01$.

^f $p < .001$.

Finally, teacher reports indicated a strong trend ($p < .04$) for the children of depressed mothers to have fewer behavior problems than the children of nondepressed mothers (See Table III).

Measures of association among all the significant variables of the depressed and nondepressed groups were obtained by calculating product-moment correlation coefficients for each pair of variables. These results are presented in Table VII. Stepwise discriminant function analysis was performed on the six significant variables (including mother criticisms) to determine which variables were the best predictors of depressed and nondepressed families. As Table VIII indicates, the discriminant function based on two predictors—Parent Domain score (with the depression subscale removed) and the Negative Life Experience score—was highly significant, $F(2, 93) = 18.02$, $p < .0001$. This model accounted for 28% of the variance, with the Parent Domain score contributing 67% of the variance. The model consisting of these two predictors correctly classified 71 out of 95 families (74.7%). The remaining variables did not add substantially to the model.

DISCUSSION

Many researchers (e.g., Anthony, 1983; Forehand et al., 1986; Patterson, 1982) have theorized that maternal depression leads to negative perceptions of children, then to increased commands and criticisms, and finally

Table VIII. Discriminant Analyses of Predictor Variables Comparing Depressed and Nondepressed Mothers

Variables	R^a	R^b	r^c	F	p
1. Mother domain score ^d	.46	21.200	.46	24.71	.0001
2. Negative life events	.53	7.20	.39	18.02	.003
3. Partner abuse	.54	.56	.21	12.21	n.s.
4. Child Behavior Checklist	.54	.54	.31	9.30	n.s.
5. Mother critical statements	.55	.26	.21	7.45	n.s.
6. Mother abused as child	.55	.00	.25	6.15	n.s.

^aCanonical correlation.

^bIncrement in criterion variance accounted for (numbers represent percentages).

^cSingle correlation with criterion.

^dDepression subscale removed.

to increased child conduct problems. Although the correlational nature of this investigation does not permit an assessment of the directionality of effects, this study does provide partial support for the first two links in this chain of events. Like earlier studies (Brody & Forehand, 1986; Forehand & Brody, 1985; Forehand et al., 1986), these depressed mothers perceived their children as being significantly more behaviorally disturbed than either the nondepressed mothers or their husbands on the CBCL. Home observations indicated no differences between the depressed and nondepressed mothers' behaviors, except for the strong trend ($p < .05$) for depressed mothers to exhibit more critical statements and to report more daily spankings. These findings support Patterson's (1982) description of mothers' "nattering," which he hypothesizes is the most salient element in the coercive process that characterizes families of conduct-disordered children. However, the third link in the hypothesized chain of events was not supported. Children's interactions with depressed mothers were not observed to be more deviant or noncompliant than the children's interactions with nondepressed mothers. In fact, independent teacher reports suggested the opposite, that the children of depressed mothers were significantly less deviant. These teacher data lend support to an early study (Rickard et al., 1981) indicating that clinic-referred depressed mothers have less deviant children than clinic-referred nondepressed mothers.

The significance of this study is that it contributes new information to the literature about depressed mothers with conduct problem children by examining other social and environmental stressors experienced by these families. First, results of the PSI Child Domain indicated that both groups of depressed and nondepressed clinic-referred mothers reported extremely high (99th percentiles) levels of stress due to their children's difficult temperaments (such as hyperactivity, poor attention span, and degree of bother). These

stress scores were significantly higher for mothers than fathers across both groups. However, the depressed mothers also reported significantly more stress than the nondepressed mothers and their spouses on the PSI Parent Domain due to such feelings as social isolation, self-blame, role restriction, incompetence, and lack of attachment to their child. (The only PSI Parent Domain subscale for which there were no group differences was the spouse support scale.) These findings are consistent with an earlier study using the PSI wherein high maternal PSI scores due to child and parent characteristics were found in mothers of young hyperactive children as compared with mothers of normal children (Mash & Johnston, 1983a, 1983b). Second, results of the Negative Life Events scores (LES) indicated that depressed mothers reported twice as many negative life events in the previous year, such as unemployment, financial problems, or death in family, than the nondepressed mothers.

Family background interviews further suggested another link in the cross-generational chain of events. Depressed mothers were more likely to report having been abused by their own parents or by their spouses and former partners than were nondepressed mothers. These findings support earlier studies reporting that depressed adults are more likely to have had deprived and abusive childhoods (Crook, Raskin, & Eliot, 1981; Jacobsen, Fasman, & DiMascio, 1975). As described by Patterson (1982), these women have had a "coercive cycle of negative interactions" with their own parents. Perhaps these aversive childhood experiences sets them up to choose partners who perpetuate the negative cycle with spouse abuse. Then, as parents, these depressed individuals develop more negative attitudes about their own parenting ability, about their children's behaviors, and perhaps about life events in general. Certainly these data seem to support the theory of depression that depressed individuals have more negative thought processes than nondepressed individuals (Beck, 1982; Layre, 1983). What remains unclear is exactly how depressed or distressed mothers transmit these negative attitudes into specific parenting behaviors and how the children are affected by them. Perhaps, a brief microscopic slice and analysis of parent-child interactions is not sensitive enough and misses the larger picture because it cannot adequately capture the effects of more global qualities, such as parental feelings of stress, incompetence, and poor attachment, on children's behavior. Despite the failure to find a relationship between maternal depression and child conduct problems, it is important to be cautious because these clinic children are already exhibiting a high rate of deviant behaviors at a very young age, and it may be too early to see the long-term effects of chronic depression, negative attitudes, critical behaviors, and physical punishment. Moreover, it could be hypothesized that if these parents continue to have nonreinforcing experiences with their children, their depression may wor-

sen, their criticisms may increase, and their children may develop more serious behavior problems. Further longitudinal research will be carried out to determine the role ongoing maternal depression plays in these children's social and emotional development.

One limitation of this study that should be noted is the low cutoff score for defining maternal depression, indicating that these mothers were not severely depressed. It is unknown whether these findings would generalize to more severely depressed mothers. However, the sample is representative of the majority of mothers who refer their children to clinics for treatment of conduct problem children.

For the clinician working with parents of children with conduct problems this study has some important implications. First of all, parents of conduct problem children need careful monitoring of their depression levels. While an increased depression level may suggest that the parent is reporting her child to be more deviant than he or she actually is, it also serves as an important "signal" to alert one to the fact that this parent is highly stressed about her parenting role and relationship with her child. This study suggests that increased maternal depression may stem from the fact that this parent has had negative and abusive childhood experiences herself and may continue to experience ongoing negative life experiences and difficulties with attachment in relationships. Once a thorough assessment is completed, then an intervention program can be planned that includes not only parent training but also treatment for depression, modification of negative cognitions, attachment difficulties, and stress reduction. Indeed, studies have already shown that when parent training alone is offered, depressed parents are more likely to drop out or relapse at follow-up (McMahon, Forehand, Griest, & Wells, 1981). More research is needed where parent training is integrated with other therapeutic approaches that take into account the families' social system context, environmental stressors, and personal adjustment factors. Such multidimensional treatment models would seem to offer more promise for breaking the generational cycle of coercive family interactions.

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