

## **Children of Parents with Unipolar Depression: A Comparison of Stably Remitted, Partially Remitted, and Nonremitted Parents and Nondepressed Controls**

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**ABSTRACT:** This study reports on 122 families with a depressed parent at baseline and matched nondepressed control families. The 10-year course of depression in parents was characterized as stably-, partially-, or non-remitted. At the 10-year follow-up, children of stably-remitted parents had more psychological distress, physical problems, and disturbance than children of controls. Unexpectedly, children of stably-remitted parents had as much distress and disturbance as children of partially- or non-remitted parents. Stably-remitted families emphasized independence less, and organization more, in comparison to controls at 10 years; partially- and non-remitted families were less cohesive and more conflicted than controls. More severe initial or current parental depression was associated with poorer child adaptation, and family functioning explained children's outcomes above and beyond parents' depression. Children living with parents treated for depression are at risk for problems irrespective of the parent's course, perhaps due to poor family functioning.

**KEY WORDS:** Child Adaptation; Depressed Parents; Course of Depression; Family Environment.

It is well known that children of parents with an affective disorder are at risk for psychosocial difficulties and health problems.<sup>1-3</sup> Less is

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known about changes that occur among children when the parent's depressive disorder continues, enters remission, or fluctuates between remitted and nonremitted states. To examine children's adaptation in relation to the stability and chronicity of parental depression, we selected mothers and fathers from a larger sample of depressed and non-depressed women and men who were followed for 10 years.

Weissman and colleagues found that, in comparison to children of nondepressed parents, children of depressed parents had higher rates of depression, anxiety disorders, alcohol dependence, and social impairment at a follow-up 10 years after their initial identification.<sup>4</sup> However, this study did not describe whether the symptoms of the depressed parents improved or remained stable over the 10 years.

In fact, we know relatively little about the health and functioning of children of initially depressed parents who remain depressed or improve. There is evidence that maternal depression during babies' first 12 to 14 months is associated with children's behavior problems at age 3 1/2 and decrements in children's cognitive ability at age 4, even if the mother is no longer depressed at follow-up.<sup>5-7</sup> Cox et al. studied mothers who had 2-year old children and who were stably depressed for 6 months, were remitted by 6 months, or were never depressed.<sup>8</sup> Children of remitted mothers were more disturbed at 6 months than children of controls, but less disturbed (e.g., in eating, sleeping, interactions with peers) than children of mothers who were stably depressed.

Alpern and Lyons-Ruth assessed mothers and children when the children were 18 months old and when they were 4 to 6 years old.<sup>9</sup> Children of chronically depressed mothers and of remitted mothers had more problem behavior at home than children of never-depressed mothers. Children of chronically depressed mothers also had more hostile behavior at school, and children of remitted mothers were more anxious (fearful and withdrawn) at school, in comparison to control children. Unexpectedly, children of remitted mothers were more likely than children of chronically depressed mothers to exhibit anxiety symptoms at school.

Lee and Gotlib found that if depressed mothers' symptoms improved, school-aged children (7-13 years old) evidenced some improvement in their psychosocial functioning at a 10-month follow-up.<sup>10</sup> However, there were areas in which some problems persisted, such as internalizing problems as assessed by mothers and clinicians. These findings indicate that adjustment difficulties found in pre- and early-adolescent children of depressed mothers do not abate within the first year after the mothers' remission.

### **Parental Depression and Family Characteristics as Predictors of Children's Outcomes**

Currently, there is great interest in examining parental and family functioning as determinants of children's adaptation when their parents are depressed. The most frequently studied aspect of parental functioning is parenting behavior.<sup>3,11,12</sup> In this regard, early work by Weissman and Paykel found disturbed parenting by depressed mothers at all stages of children's development, but it was most marked in infancy and adolescence.<sup>13</sup> Depressed mothers of infants felt overwhelmed, helpless, and hostile, and were both overindulgent and overprotective. Depressed mothers of adolescents had angry outbursts alternating with withdrawal, a tendency to either over-control or under-control their adolescents, and an inability to set limits, negotiate conflicts, or show an active interest in their teenagers' daily life.

We focused here on a set of family-related predictors that vary with the course of adult depression and that have received less attention than parenting behavior. In the larger sample from which we selected parents, more chronic depression was associated with poor family functioning, such as more family conflict and less cohesion and organization.<sup>14,15</sup> Decreased family cohesion has also been observed in other studies of families with a depressed parent, and low family cohesion is associated with poor child outcomes such as conduct disorders.<sup>16</sup> In this regard, Johnson et al. found that a maladaptive family environment, in which there was an absence of a cohesive, team-like quality, made a unique contribution to predicting children's externalizing problems, over and above parenting behavior.<sup>17</sup>

#### **Prior Findings for Our Sample**

The data used here are drawn from a prospective 10-year study of treated depressed patients and demographically matched nondepressed individuals and their families. At baseline, there were substantially higher rates of dysfunction among the children of the depressed parents.<sup>18</sup> Further, depressed parents reported less cohesive and more disorganized family environments. For both depressed and control families, higher levels of family cohesion and interpersonal support were associated with better child functioning.

Subsequently, Billings and Moos conducted a 1-year follow-up of these families and divided them into three groups: previously de-

pressed parents whose symptoms had remitted, previously depressed parents who continued to be depressed, and matched control families with nondepressed parents.<sup>19</sup> Although remitted parents and their family environments improved, their children were still functioning more poorly than children of controls. Both the children and the families of nonremitted parents continued to function more poorly than controls.

Moos and colleagues conducted a 10-year follow-up of the initially depressed patients and the controls.<sup>14,20,21</sup> They divided the initially depressed patients into three groups—stably remitted, partially remitted, and nonremitted—on the basis of patients' self-reported 10-year course of depression. Here, we report 10-year longitudinal data on the families with a depressed parent and the matched control group and link them to child outcomes. We examine three main issues.

- (1) Do children of stably remitted parents function as well as children of controls, or are there residual decrements in children's functioning even after their parent's depression has remitted? We hypothesized that children of remitted parents would show normal levels of adjustment at follow-up, but that children of nonremitted parents would continue to show higher levels of dysfunction relative to controls. In addition, we expected that children of partially remitted parents—those who fluctuate between depression and remission—would function more poorly than children of stably remitted parents and controls, but better than children of nonremitted parents.
- (2) How do the family environments of children of stably remitted, partially remitted, nonremitted, and nondepressed control parents compare over the long-term? Our expectations were that the family environments of stably remitted parents would "normalize," as did the families of the full sample of stably remitted patients,<sup>14</sup> whereas the family environments of nonremitted parents would remain more negative than those of controls. Additionally, families of partially remitted patients may be less positive than those of controls and stably remitted patients, but more positive than those of nonremitted patients.
- (3) Does family functioning explain child outcomes, above and beyond parental depression? We expected that the family environment would explain additional variance in children's adaptation after the severity of parents' current or baseline depression was considered.

## Method

### *Sample*

The sample consisted of all parents who had children living at home and participated in a larger study of depression. The initial patient sample was composed of 424 depressed individuals who entered treatment and were diagnosed with a unipolar depressive disorder according to the Research Diagnostic Criteria (RDC).<sup>22</sup> Patients with concurrent neuropsychological, metabolic, manic, or substance use disorders were excluded. Prior papers describe patient selection procedures, patients' characteristics at intake, and treatment experiences.<sup>23,24</sup>

Follow-ups of these patients were conducted 1, 4, and 10 years after treatment intake. A total of 53 of the 424 patients (12.5%) had died by the 10-year follow-up. Of the remaining 371 patients, 313 (84%) were successfully followed at all three follow-ups. We focus here on the 122 depressed patients who had children living at home at the 10-year follow-up. Of parents with children at baseline who were not known to have died over the following 10 years, 84% were assessed at 10 years.

*Controls.* A matched sample of 424 control individuals was obtained as a comparison group. A procedure was used in which a household from within each patient's census tract and neighborhood was randomly sampled, with the reasoning that persons drawn from the same residential area would be comparable in socioeconomic status because census tracts are typically composed of sociodemographically similar households. A total of 56 of the controls were depressed at baseline according to RDC, leaving 368 nondepressed controls. Of these 368 individuals, 25 (6.8%) died by the 10-year follow-up. Of the remaining 343 controls, 284 (83%) were successfully followed at 1, 4, and 10 years. For this study, we selected the 127 control participants who had children living at home at the 10-year follow-up. Of parents with children at baseline who were not known to have died over the following 10 years, 82% were assessed at 10 years.

*Parent Comparison Groups.* Among depressed parents with children living at home, there were 29 stably remitted parents, 65 partially remitted parents, and 28 nonremitted parents. The full procedures used to identify these three subgroups on the basis of their 10-year course of depression are described in reports by Moos et al., Cronkite et al., and Moos and Cronkite.<sup>14,20,21</sup> Briefly, Moos and colleagues used the Depressive Symptoms Severity Index (DSSI), an index of the severity of depression which is based on the specific symptoms that form the basis for the DSM-IV criteria for a major depressive episode.<sup>25</sup>

As described by Moos and colleagues, at each follow-up, patients were considered to be remitted if they had no significant depressed mood or lack of interest or pleasure in daily activities in the last month; no associated symptoms of depression in the last month on any of the other DSM-IV items; a total DSSI score <1 SD above the baseline mean of nondepressed controls; and no hospitalization for depression since the last follow-up. Patients were

considered to be nonremitted if they reported moderate to severe depression as judged by significant depressed mood and/or lack of interest or pleasure in daily activities in the last month (as defined by responding “fairly often” or “often” to one or both of these items), and five or more DSM-IV symptoms in the last month (as defined by reporting them as occurring “fairly often” or “often”). Partially remitted patients showed an intermediate level of symptoms that did not meet the criteria for remission, but also did not fulfill the criteria established for the nonremitted patients. Patients’ remission statuses at each wave were used to characterize the 10-year course of depression as stably remitted (remitted at all three waves or partially remitted at one wave and remitted at the other two waves); partially remitted (fluctuated between remitted, partially remitted, and nonremitted states); or nonremitted (nonremitted at two or all three follow-ups, or partially remitted at 1 and 4 years and nonremitted at 10 years).

*Children.* Identical with Billings and Moos’ earlier studies of this sample of families,<sup>18,19</sup> the depressed or matched control parent reported whether any of his or her children living at home were having psychological, health, or behavioral problems (see Measures, below). Therefore, children who were born into the family over the follow-up period were included in the ratings, and children who moved out were excluded. At the 10-year follow-up, stably remitted parents had 39 non-adult (i.e., <21 years old) children living at home; partially remitted parents had 104 such children; nonremitted parents had 38 such children; and control parents had 180 non-adult, at-home children. The three depressed parent groups and the control parent group did not differ on the number of girls ( $M = 0.7$ ) or boys ( $M = 0.9$ ) or ages ( $M = 12.1$ ) of children living at home at the 10-year follow-up.

### Measures

Sociodemographic characteristics assessed include the depressed or matched control parent’s age, gender, education, occupation, ethnicity, and marital status. Occupational status was assigned according to Stevens and Featherman’s index,<sup>26</sup> such that higher scores indicate more prestige. At baseline and each follow-up, the depressed or matched control parent completed the Health and Daily Living (HDL) Form<sup>27</sup> and the Family Environment Scale (FES).<sup>28</sup>

*Child Outcomes.* All child outcomes were assessed and scored exactly as they were in the report of the 1-year follow-up by Billings and Moos.<sup>19</sup> Children’s health and functioning during the past 12 months were reported by their parents on the HDL. Parents noted whether or not any of their children had been bothered by particular symptoms or had engaged in certain behaviors (yes/no). *Psychological distress* was the percent of five symptoms (e.g., feeling sad or blue, anxiety or tension) reported as present. *Physical problems* was the percent of eight physical problems (e.g., frequent headaches, repeated stomachaches or indigestion) reported as present. *Behavioral problems* was the percent of three problem areas: academic problems at school, discipline problems at school, and problems getting along with other children. *Health*

*risk behaviors* was the percent of three such behaviors (smoke cigarettes, regular drug use, regular alcohol use) marked yes. Support for the validity of these measures is reviewed in Billings and Moos<sup>19</sup> and Moos et al.<sup>27</sup>

To provide a summary measure of the functioning of the children in each family, we used Billings and Moos' *disturbed child index*.<sup>19</sup> Disturbance was defined as present when children had a significant number of (a) health problems (five or more of 13 possible psychological and physical problems, and/or (b) behavioral problems (difficulties in all of the three problem areas). Although this index does not yield a clinical diagnosis, it does provide an overall index of children's functioning.

*Family Functioning.* The HDL was used to assess *family arguments*, the number of 14 areas (e.g., money, household chores, friends) that the parent marked as often causing disagreements in the family. *Family activities*, also assessed on the HDL, was the number of "yes" responses regarding whether the parent engaged in each of 12 activities (e.g., athletic event; board or card game; party) in the past month with family members.

The subscales of the FES assess three sets of dimensions: relationship, personal growth, and system maintenance. Each subscale is the sum of 10 true-false items. Within the relationship domain are the dimensions of *cohesion* (degree of commitment, help, and support; alpha = .76) and *conflict* (openly expressed anger and conflict; alpha = .77). The personal growth domain includes *independence* (family members are assertive, self-sufficient, make their own decisions; alpha = .51). The system maintenance domain includes *organization* (importance of clear organization and structure in family activities and responsibilities; alpha = .66).

## Results

After parents' sociodemographic characteristics were examined, repeated measures multivariate analyses of variance (MANOVAs) were used to conduct overall comparisons among the four groups of families (stably, partially, and nonremitted parents and control parents) on each child, parent, and family functioning index. Then, analyses of variance (ANOVAs) were used to compare the child outcomes (except for the dichotomous Disturbed Child Index) and family functioning of the four groups of families at baseline or each follow-up. When significant effects for group were found, means were compared using the Student-Newman-Keuls procedure. For the Disturbed Child Index, chi-square tests were used to compare groups of families; when a significant effect for group was found, chi-square tests were used to compare each pair of family groups.

*Parents' Sociodemographic Characteristics*

Table 1 presents the sociodemographic characteristics of the patient and control families at baseline. The four groups of families were comparable on age and marital status. Control parents were less likely to be women than were partially remitted parents. In addition, controls had more education than partially remitted and nonremitted patients, and were most likely to be white. Nonremitted parents had the lowest occupational status of any group. In general, parents' demographic characteristics were relatively stable between baseline and 10 years. Additionally, parents' (depressed and control combined) sociodemographic characteristics at baseline and at 10 years did not show any consistent patterns of associations with children's outcomes at 10 years.

*Child Outcomes*

There were significant differences among the four groups of families on each of the child indices except for health risk behaviors ( $ps < .01$  for repeated measures MANOVA F tests). Effects for time and the interaction of group by time were not consistently significant.

*Children of Stably Remitted vs. Control Parents.* As shown in Table 2, at baseline, 1 year, and 4 years, children of stably remitted parents

**Table 1**  
Sociodemographic Characteristics of Control and Patient Parents at Baseline

	<i>Patient Families</i>				F
	<i>Control Families</i>	<i>Stably Remitted</i>	<i>Partially Remitted</i>	<i>Nonremitted</i>	
Age	33.71	33.48	32.35	34.28	.36
Gender (% women)	51.18 <sup>a</sup>	58.62	72.31 <sup>a</sup>	58.62	2.68*
Years of school	14.61 <sup>ab</sup>	14.07	13.38 <sup>a</sup>	12.79 <sup>b</sup>	8.80***
Occupational status	54.11 <sup>a</sup>	53.50 <sup>b</sup>	52.10 <sup>c</sup>	37.96 <sup>abc</sup>	4.86**
Ethnicity (% white)	92.91 <sup>abc</sup>	75.86 <sup>a</sup>	80.00 <sup>b</sup>	75.86 <sup>c</sup>	4.00**
Marital status (% married)	58.27	34.48	49.23	55.17	1.96

*Note.* Means that share a superscript are significantly different ( $p < .05$ ).  
\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 2**  
Child Health for Control, Stably Remitted, Partially Remitted,  
and Nonremitted Families

	<i>Patient Families</i>				<i>F/χ<sup>2</sup></i>
	<i>Control Families</i> ( <i>N</i> = 127)	<i>Stably Remitted</i> ( <i>N</i> = 29)	<i>Partially Remitted</i> ( <i>N</i> = 65)	<i>Nonremitted</i> ( <i>N</i> = 28)	
Psychological distress (% of 5 items marked yes)					
Baseline	12 <sup>a</sup>	10 <sup>b</sup>	15 <sup>c</sup>	26 <sup>abc</sup>	3.29*
1 Year	10 <sup>ab</sup>	8 <sup>cd</sup>	19 <sup>ac</sup>	19 <sup>bd</sup>	3.96**
4 Years	10 <sup>a</sup>	9 <sup>b</sup>	9 <sup>c</sup>	22 <sup>abc</sup>	3.54*
10 Years	17 <sup>abc</sup>	26 <sup>a</sup>	27 <sup>b</sup>	27 <sup>c</sup>	4.18**
Physical problems (% of 8 items marked yes)					
Baseline	7 <sup>a</sup>	7 <sup>b</sup>	12	17 <sup>ab</sup>	4.32**
1 Year	9 <sup>a</sup>	5 <sup>b</sup>	14 <sup>ab</sup>	11	3.29*
4 Years	8	6	9	13	1.48
10 Years	13 <sup>ade</sup>	17 <sup>bd</sup>	17 <sup>ce</sup>	25 <sup>abc</sup>	6.52***
Behavioral problems (% of 3 items marked yes)					
Baseline	8 <sup>a</sup>	4 <sup>b</sup>	16	22 <sup>ab</sup>	3.70**
1 Year	8 <sup>a</sup>	4 <sup>b</sup>	15	18 <sup>ab</sup>	2.77*
4 Years	5 <sup>a</sup>	4 <sup>b</sup>	5 <sup>c</sup>	17 <sup>abc</sup>	5.28**
10 Years	12	15	22	16	2.42
Health risk behaviors (% of 3 items marked yes)					
Baseline	3	0	3	6	0.89
1 Year	4	5	5	0	0.73
4 Years	4	3	1	8	1.46
10 Years	6 <sup>a</sup>	15	12	19 <sup>a</sup>	3.78**
Disturbed child index					
Baseline	10 <sup>a</sup>	17	18	44 <sup>a</sup>	8.79*
1 Year	9 <sup>a</sup>	0 <sup>bc</sup>	34 <sup>ab</sup>	25 <sup>c</sup>	15.04**
4 Years	9 <sup>a</sup>	7 <sup>b</sup>	10 <sup>c</sup>	31 <sup>abc</sup>	9.52*
10 Years	6 <sup>abc</sup>	24 <sup>a</sup>	15 <sup>b</sup>	24 <sup>c</sup>	13.45**

Note. Means that share a superscript are significantly different ( $p < .05$ ).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

did not differ from children of control parents. However, at 10 years, children of stably remitted parents had more psychological distress and physical problems, and were more likely to be classified as disturbed, than were children of controls. Supplemental paired *t*-tests showed that children of stably remitted parents were higher on psychological distress at the 10-year than at the 4-year follow-up ( $p < .05$ ) whereas children of control parents were not; both groups were higher on physical problems at the 10-year than at the 4-year follow-up ( $ps < .05$ ). At 10 years, the children of stably remitted parents were comparable on psychological distress and the likelihood of being classified as disturbed to children of partially- or nonremitted parents.

*Children of Nonremitted vs. Control Parents.* Children of nonremitted parents had more psychological distress at baseline and each follow-up than did children of controls. Analyses of items on the psychological distress scale showed that children of nonremitted parents were more likely to have been bothered by feeling sad and blue (35% of children of nonremitted parents were sad and blue vs. 18% of children of controls) and to have had emotional problems (36% vs. 10%) at 4 years. Compared with children of controls, children of nonremitted parents also had more physical health problems at baseline and 10 years, and engaged in more health risk behaviors at 10 years. In particular, children of nonremitted parents were more likely to have colds or coughs at baseline (72% vs. 26%) and 10 years (41% vs. 19%) and asthma at 10 years (25% vs. 9%), and were more likely to drink alcohol regularly at 10 years (19% vs. 4%). These children also had more behavioral problems than children of control parents did at baseline, 1 year, and 4 years; they had more academic problems on each occasion (30% vs. 10%, 33% vs. 11%, and 33% vs. 6%, respectively) and more discipline problems at school at 4 years (15% vs. 4%). Children of nonremitted parents were more likely to be classified as disturbed at baseline, 4 years, and 10 years in comparison to control children (Table 2).

*Children of Partially Remitted vs. Control Parents.* Children of partially remitted parents had more psychological distress and physical health problems than did children of control parents at 1 year and 10 years. Specifically, they were more likely to suffer anxiety (32% vs. 15% at 1 year, 43% vs. 20% at 10 years), to be bothered by feeling sad and blue (51% vs. 27% at 10 years), and to have allergies (61% vs. 35% at 1 year). In comparison to children of control parents, children

of partially remitted parents were more likely to be indexed as disturbed at 1 year and 10 years (Table 2).

*Children of Stably-, Partially-, and Non-Remitted Parents.* Children of nonremitted parents also tended to have more distress, physical health problems, and behavioral problems than did children of stably remitted and partially remitted patients. In addition, they were more likely than children of stably remitted and partially remitted parents to be considered disturbed at 4 years. Overall, children of nonremitted parents functioned most poorly; children of partially or stably remitted parents were similar on functioning, although children of stably remitted parents were somewhat better off at 1 year.

#### *Family Functioning*

There were significant differences among the four groups on each index of family functioning ( $ps < .01$  for all repeated measures MANOVA F tests), but effects for time and for the interaction of group by time were inconsistent. Stably remitted families were comparable to control families in all areas at the 10-year follow-up, except that they were lower on independence and higher on organization (Table 3). Supplemental  $t$ -tests showed that, at 10 years, stably remitted families were significantly lower on independence ( $p < .05$ ) and higher on organization ( $p < .001$ ) than Moos and Moos' sample of normal families on which FES norms were developed.<sup>28</sup> In contrast to stably remitted families, partially remitted and nonremitted families generally were less cohesive, more conflicted and argumentative, and lower on organization than control families. Overall, partially remitted and especially nonremitted families tended to experience poorer family functioning than stably remitted families did.

#### *Family Relationships as Predictors*

The next set of analyses, conducted on children living at home with depressed or control parents, examined the extent to which family functioning at 10 years explained additional variance in children's outcomes at 10 years when parents' depression at baseline or 10 years was considered. Within the family environment, we focused on the two relationship dimensions—cohesion and conflict—as potential predictors, building on previous work.<sup>14–17</sup> We conducted hierarchical multiple regression analyses in which the severity of parents' depression at

**Table 3**  
Family Functioning for Control, Stably Remitted, Partially Remitted,  
and Nonremitted Families

	<i>Patient families</i>				F
	<i>Control Families</i> (N = 127)	<i>Stably Remitted</i> (N = 29)	<i>Partially Remitted</i> (N = 65)	<i>Nonremitted</i> (N = 28)	
<b>Cohesion</b>					
Baseline	7.53 <sup>ab</sup>	6.38	5.89 <sup>a</sup>	5.26 <sup>b</sup>	10.55***
1 Year	7.66 <sup>ab</sup>	7.38 <sup>cd</sup>	5.96 <sup>ac</sup>	5.57 <sup>bd</sup>	12.12***
4 Years	7.47 <sup>ab</sup>	8.31 <sup>cd</sup>	6.62 <sup>ace</sup>	5.48 <sup>bde</sup>	8.72***
10 Years	7.26 <sup>ab</sup>	7.31 <sup>c</sup>	6.96 <sup>a</sup>	5.91 <sup>bc</sup>	3.01*
<b>Conflict</b>					
Baseline	2.63 <sup>ab</sup>	2.69 <sup>c</sup>	4.09 <sup>a</sup>	4.74 <sup>bc</sup>	8.39***
1 Year	2.67 <sup>ab</sup>	2.69 <sup>cd</sup>	4.38 <sup>ac</sup>	4.48 <sup>bd</sup>	9.74***
4 Years	2.69 <sup>ab</sup>	2.69 <sup>cd</sup>	3.91 <sup>ac</sup>	4.48 <sup>bd</sup>	5.68***
10 Years	2.60 <sup>ab</sup>	2.00 <sup>cd</sup>	3.13 <sup>ac</sup>	4.26 <sup>bd</sup>	4.69**
<b>Family activities</b>					
Baseline	5.39 <sup>abc</sup>	4.34 <sup>a</sup>	4.42 <sup>b</sup>	3.62 <sup>c</sup>	4.15**
1 Year	5.00	4.82	4.52	3.93	1.30
4 Years	5.59 <sup>ab</sup>	5.26 <sup>c</sup>	4.33 <sup>a</sup>	3.46 <sup>bc</sup>	6.72***
10 Years	5.52 <sup>a</sup>	5.21 <sup>b</sup>	4.66 <sup>c</sup>	3.25 <sup>abc</sup>	6.09***
<b>Family arguments</b>					
Baseline	2.65 <sup>ab</sup>	3.00	4.14 <sup>a</sup>	4.18 <sup>b</sup>	6.00***
1 Year	2.62 <sup>ab</sup>	3.00	4.31 <sup>a</sup>	4.07 <sup>b</sup>	7.76***
4 Years	2.36 <sup>ab</sup>	2.28	3.97 <sup>a</sup>	3.93 <sup>b</sup>	6.86***
10 Years	2.62 <sup>ab</sup>	3.00	3.95 <sup>a</sup>	4.36 <sup>b</sup>	6.75***
<b>Independence</b>					
Baseline	6.79 <sup>ab</sup>	6.81	5.87 <sup>a</sup>	5.65 <sup>b</sup>	5.28**
1 Year	6.88 <sup>ab</sup>	6.81 <sup>c</sup>	6.18 <sup>a</sup>	5.35 <sup>bc</sup>	7.33***
4 Years	6.68	6.50	6.36	5.74	2.22
10 Years	6.93 <sup>abc</sup>	6.19 <sup>a</sup>	6.42 <sup>b</sup>	5.87 <sup>c</sup>	3.97**
<b>Organization</b>					
Baseline	5.47	5.94	4.93	4.74	1.55
1 Year	5.36 <sup>a</sup>	6.44 <sup>b</sup>	5.18 <sup>c</sup>	4.35 <sup>abc</sup>	3.14*
4 Years	5.34 <sup>a</sup>	7.38 <sup>abc</sup>	5.16 <sup>b</sup>	4.78 <sup>c</sup>	5.31**
10 Years	5.55 <sup>a</sup>	7.00 <sup>abc</sup>	5.27 <sup>b</sup>	4.74 <sup>c</sup>	3.81**

Note. Means that share a superscript are significantly different ( $p < .05$ ).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

baseline or at 10 years was entered on Block 1, and an aspect of family functioning was entered on Block 2, to predict 10-year child outcomes. The standardized regression coefficients, based on the total of 361 children rated, are presented in Table 4.

Table 4 shows that, when considered alone, the severity of parents' depression at baseline accounted for variation in the 10-year child outcomes of psychological distress, physical problems, and health risk behavior. When added to the regression model, family cohesion at 10 years explained children's psychological distress, physical problems, behavioral problems, and health risk behaviors at 10 years, above and beyond the severity of parents' depression at baseline. Further, family conflict explained children's psychological distress, physical problems, and behavioral problems above and beyond parents' baseline depression.

As shown in the bottom half of Table 4, the severity of parents' depression at 10 years accounted for variation in the 10-year child outcomes of psychological problems, physical problems, behavioral problems, and health risk behaviors, when severity was entered alone into the regressions. The addition of family cohesion at 10 years explained

**Table 4**  
Regressions Examining Parental Depression and Family Functioning  
as Predictors of Children's Outcomes at 10 Years

	<i>Children's Outcomes at 10 Years</i>			
	<i>Psychological Distress</i>	<i>Physical Problems</i>	<i>Behavioral Problems</i>	<i>Health Risk Behaviors</i>
<b>Predictors</b>				
Baseline depression	.17**	.16**	.01	.13*
10-yr. cohesion	-.18**	-.15*	-.26***	-.17**
<i>R</i>	.23***	.20**	.24***	.20**
Baseline depression	.17**	.16**	.01	.13*
10-yr. conflict	.21***	.15*	.35***	.09
<i>R</i>	.26***	.20**	.34***	.14
10-yr. depression	.24***	.23***	.12*	.15*
10-yr. cohesion	-.14*	-.11	-.22***	-.15*
<i>R</i>	.27***	.25***	.24***	.21**
10-yr. depression	.24***	.23***	.12*	.15*
10-yr. conflict	.17*	.11	.32***	.07
<i>R</i>	.29***	.25***	.32***	.16*

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

children's psychological distress, behavioral problems, and health risk behaviors, and the addition of family conflict explained children's psychological distress and behavioral problems, even though parents' concurrent depression was also considered.

### Discussion

We found that children of stably remitted parents had more psychological distress and physical problems, and were more likely to be classified as disturbed, than children of control parents. In fact, at 10 years, children of stably remitted parents were comparable on psychological distress and the likelihood of being classified as disturbed to children of partially remitted or nonremitted parents.

#### *Children of Stably Remitted Parents*

The poorer functioning of children of stably remitted parents may be tied to family problems associated with the children's adolescence. Children in early adolescence begin a period of heightened risk for the onset of problems such as depression and substance use.<sup>29,30</sup> The risk of psychosocial distress is greater among children who have difficulty accomplishing the core tasks of adolescence, one of which is separating from one's parents, thereby becoming more independent and autonomous.<sup>31</sup> Independence is realized when parents neither impose too much nor provide too little structure for their teenagers.<sup>32</sup>

We found that stably remitted families put less emphasis on independence and more on organization at 10 years than did control families. These findings suggest that parents may have been interfering to some extent with their children's natural progression toward autonomy and self-determination. Stably remitted parents appear to be trying to counteract the insufficient structure and supervision often provided by parents with an affective disorder.<sup>33</sup> More family organization, as measured in this study, involves less flexibility in planning activities, time schedules, and keeping the home neat, and less acceptance of family members changing their minds about decisions they have made. Family independence taps into family members doing things on their own, thinking things out and speaking up for themselves, and having privacy. Notably, the lower independence we found at the 10-year follow-up among families of depressed parents relative to families of control

parents did not appear in the full sample of depressed patients and controls from which we selected parents.<sup>14</sup>

### *Children of Partially Remitted and Nonremitted Parents*

At the 10-year follow-up, children of nonremitted parents had more psychological distress and physical health problems, and engaged in more health risk behaviors, in comparison to children of control parents. Recent research focusing on caretaking behaviors by which parental depression affects children has found that, in comparison to control parents, depressed parents are less attentive to, focused on, and engaged with their children.<sup>34,35</sup> Depressed parents are less positive and more negative in their interactions with their children, displaying more insensitive, irritable, critical, and hostile behavior toward them.<sup>36-38</sup>

Children of partially remitted parents also had more psychological distress and physical health problems, and were more likely to be indexed as disturbed, than children of control parents at 10 years. Research indicates that children of partially remitted parents, who fluctuate between depression and remission, may be subjected to much of the same poor parenting as children of nonremitted parents. For example, Radke-Yarrow and colleagues noted the persistence and continuity of depression-related behaviors in the intervals between episodes, such that depressed parents build a coherent and relatively continuous pattern of disordered functioning to which the child is exposed.<sup>39</sup> Gelfand and Teti similarly commented that, because many patients have residual symptoms after apparent recovery from depression, children may be exposed to stressors and poor parenting even when their parents are no longer actively depressed.<sup>36</sup> Supporting these ideas, Weissman found that depressed mothers were still more impaired as parents after eight months of treatment for depression than were normal mothers.<sup>13,40</sup> Cox et al.<sup>8</sup> and Stein et al.<sup>41</sup> similarly found that the poor relationships between depressed mothers and their children persisted even after the mothers' depression improved.

Our results on family and parent functioning are consistent with findings that partially remitted and nonremitted parents may engage in poor parenting practices and have poor relationships with their children. Partially remitted and nonremitted families were less cohesive, more conflicted and argumentative, and less independent than control families at 10 years. Lower cohesion indicates a lack of help, support, and giving of time and attention among family members.

Family conflict connotes frequent open displays of anger and criticism and competition among members.

#### *Family Relationships as Predictors*

We found that poor family relationships at 10 years were associated with children's poor concurrent adaptation, even when the severity of parents' initial or current depression was considered. Less cohesion and more conflict among family members were related to more psychological distress, physical problems, and behavioral problems on the part of offspring, and to a lesser extent to children engaging more in health risk behaviors. The link between family discord and adolescents' psychological distress was similarly found by Sheeber and Sorensen,<sup>42</sup> and low family cohesion has often been found to be associated with substance use among youths.<sup>43,44</sup> According to our results, a contentious family milieu helps to explain why children of depressed parents are at risk for difficulties in adaptation.

#### *Limitations*

It is important that the findings presented here be considered in light of the methods used. A limitation of this study was that depressed and control parents reported on all of the children living with them at home. Thus, although we have 10-year longitudinal data on parental functioning and the family environment, we do not have individual data on each child in each family. Considering all of the family's children at home allowed us to obtain the full range of outcomes among offspring of disordered and control parents.<sup>19,45</sup> That is, parents may have different effects on children in the same family, and such findings are obscured when only a single child in each family is considered.<sup>46</sup> Keller and colleagues demonstrated that associations of the severity and chronicity of parental depression with children's adjustment were not biased by the inclusion of several children from the same family.<sup>47</sup> Although individual data on children is desirable for future studies, the procedure used here does not undermine the validity of associations obtained between parental course of depression and children's status at 10 years.

An additional limitation is that parents reported not only on themselves, but also on their family and their children. More confidence will be placed in the results when they are replicated using clinicians' reports of parent and child functioning, or using nondepressed spouses'

ratings of each of their children. On a positive note, findings that distressed parents have somewhat distorted perceptions of their children<sup>48</sup> have been challenged by empirical work.<sup>49</sup> Richters and Pellegrini found that depressed or control mothers' and teachers' ratings yielded substantially similar portraits of child behavior problems, with children of in-remission and in-episode mothers manifesting significantly higher levels of problems than children of control mothers.<sup>50</sup> More recently, Tarullo et al. found greater mother-child and mother-father agreement on child functioning in families with an affectively ill mother and well father, than in families with both parents well.<sup>38</sup> On this basis, they agreed that parental depression should not be assumed to distort parents' ratings of children, but rather may lead to more realistic appraisals.

Even so, it is possible that formerly depressed parents may be overly pessimistic about their children's functioning. Perhaps due to subtle but continuing information processing deficits that are activated when stressors occur,<sup>51</sup> depression-prone individuals misread potentially benign events and thereby create continuing interpersonal problems.<sup>52</sup> More broadly, depressive thinking may be associated with a generic change in the mental model individuals use to interpret their experiences, such that apparent criticism or failure is seen as a sign of underlying personal inadequacy.<sup>53</sup> Having an adolescent child in the home is likely to provoke additional stressors which may be construed and responded to more negatively by formerly and currently depressed parents than by nondepressed parents.

### *Implications*

This study found that children living with parents treated for depression are at risk for psychological distress and physical health problems, irrespective of whether the parent's course of depression consists of stable remission, partial remission, or nonremission. The findings support Gotlib and Goodman's conclusion that the prevention of depression may be more important than the treatment of depression in terms of the emotional health of the children of depressed parents.<sup>54</sup> They also support the importance of implementing interventions to prevent undesirable health and psychosocial outcomes among children of depressed parents and of formerly depressed parents.

Currently, interventions concerning families having depressed adults focus mainly on treatment for the disordered parents. Previous studies finding that parenting behavior helps to explain the outcomes of

children of depressed parents have provided well-conceptualized and empirically-supported models on which to base parent-focused interventions.<sup>11</sup> More broadly, models of how parental depression and family functioning are linked to poor consequences for children may be informative regarding processes that occur in families with other types of parental behavioral or mental disorders. They are also relevant to explaining variations in youth functioning in families in which parents are free of mental health problems.

This study provides a basis for planning specific prevention and treatment interventions targeted to children, in that it identifies additional family impairments that may link parental depression and child outcomes. Such interventions may focus on increasing children's understanding of the impediments, such as family conflict, that put them at risk for poor psychosocial adaptation, and on bolstering resources, such as cohesive relationships with siblings and extended family, that may enhance their resiliency in the face of parental disorders. Peer groups may be an effective setting for implementing the interventions because youths, especially adolescents, rely on their peers for social support and guidance in problem solving.<sup>55</sup> Peer-centered interventions could help children anticipate and manage the family and personal difficulties that may arise as a result of their parents' past, recurring, or persistent problems with depression.

### Summary

This study found that children of parents whose 10-year course of depression was stable remission had more psychological and physical problems, and were more often classified as disturbed, than were children of control parents. In fact, children of stably remitted parents had as much psychological distress and disturbance as children of partially- or nonremitted parents. At the 10-year follow-up, families of stably remitted parents put less emphasis on independence and more on organization in comparison to control families. More severe initial or current parental depressive symptoms were associated with poorer child adaptation, and family functioning explained children's outcomes above and beyond parents' depression. The results suggest that children living with parents treated for depression may be at risk for poor outcomes irrespective of the parent's course of depression, perhaps because the families of depressed parents are less cohesive and more conflicted.

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