Children of Depressed Parents: An Integrative Review

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This article reviews the various literatures on the adjustment of children of depressed parents, difficulties in parenting and parent-child interaction in these families, and contextual factors that may play a role in child adjustment and parent depression. First, issues arising from the recurrent, episodic, heterogeneous nature of depression are discussed. Second, studies on the adjustment of children with a depressed parent are summarized. Early studies that used depressed parents as controls for schizophrenic parents found equivalent risk for child disturbance. Subsequent studies using better-defined samples of depressed parents found that these children were at risk for a full range of adjustment problems and at specific risk for clinical depression. Third, the parenting difficulties of depressed parents are described and explanatory models of child adjustment problems are outlined. Contextual factors, particularly marital distress, remain viable alternative explanations for both child and parenting problems. Fourth, important gaps in the literature are identified, and a consistent, if unintentional, "mother-bashing" quality in the existing literature is noted. Given the limitations in knowledge, large-scale, long-term, longitudinal studies would be premature at this time.

Depression has traditionally been viewed as a problem of the individual. Psychologists now know that this view is limited. Research over the past two decades has revealed the independence between depressed persons and their social context (Coyne, 1990). Parents' depression and the child's adjustment is a case in point.

Depression is a highly prevalent disorder, especially among women of child-bearing age (Weissman, 1987). At any given time, approximately 8% of mothers are clinically depressed (Weissman, Leaf, & Bruce, 1987). The rate increases to 12% in mothers who have recently given birth (O'Hara, 1986). Consequently, large numbers of children are exposed to parental depression. Understanding the impact of parental depression on children is, therefore, a matter of great social as well as theoretical significance.

Initially, the children of depressed persons served as controls in high-risk research on the offspring of schizophrenic parents. This led to the serendipitous finding that children of depressed parents were just as disturbed as children of schizophrenic parents. A review of early research on children of depressed parents led Beardslee, Bemporad, Keller, and Klerman (1983) to conclude that these children were at considerable risk for a full range of psychological difficulties, including depressive symptomatology (see also Orvaschel, 1983). They qualified their conclusion by noting that few studies had a control group or used criterion-based child diagnoses, and called for investigations that remedied these limitations. They also urged researchers to examine how parental depression is linked with child maladjustment and to search for child and family characteristics that might modify this link.

We thank Barbara Bettes, Niall Bolger, John Richters, Abigail Stewart, and the reviewers for helpful comments on earlier versions of this article.

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The study of children of depressed parents has made considerable progress toward answering these calls, as the set of studies in a recent special issue of Developmental Psychology demonstrates (Dodge, 1990). Recent research on the adjustment of these children shows admirable sophistication in its use of advances in child assessment and nosology. Researchers have also considered why these children are at risk. Efforts to address this question have incorporated methodological and theoretical developments in the study of family interaction, human attachment, stress and coping, and cognitive and interactional aspects of psychopathology.

The hypothesis that is receiving the most research attention is that children's problems result directly from living with a depressed parent, especially a depressed mother. However, support can also be found for the hypothesis that the association between parental depression and child problems is spurious, that is, that both are caused by preexisting conditions such as marital turmoil or family stress. This hypothesis suggests that to understand children's adjustment problems, the broader interpersonal processes operating in the lives of depressed parents must be considered.

A rival to both these hypotheses is that the connection between parent and child problems has a genetic basis. However, twin and adoption studies show that genetic factors can at best partially account for the problems of children with a depressed parent (Allen, 1976; Cadoret, O'Gorman, Heywood, & Troughton, 1985; von Knorring, Cloninger, Bohman, & Sigvardsson, 1983). The more appropriate question is, how do genetic and other biological vulnerabilities combine with contextual factors to influence child adjustment? Relevant methodologies are now available to tackle this question. Yet, there has been little effort to integrate biological and contextual risk factors, reflecting the view that these factors offer competing rather than complementary explanations.

The heightened interest in children of depressed parents over the past 5 years has resulted in an empirical base that is considerably stronger than what was available when earlier reviews...
were undertaken (Beardslee et al., 1983; Burbach & Borduin, 1986; Forehand, McCombs, & Brody, 1987; Orvaschel, 1983). We believe that an integrative review is needed to ensure that future study designs are informed by what is known about children of depressed parents and, more generally, about affective disorders and their interpersonal context. Toward this end, we review and evaluate recent progress in the relevant literatures.

First, we summarize the research documenting the adjustment problems in children of depressed parents. We begin with an overview of the high-risk studies of schizophrenia and turn to the more recent studies specifically on children of depressed parents. Second, we evaluate the research that seeks to explain the adjustment problems of these children. We pay particular attention to research on the parenting behavior of depressed persons because of the centrality of this transmission model in the literature. We then consider evidence for the alternative model, which holds that processes in the broader interpersonal context may account for both parental depression and child adjustment. We end by drawing some tentative conclusions and identifying an agenda for future research.

Despite considerable progress, it is becoming apparent that the resolution of basic questions about children of depressed parents will be more difficult than it first appeared. Before turning to the studies of these children, we briefly consider some issues that contribute to the intractability of the task.

Methodological Concerns

An Emerging View of Depression and Its Social Context

Traditionally, it has been assumed that depression occurs in a single episode that usually resolves without enduring impairment. The emerging view is that depression is heterogeneous and highly variable in course, but is basically a recurrent, episodic disorder with varying degrees of residual difficulties (Akiskal, 1982; Clayton, 1983). Persons who become clinically depressed can expect 5–6 episodes in their lifetime (Zis & Goodwin, 1979). Although most episodes resolve in 6–9 months, 20% continue for at least 2 years. About 40% of persons seeking treatment for major depression have “double depression,” in that they suffer from a more enduring dysthymia as well as major depression (Keller & Shapiro, 1982). In addition, anxiety disorders and personality disturbance often co-occur with major depression (Black, Bell, Hulbert, & Nasrallah, 1988; Merikangas, Prusoff, & Weissman, 1988).

Depression is frequently accompanied by interpersonal difficulties, particularly in close relationships. Depressed women have a high rate of marital conflict (Weissman & Paykel, 1974), persisting for up to 4 years after an episode (Rounsaville, Prusoff, & Weissman, 1980), and divorce is common (Briscoe & Smith, 1973; see Coyne, 1990, for a review). To make matters more complex, depressed persons tend to marry persons with a psychiatric illness or a family history of psychopathology (Merikangas & Spiker, 1982). When depressed persons have psychiatrically disturbed spouses, their own symptoms are more severe, and marital and family disturbance is more likely (Merikangas, Weissman, Prusoff, & John, 1988). Overall, persons vulnerable to depression may marry persons who contribute both to their depression and to their difficulties as parents (Quinton, Rutter, & Liddle, 1984). More generally, depressed persons tend to live in adverse circumstances that may precede, co-occur with, and persist beyond their depression, providing a plausible alternative explanation for the difficulties that they and their children experience (Brown & Harris, 1978).

This emerging view of depression and its social context has important implications for the study of children of depressed parents. First, it implies that children chosen simply because a parent meets the criteria for major depression will vary greatly in their exposure to parental depression, to other forms of parental psychopathology, to marital conflict, and to adverse living conditions. Treating these children as a homogeneous group may impede progress in understanding the processes linking parental depression and child adjustment. Second, it implies the need to develop complex models and research designs to sort the effects of the various influences on child adjustment and the need for a cautionary approach to the use of conventional control and matching strategies (Cicchetti & Aber, 1986; Walker, Downey, & Nightingale, 1989).

Selection of Depressed Parents

Depression has been construed both as a continuum of psychological distress and as a discrete diagnostic entity. Its correlates vary with its definition (e.g., Breslau & Davis, 1986; Lewinsohn, Hoberman, & Rosenbaum, 1988). Coyne and Gotlib (1983) reviewed problems that arise when depression is identified from elevated scores on self-report measures rather than from structured diagnostic interviews. They noted that the relationship between self-report questionnaire responses and diagnoses of depression based on clinical interviews is equivocal; that many persons from community samples who are identified as depressed from questionnaire responses do not meet the diagnostic criteria for clinical depression; and that some of the depression that is identified in this way is mild and transient. Fortunately, most of the recent studies of adjustment in children of depressed parents have used diagnosis as the criteria for parental depression. By contrast, research on parenting by depressed persons has generally used self-reported depression scores obtained from community samples. Thus, there may be marked discontinuities between this research and research on the adjustment problems of children with a depressed parent. Consistent with this suggestion, Forehand et al. (1987) concluded that prior research showed a stronger relation between parental depression and child adjustment when depression was identified through diagnostic interviews than when depression was identified through questionnaire responses.

In the two decades of research on children of depressed persons, diagnostic practices and nosological terminology have changed in ways that can prove confusing. Parents who were diagnosed as manic-depressive solely because of the severity of their depression would now be considered unipolar, rather than bipolar, and the term neurotic depression does not map well on to current diagnostic schemes. As a result, earlier findings that the children of neurotically depressed parents showed the highest level of disturbance are difficult to interpret (Sameroff, Seifer, & Zax, 1982). Many of the parents considered schizophrenic in early high-risk studies would not meet Diagnostic and Statistical Manual of Mental Disorders, third edition (DSM–III), criteria for the disturbance, and significant numbers have been rediagnosed as bipolar disordered (Erlenmeyer-
Kimling & Cornblatt, 1987; Weintraub, 1987; Wynne, Cole, & Perkins, 1987). Thus, early findings that the children of depressed and schizophrenic parents show similar difficulties may reflect the presence of parents in the schizophrenic sample who would now be considered affectively disordered.

Structured diagnostic interviews such as the Schedule of Affective Disorders and Schizophrenia (SADS) and rigorously defined criteria such as the Research Diagnostic Criteria (RDC) now allow greater consistency in the selection of depressed parents. Yet even the use of diagnoses derived from the same structured interviews does not ensure that samples of depressed persons are homogeneous. An important source of heterogeneity is whether depression co-occurs with a personality disorder. DSM–III and the revised DSM–III incorporate a multiaxial diagnostic system that allows researchers to code both major disorders such as depression (Axis I) and personality disorders (Axis II). A recent study of consecutive hospital admissions found that 35% of patients with major depression also had a personality disorder (Shea, Glass, Piklronis, Watkins, & Docherty, 1987).

Personality disorders that co-occur with major depression are likely to have a complex effect on children. Aside from the difficulties posed by living with a parent who is borderline, passive–aggressive, avoidant, or dependent, Axis II diagnoses are associated with an earlier onset of depression, poorer recovery, more life stress, and more frequent suicide attempts, all of which may have a negative effect on children (Black et al., 1988; Pholfi, Stang, & Zimmerman, 1984). In fact, parental personality disorder may have a stronger impact on child adjustment than parental depression (Rutter & Quinton, 1984).

Characteristics of depressed people also vary by treatment setting (Paykel, Klerman, & Prusoff, 1970). How they vary has changed in the time from the earliest studies of children of depressed parents to the present. Antidepressant medication is more widely used and effective than in the past. Hospitalizations are less frequent and of shorter duration. Treatment has shifted to primary medical care, and more antidepressants are now prescribed by primary care physicians than by psychiatrists. For these and other reasons, samples of depressed persons selected from hospitals and clinics where research is conducted will differ from samples selected from these settings in the past and from the larger population of depressed persons who are treated in the community or who go untreated. At the outset of our review, we should caution that most of the better-designed studies of children with a depressed parent have used hospital and clinic samples. Thus, their findings pertain to persons who are more seriously disturbed than the typical depressed person. For example, in the University of California, Los Angeles (UCLA), Family Stress Project, depressed mothers had a mean of 15.5 lifetime episodes and a mean of 2.1 hospitalizations for depression (Hammen, Gordon, et al., 1987b). It is important not to generalize uncritically from studies of more disturbed, treated people to the population of depressed persons.

**Control Groups, Matching, and Statistical Controls**

Simple comparisons between children of depressed and nondepressed parents may suffice for documenting the problems shown by children of depressed parents. However, if one’s goal is explanation, they do not suffice. We have already noted several ways in which families that include a depressed parent differ from other families (e.g., high levels of marital conflict and adversity). These differences may provide alternative explanations for the association between parental depression and child problems. These differences may also require substantial qualifications as to when or under what circumstances such an association emerges. Conventional wisdom holds that the problem of co-occurring risk factors can be addressed in study designs by including appropriate control groups that are matched with the target group on factors that are likely to influence adjustment. Reflecting this view, several high-risk studies of schizophrenia included children of depressed patients as a comparison group to test the hypothesis that the problems of children with schizophrenic parents are due to schizophrenia per se and not to psychiatric disturbance or its correlates (e.g., stress, marital discord). Children of depressed parents were viewed as the ideal control group because depression and schizophrenia are considered to be equally severe but genetically distinct disorders (Kendler, Gruenberg, & Strauss, 1981; Rosenthal, 1970).

Surprisingly few recent studies of children with depressed parents include a nondepressed psychiatric control group. Even among those that do, the apparent explanatory power that such a control group affords may prove illusory, as illustrated by a recent study comparing children of bipolar-disordered parents with children of nondepressed, psychiatric control parents (Klein, Depue, & Slater, 1985). The bipolar index parents were selected from an inpatient unit, but the psychiatric control parents were drawn from outpatient clinics. The bipolar index parents had a mean of 7.7 hospitalizations, whereas the psychiatric control parents had a mean of 0.3 hospitalizations. We cannot tell whether the high rate of affective disturbance in the offspring of bipolar index parents was due to their parent's disorder or to their parent's repeated hospitalization and its correlates. In general, patients with a nonaffective diagnosis will differ from depressed patients on several background and clinical variables. This limits the extent to which adequate matching can be achieved and, thus, the conclusions that can be drawn justifiably from comparisons.

Most applications of matching across index and control groups are fairly mechanical and include efforts to ensure that the groups are comparable on demographic variables such age, sex, social class, number of children, and family structure. Investigators may be unable to implement more complex matching strategies. They seldom have (a) a large enough sample from which to draw matched depressed parents and controls, (b) sufficient knowledge of the characteristics of their patient populations or of the variables most crucial for matching purposes, or (c) an understanding of how matching or selecting on one variable affects other relevant variables (Walker, Downey, & Nightingale, 1989).

Many factors that affect child outcomes are not amenable to matching because they cannot be assessed until a study is underway. These include marital distress, life events, and parents' current level of psychological distress. Studies that have considered these potential confounding variables have treated them as covariates (e.g., Beardslee, Schultz, & Selman, 1987; Hammen, Adrian, et al., 1987; Weintraub & Neale, 1984). However, the high-risk literature provides several examples of the wisdom of testing for interactions between risk factors in order to identify the circumstances under which parental psychopathology and child disturbance are linked (Walker, Downey, & Nightingale,
CHILDREN OF DEPRESSED PARENTS

1989). For example, Walker, Downey, and Bergman (1989) found that parental psychiatric status and child maltreatment interacted such that the behavior problems of children with a schizophrenic parent increased over time only if the children also experienced maltreatment.

Although testing for interactions between parental depression and other contextual factors is clearly warranted, the co-occurrence of risk factors puts practical limits on such tests. For example, marital distress is common in families with a depressed parent. Testing how marital distress and parental depression interact to affect child adjustment requires finding enough maritally distressed families that do not include a depressed parent and enough maritally nondistressed families with a depressed parent. In practice, this may be a difficult task, and adopting this strategy introduces new problems of interpretation. Groups constructed in this way are unrepresentative of the larger populations of families of maritally distressed and depressed persons. Furthermore, maritally disressted persons who are not currently depressed are at risk for depression in the near future and are likely to have a history of depression (Lewinsohn et al., 1988).

Summary

We have identified several aspects of depression and its context that pose difficulties for drawing firm conclusions about how the disorder relates to problems in offspring. One might start with the suggestion that the study of the effects of depression on offspring is best done by using well-described, homogeneous samples of depressed parents, appropriate matched control groups, and statistical controls and tests for interactions to examine possible mediating and moderating influences on these children. The barriers to implementing such a design should be becoming apparent, and it should not be surprising that few studies come close to meeting this ideal. At present, probably too little is known to make the most effective use of matching and statistical controls, but this does not mean researchers ought to abandon trying. This judgment may seem too pessimistic, but it should be noted that other authors are raising similar doubts about conventional ways of disentangling causal influences in the naturalistic environment and are cautioning that an uncritical application of these approaches can be misleading (Kessler, 1987).

Adjustment in Children of Depressed Parents

Studies have investigated the relation between parental depression and a wide range of child outcomes. In this review, we focus on three sets of outcomes: (a) measures of psychological functioning, (b) clinical disorders, and (c) potential markers of vulnerability to depression. We begin with a discussion of high-risk studies of schizophrenia that included children of depressed parents as a control group. We then discuss more recent studies that specifically target children of depressed parents.

High-Risk Studies of Schizophrenia

Table 1 summarizes some features of the seven high-risk studies that included a depressed parent control group (Cohler, Grunebaum, Weiss, Hartman, & Gallant, 1977; Fisher, Kokes, Harder, & Jones, 1980; Garmezy & Devine, 1984; Goodman, 1987; Sameroff, Barocas, & Seifer, 1984; Weitnraub & Neale, 1984; Worland, Janes, Anthony, McGinnis, & Cass, 1984). Other studies also included depressed parents in their psychiatric control group, but early reports from these studies combined depressed and nondepressed psychiatric controls (Erlenmeyer-Kimling & Cornblatt, 1987; McNeil & Kajiy, 1987).

Beyond consisting of currently or formerly hospitalized patients, the seven groups of depressed parents lacked uniformity. Some studies combined parents with neurotic and psychotic depression, whereas others included only parents with psychotic depression. Three studies were restricted to intact families and four studies included only families with a depressed mother. The distinction between unipolar and bipolar parental disorders was made in just some reports from two studies (Fisher, Schwartzman, Harder, & Kokes, 1984; Weitnraub, Winters, & Neale, 1986). All seven studies had a longitudinal component in their design, but the extent of follow-up varied considerably and the studies of school-aged children have not yet reported extensively on their follow-up data.

Parental diagnostic procedures varied across studies from the most reliable diagnostic tools available to hospital chart reviews. Initially, most of the high-risk studies did not use DSM-III or RDC criteria to assess parental diagnosis. Child assessment procedures also differed across studies, but all studies included an assessment of the child's social adjustment. The three studies of preschool children used some combination of mother and observer reports of child adjustment. The four studies of school-aged children included teacher or peer ratings of social and academic competence. With one exception, the initial child assessments did not use diagnostic procedures because suitable procedures and criteria were not well developed when the studies began. Moreover, schizophrenia, the outcome of interest, rarely emerges in childhood. The one study that included a diagnostic assessment began much more recently than the others (Goodman, 1987).

Despite inconsistencies across measures and samples, the school-aged children of affectively disturbed and schizophrenic parents showed similar deficits in comparison with matched or random control children. Effects specifically associated with either diagnosis were strikingly absent. In some studies, on some measures, particularly teacher ratings of academic and social competence, children of schizophrenic and depressed parents resembled children of normal control parents.

The story is more complex for studies begun with preschool children because the findings from these longitudinal studies varied with the children's developmental stage. For example, Cohler and his colleagues found that the 3-year-old children of depressed and schizophrenic mothers showed similar cognitive deficits, but at age 9 years children of depressed mothers were more impaired than children of schizophrenic mothers (Cohler et al., 1977; Grunebaum, Cohler, Kaufman, & Gallant, 1978). Sameroff et al. (1984) reported that children of depressed mothers had more problems immediately after birth than children of schizophrenic or control mothers, but subsequently resembled control children in mental and motor development. Although depressed mothers continued to report the highest level of child deviance through age 4 years, this appears to reflect the mothers' functional impairment rather than their specific diagnosis. Goodman (1987) also found social and cognitive deficits and adjustment problems in the off-
### Table 1

**High-Risk Studies of Schizophrenia With a Depression Control Group**

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Child age</th>
<th>Parent diagnostic criteria</th>
<th>Child adjustment data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory University Project (Goodman, 1987)</td>
<td>Depressed = 36, schizophrenic = 71, control = 38 (single, low-income Black mothers from treatment facility)</td>
<td>Longitudinal study: 0–5 years; 3 assessments, 1 year apart</td>
<td>DSM–III, based on hospital records</td>
<td>Observes-rated social competence, developmental and DSM–III diagnostic assessments</td>
</tr>
<tr>
<td>Massachusetts Mental Health Center Project (Cohler, Grunebaum, Weiss, Hartman, &amp; Gallant, 1977; Gamer, Gallant, Grunebaum, &amp; Cohler, 1977)</td>
<td>Depressed = 12 (psychotic), schizophrenic = 29, control = 57 (mothers from intact families participating in posthospitalization program)</td>
<td>Longitudinal study: 3 years, 5–6 years, 8–12 years</td>
<td>DSM–II, based on psychiatrist's ratings of symptoms</td>
<td>IQ and attentional tasks</td>
</tr>
<tr>
<td>Minnesota High-Risk Study (Rolf, 1972; Garmezy &amp; Devine, 1984; Rolf &amp; Garmezy 1974)</td>
<td>Depressed = 27 (neurotic), schizophrenic = 31, externalizing disorder = 31, internalizing disorder = 27 (matched and randomized controls; hospital records, mothers)</td>
<td>9–12 years</td>
<td>DSM–II, based on hospital records</td>
<td>Teacher and peer ratings of social competence</td>
</tr>
<tr>
<td>Rochester Child and Family Study (Fisher et al., 1984; Baldwin, Cole, &amp; Baldwin, 1982; Wynne, Cole, &amp; Perkins 1987)</td>
<td>Psychotic depressed = 38, nonpsychotic depressed = 39, schizophrenic = 20, nonpsychotic nondepressed = 28 (boys from intact, middle- to upper-SES families; no normal control group; records of previously hospitalized patients)</td>
<td>4, 7, or 10 years</td>
<td>DSM–III, based on structured interview (present state interview; Wing, Cooper, &amp; Sartorius, 1976).</td>
<td>Teacher and peer ratings of competence</td>
</tr>
<tr>
<td>Rochester Longitudinal Study (Sameroff, Barocas, &amp; Seifer, 1984; Sameroff, Seifer, &amp; Zax, 1982; Sameroff, Seifer, Zax, &amp; Barocas, 1987)</td>
<td>Depressed = 58 (neurotic), schizophrenic = 29, personality disorder = 40, control = 57 (mothers; sample obtained by crossing maternity cases with psychiatric register)</td>
<td>Longitudinal study: birth, 3, 12, 30, &amp; 48 months</td>
<td>DSM–II, based on structured interview (CAPPS; Endicott &amp; Spitzer 1972).</td>
<td>Standardized developmental assessments; maternal and observer ratings; at 4 years only maternal ratings of child obtained</td>
</tr>
<tr>
<td>St. Louis High-Risk Study (Worland, Janes, Anthony, McGinnis, &amp; Cass, 1984)</td>
<td>Depressed = 60 (12), schizophrenic = 100 (11), medical control = 78 (20), control = 130 (50), (hospital inpatients; intact families)</td>
<td>6–20 years</td>
<td>DSM–II, based on hospital records. Recent reports used DSM–III.</td>
<td>Clinical ratings of psychopathology based on IQ, visual-motor, and projective tests; teacher-rated competence</td>
</tr>
<tr>
<td>Stony Brook High-Risk Study (Weintraub &amp; Neale, 1984; Weintraub, 1987)</td>
<td>Depressed = 91, schizophrenic = 153, matched and random = 443, controls = 153, (hospital inpatients)</td>
<td>6–16 years</td>
<td>DSM–II, based on structured interview (CAPPS; Endicott &amp; Spitzer 1972)</td>
<td>Teacher and peer ratings of competence, attentional measures, and IQ</td>
</tr>
</tbody>
</table>

*Note. DSM = Diagnostic and Statistical Manual of Mental Disorders. II = second edition,III = third edition; SES = socioeconomic status, CAPPS = Current and Past Psychopathology Scales. Numbers in parentheses are Ns for recent reports.*

Spring of both schizophrenic and depressed parents. The group that appeared most impaired depended on what was measured and when it was measured. Rates of DSM–III disorders were low in children of both schizophrenic and depressed parents at all three assessments. However, rates of diagnosis (usually developmental delays) for these children doubled from 5% to 10% between the first and final assessment, whereas diagnoses were notably absent in the control children.

Despite the inconsistencies across time and measures, these studies suggest that, like school-aged children, infants and preschool children with a depressed parent are more impaired than control children but resemble young children with a schizophrenic parent.

*Similarity in children of depressed and schizophrenic parents.* How should the similarity in adjustment between children of depressed and schizophrenic parents be interpreted? One possibility is that the specific parental diagnosis is less relevant to child adjustment than other dimensions of parental psychopathology (Watt, 1984). Indeed, the studies that investigated chronicity and severity of impairment have found that these factors are stronger predictors than diagnosis of child adjustment (Harder, Kokes, Fisher, & Strauss, 1980; Sameroff et al., 1984;
Wynne et al., 1987). We might have reached a different conclusion if the studies had included diagnostic assessments or measures that were more germane to depression and its risk factors.

Lack of specificity may also reflect the widespread use of DSM, second edition (DSM-II), criteria in ascertaining parental diagnosis. In several high-risk studies, rediagnosis using DSM-III criteria has led to sizable decreases in the schizophrenic parent sample and corresponding increases in the bipolar parent sample (e.g., Weintraub, 1987; Wynne et al., 1987). The Stony Brook High-Risk Study found some evidence that the children of DSM-III II schizophrenic parents who also met the DSM-III criteria for schizophrenia were more maladjusted than children of parents who were rediagnosed as affectively disordered (Weintraub, 1987). When other high-risk researchers complete their rediagnosis of parents by means of DSM-III criteria, children of schizophrenic parents may yet appear more impaired than children of affectively disturbed parents.

Even if children of schizophrenic and depressed parents continue to show similar levels of adjustment following rediagnosis with DSM-III criteria, two issues warrant consideration. First, similar adjustment patterns in children of schizophrenic and depressed parents need not imply that the underlying processes are similar for both groups. Illustrating this point, Emery, Weintraub, and Neale (1982) found that although children of schizophrenic and depressed parents showed similar levels of maladjustment, marital discord explained the adjustment problems in children with a depressed parent but not in children of schizophrenic parents.

Second, the prognostic value of childhood adjustment problems may not be the same for the offspring of depressed and schizophrenic parents. For example, there is suggestive evidence that low social competence is a precursor of schizophrenia but not of depression. In a follow-back study of school records, children who later developed schizophrenia showed low social competence, but the social competence of children who became depressed resembled that of controls (Lewine, Watt, Prentsky, & Fryer, 1980).

Follow-up diagnostic studies. The children in most of the high-risk studies have now entered late adolescence and adulthood, and diagnostic assessments of them are underway. These data will permit a prospective test of the validity of potential risk indicators identified in childhood. The rediagnosis of many schizophrenic parents as bipolar disordered and the increasing interest in children of depressed parents has resulted in more careful and systematic reports about children of depressed parents. Thus, these studies have the potential to further understanding of the long-term effects of having a depressed parent.

In the studies that have reported follow-up results, disturbance rates were higher in the offspring of both schizophrenic and affectively disordered parents than in normal control children. Children of schizophrenic parents showed the highest overall rates of any disorder (Erlenmeyer-Kimling & Cornblatt, 1987; Weintraub, 1987). Only the Stony Brook High-Risk study has reported rates of specific disorders (Weintraub, 1987). Children of affectively disturbed parents showed high rates of affective disorders, whereas children of schizophrenic parents showed high rates of borderline and personality disorders (Weintraub, 1987). Although this finding awaits replication, it suggests that "depression breeds true" and anticipates the results of studies with control groups of medically ill parents to be discussed later.

Lessons from high-risk research. Beyond substantive findings, the high-risk studies of schizophrenia have provided valuable lessons about the pitfalls of carrying out this type of research. First, they highlight the difficulties in interpreting findings from studies in which psychiatric groups are not well described. Second, they illustrate the problems involved in following high-risk samples longitudinally (Lewine, Watt, & Grubb, 1984). These include differential rates of attrition across study groups and increases in heterogeneity over time in samples originally selected to be homogeneous. Families with the highest levels of psychosocial risk are the most likely to drop out. Families with a disturbed parent that were initially selected to be intact show higher rates of marital disruption than control families. These processes can seriously compromise researchers' ability to distinguish developmental changes in children from changes that are due to the changing composition of the sample.

Although the results of the long-term, follow-up studies of the high-risk samples are beginning to emerge, investigators have not yet examined whether early maladjustment predicts later diagnostic outcomes. Instead, they treat each wave as a separate cross-sectional assessment. Thus, the prognostic value of the intermediate risk markers identified during childhood remain unclear.

Clearly, these long-term, longitudinal, high-risk studies have proved difficult to implement successfully. Nonetheless, it is important to acknowledge the sophistication of some aspects of the study designs and the breadth of domains of child and family functioning assessed. The St. Louis High-Risk Study is particularly impressive (Worland et al., 1984). This study incorporated both medical and psychiatric control groups and obtained naturalistic observations of family interactions at home, clinical interviews, and child cognitive and psychomotor assessments. Without an understanding of the methodological and logistical difficulties that these studies encountered, subsequent studies on children of depressed parents are in danger of succumbing to similar problems. We now turn to these more recent studies.

Recent Studies of Children of Depressed Parents

Psychological functioning. Early, uncontrolled studies of children with a depressed parent provided suggestive evidence that these children were at risk for a wide range of problems in psychological functioning (Beardslee et al., 1983). More recent studies that included control groups have confirmed this assessment. These studies are summarized in Table 2. All of these studies used standardized diagnostic criteria (e.g., DSM-III or RDC) to identify depressed parents. Parents were usually recruited from inpatient or outpatient treatment facilities, and studies varied in whether they combined parents with mild and major depression or included only parents with major depression. Samples also varied in the age composition of the children, family structure, and sex of the depressed parent. Although measures of psychological functioning differed across studies, most used valid and reliable instruments (e.g., Child Behavior Checklist; Achenbach & Edelbrock, 1983).

School-aged children of depressed parents generally show higher levels of both externalizing and internalizing symptoms
than normal control children. This finding emerges in reports by teachers (Lee & Gotlib, 1989a, 1989b; Richters & Peligrini, 1989), by parents (Billings & Moos, 1983; Breslau, Davis, & Prabucki, 1988; Lee & Gotlib, 1989a, 1989b; Richters & Peligrini, 1989), and by the children themselves (Breslau et al., 1988; Hirsch, Moos, & Reischl, 1985). Other indicators of maladjustment in these children include higher levels of treatment for psychiatric disturbance (Hammen, Gordon, et al., 1987b; Klein, Clark, Dansky, & Margolis, 1988; Klein et al., 1985; Orvaschel, Welsh-Allis, & WeiJaj, 1988; Weissman, 1988), higher levels of functional impairment (Beardslee et al., 1987; Klein et al., 1988; Lee & Gotlib, 1989a; Weissman, Gammon, et al., 1987), and a higher proportion of children scoring in the clinical range of symptom checklists (Lee & Gotlib, 1989a). These children also have deficits in social (Hammen, Gordon, et al., 1987b; Richters & Peligrini, 1989) and academic (Billings & Moos, 1983; Hammen, Gordon, et al., 1987b; Weissman, Gammon, et al., 1987) competence that are not due to intellectual limitations. Finally, they are in poorer physical health than children of control parents (Billings & Moos, 1983; Weissman, Gammon, et al., 1987).

Little is known about the impact of parental depression on the adjustment of infants and toddlers beyond the knowledge gained from the high-risk studies of schizophrenia. In these studies, children of depressed parents were more poorly adjusted than normal control children, but were similar to children of schizophrenic parents (Cohler et al., 1977; Goodman, 1987; Sameroff et al., 1984). The only additional study of adjustment in young children with a depressed parent reported that these children showed symptoms of depression and antisocial behavior (Gaensbauer, Harmon, Cytryn, & McKnew, 1984; Zahn-Waxler et al., 1984, 1988). These symptoms were evident during the children’s second year of life and continued to characterize the children at age 6 (Zahn-Waxler et al., 1988). The sample consisted of 7 male offspring of bipolar parents, 5 of whom had a unipolar-disordered spouse. The small size and uniqueness of the sample limits the generalizability of these findings. Nonetheless, the study shows that it is possible to identify depressive tendencies in the offspring of affectively disturbed parents early in life, and that these problems continue.

Although this body of studies confirms that children of depressed parents are at heightened risk for general adjustment problems even in early childhood, issues of specificity persist. In accord with findings from the schizophrenia high-risk studies, three studies reported that children of medically or nondepressed psychatically ill parents were indistinguishable from children with a depressed parent (Hammen, Gordon, et al., 1987b; Hirsch et al., 1985; Lee & Gotlib, 1989a, 1989b). The remaining studies included only a normal control group. This lack of specificity suggests that general measures of child maladjustment do not reveal the distinct consequences of parental depression. However, a failure to reject the null hypothesis is difficult to interpret, for two reasons. First, the small samples used in these studies has meant that their power to detect group differences is low. Second, the studies provide little information about the medical or nondepressed psychiatric parent groups. For example, Hirsch et al. (1985) included a medical control group of women with arthritis, but did not assess the psychiatric history of these women. Lee and Gotlib (1989a, 1989b) concluded that nonsignificant differences in adjustment between children of depressed and nondepressed psychiatric outpatients implied that parental psychiatric status is more important for child adjustment than is depression. Yet Lee and Gotlib also reported that children of depressed parents were twice as likely as children of nondepressed psychiatric patients to score in the clinical range of the adjustment measure. Here, as elsewhere in considerations of nonspecificity, null findings are difficult to interpret.

**Clinical diagnoses.** Only one of the studies reviewed by Beardslee et al. (1983) used diagnostic criteria and included a control group (Werner, Werner, McCrary, & Leonard, 1977). In this study, 7% of children with a depressed parent met the diagnostic criteria for adult depression and 25% showed considerable depressive symptomatology, whereas none of the control children were depressed. The findings from nine additional studies now confirm that children of depressed parents are indeed at heightened risk for affective diagnoses. These studies were based on independent samples of school-aged and young adult offspring, included a control group, and used DSM-III or RDC diagnostic criteria based on structured interviews with the child and, with two exceptions, the parent. This emphasis on diagnosis was possible because of recent developments in nosology and structured interviews with children (Carlson & Garber, 1986). The use of direct interviews with children is an important improvement, given concerns about parents’ ability to provide reliable reports about children’s depressive symptomatology. Comparisons of mothers’ and children’s reports show that they generally agree about externalizing symptoms, but that mothers’ estimates of their children’s depressive symptoms are considerably lower than the children’s own estimates (Breslau et al., 1988; Weissman, Wickramaratne, et al., 1987).

Table 2 gives details of the nine studies, and Table 3 summarizes their findings. Five studies focused primarily on parents with a unipolar disorder; three focused on bipolar-disordered parents. Only one study included both types of disorder (Hammen, Gordon, et al., 1987b). As with the high-risk studies of schizophrenia, studies varied considerably in sample composition. Some studies included only depressed mothers and some included only children in late adolescence and young adulthood.

In each of the nine studies, children of depressed parents were more likely to receive a diagnosis than control children. However, affective disturbance was the only diagnosis that children of depressed parents received significantly more often than controls across the studies (see Table 3). The rate of any affective disorder was three times higher in children of unipolar-disordered parents and 1.75 times higher in children of bipolar-disordered parents than it was in control children. Children of unipolar-disordered parents were at particularly high risk for major depressive disorders (MDD); their rate of MDD was six times that of control children. Children of bipolar-disordered parents showed significantly higher rates of MDD in just one of the three studies that reported this disorder. The children in this study were older (15–23 years) than children in the other two studies, suggesting that serious depressive disorders may have a later onset in children of bipolar-disordered parents.

Unlike depression, full-blown mania was generally absent in the offspring of either unipolar- or bipolar-disordered parents. However, one study found significant evidence of cyclothymia in adolescent and young adult offspring of bipolar-disordered parents (Klein et al., 1985). The cases of manic disorders (bipo-
lar 2, hypomania, cyclothymia) found in all nine samples were restricted to the offspring of depressed parents. The low level of manic or bipolar cases may reflect the age span covered by the studies. Manic episodes are thought to occur rarely in prepubescent children (Depue & Munroe, 1978), and parent and child reports of manic symptoms are unreliable (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985).

There were no consistently reliable differences between children of depressed and nondepressed parents in rates of any specific nonaffective disorder. Nonetheless, most other disorders occurred more often in the children of depressed parents than they did in control children. Children of depressed parents showed significantly higher rates of conduct disorder in three studies (Beardslee et al., 1987; Hammen, Gordon, et al., 1987b; Klein et al., 1988); in one study, they showed significantly higher rates of attentional deficit disorder (Orvaschel et al., 1988); and in three studies, they showed significantly higher rates of substance abuse (Beardslee et al., 1987; Hammen, Gordon, et al., 1987b; Weissman, 1988). Some studies also reported that children of depressed parents were more likely to receive multiple diagnoses than were control children (Decina et al., 1983; Klein et al., 1988; Orvaschel et al., 1988; Weissman, Gammon, et al., 1987).

It is unclear whether the high rates of depression in children of unipolar-depressed parents are a specific consequence of parental depression, because only two studies included a high-risk control group. Both studies found significantly higher rates of affective disorders in children of depressed parents than in children of medically ill or psychiatric control parents (Hammen, Gordon, et al., 1987b; Klein et al., 1988). By contrast, one of the studies reported that these two groups of children were indistinguishable on a measure of general adjustment (Hammen, Gordon, et al., 1987). When considered together with the results from the Stony Brook High-Risk Study (Weintraub, 1987), these findings suggest that clinical depression may be a specific consequence of parental clinical depression. Thus, future studies that aim to identify distinct effects of parental depression should not limit their child assessments to general adjustment measures.

**Risk factors.** Unlike the schizophrenia high-risk studies, identifying premorbid risk markers was not the initial goal of the high-risk studies of depression. However, several promising lines of inquiry are now underway that draw on current theories and empirical investigations of vulnerability to depression in adulthood. Putative risk factors being investigated include affect regulation, the handling of separation and failure, attributional style, and negative self-views.

Problems with separation from a loved one have long been implicated as a risk factor in adult depression (Bowby, 1980). Such difficulties may be exacerbated in persons who develop insecure attachments to their caretaker in infancy (Cummings & Cicchetti, in press). Parent–child attachment has been studied most extensively in the National Institute of Mental Health (NIMH) program of research on offspring of affectively disturbed parents. Gaensbauer et al. (1984) found that, at 18 months, six of the seven children with a bipolar parent were insecurely attached to their mother, whereas only one of the control children was not securely attached. High rates of insecure attachment were found also in a larger sample of mothers with bipolar disorder (79%) or major depression (47%), especially when the disorder was severe (Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985). The rate of insecure attachment in both the control and minor depression groups resembled the general population rate (25%-30%). Insecure attachments were characterized primarily by avoidance or disorganized, disoriented behavior previously found in severely abused children (Crittenden, 1988). It is not yet known whether such patterns of attachment predict later depression as distinct from other forms of maladjustment.

The regulation of emotion and social interaction is also being explored as a potential risk factor for affective disturbance in both NIMH samples. When observed interacting with a peer at age 30 months and again at age 6 years, the seven children of bipolar-disordered parents showed problems with empathy and unusual responses to conflict (Zahn-Waxler, Cummings, McKnew, & Radke-Yarrow, 1984; Zahn-Waxler et al., 1988). In assessing these findings, Zahn-Waxler et al. (1984) suggested that "emotional dysregulation, accompanied by poor social relationships evidenced in an impoverished ability to give to others, illustrates one process by which depression may develop" (p. 240). Confirmatory evidence of these difficulties comes from the larger NIMH study of children of unipolar- and bipolar-disordered and control mothers (Zahn-Waxler, Kochanska, Krupnick, & McKnew, 1990). Children with affectively disturbed mothers responded to projective tests with exaggerated and complex representations of interpersonal conflict and distress.

On the basis of a related line of research, Klein and his colleagues also argue that subdromal problems with affect regulation (dysthymia or cyclothymia) in childhood index risk for later affective disturbance (Klein et al., 1985, 1988). Evidence of elevated levels of subdromal cyclothymia in the offspring of bipolar-disordered parents and of dysthymia in the offspring of unipolar-disordered parents are consistent with this argument. However, as with the NIMH research, the prognostic value of these findings and their specificity to parental affective disturbance have yet to be established.

Only the UCLA Family Stress Project has investigated the links among parental affective disturbance, risk factors, and child diagnostic outcomes. In an ambitious program of research, Hammen and her colleagues have tested cognitive theories of vulnerability to depression in high-risk children (Hammen, 1988; Hammen, Adrian, & Hiroto, 1988; Jaenicke et al., 1987). Specifically, they examined whether a negative self-concept and a negative attributional style (i.e., a tendency to make global, internal, stable attributions about negative events; Peterson & Seligman, 1984) were more characteristic of children with an affectively disturbed parent than of control children and whether these cognitions predicted subsequent changes in child adjustment. Children of unipolar- and bipolar-disordered parents had a significantly more negative self-concept and a more negative attributional style than children of normal parents. A negative self-concept predicted increases in both affective and nonaffective diagnoses over a 6-month period. Contrary to theoretical expectations, a negative attributional style predicted increases only in nonaffective diagnoses; it did not predict depression. These results confirm the need to go beyond identifying heightened levels of theoretically relevant variables in children of depressed parents in order to ask what these findings imply for child adjustment.

These programs of research on risk factors for later depres-
<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Child age</th>
<th>Parent diagnostic criteria</th>
<th>Child data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beardslee, Schultz, &amp; Selman (1987); Keller et al. (1986)</td>
<td>Depression = 108 (mainly unipolar), control = 64 (research and treatment facilities and community facilities)</td>
<td>11-19 years</td>
<td>RDC, based on SADS-L</td>
<td>DSM-III, based on Diagnostic Interview for Children and Adolescents interviews with child and mother; Rochester Adaptive Behavior Inventory; social cognitive measures</td>
</tr>
<tr>
<td>Billings &amp; Moos (1983, 1985)</td>
<td>Unipolar = 218, control = 236, (inpatient and outpatient facilities)</td>
<td>Up to 20 years</td>
<td>RDC, based on hospital records</td>
<td>Parents completed questionnaires about child’s mental and physical health and functioning (Health &amp; Daily Living Form). Process repeated 1 year later.</td>
</tr>
<tr>
<td>Breslau, Davis, &amp; Prabucki (1988)</td>
<td>Unipolar = 55 (major), control = 278 (mothers from community sample)</td>
<td>8-23 years</td>
<td>DSM-III, based on Diagnostic Interview Schedule</td>
<td>DSM-III symptom scales, based on Diagnostic Interview Schedule for Children interview with child and Diagnostic Interview Schedule for Children—Parent Version interview with mother. Both parents completed the Connors Parent Questionnaire to assess behavioral disturbance.</td>
</tr>
<tr>
<td>Connors, Himmelhoch, Goyette, Ulrich, &amp; Neil (1979)</td>
<td>Bipolar = 16, unipolar = 43 (affective disorders clinic)</td>
<td>1-18 years</td>
<td>Feighner, Robins, Guze, Woodruff, &amp; Munoz (1972) criteria</td>
<td>DSM-III, based on information from parents, child, and school; used to complete Psychiatric &amp; Affective Rating Scales</td>
</tr>
<tr>
<td>Cytryn, McKnew, Bartko, Lamour, &amp; Hamovit (1982)</td>
<td>Depressed = 19 (major), control = 21 (hospitalized at National Institute of Mental Health [NIMH clinic])</td>
<td>5-15 years</td>
<td>RDC, based on SADS-L</td>
<td>DSM-III, based on semistructured interview with parents and evaluation of child using Mental Health Assessment Form and GAS; IQ; Rorschach</td>
</tr>
<tr>
<td>Decina et al. (1983)</td>
<td>Bipolar = 31, control = 18 (outpatient clinic)</td>
<td>7-14 years</td>
<td>RDC, based on SADS-L, RDC interview</td>
<td>DSM-III, based on K-SADS interviews with mother and child. DSM-III, based on K-SADS, mother’s CBCL, child social cognition and depression; Connors’s Teacher Rating Scale</td>
</tr>
<tr>
<td>Gerashen et al. (1985)</td>
<td>Bipolar = 29, control = 37 (NIMH affective disorders clinic)</td>
<td>6-17 years</td>
<td>RDC, based on SADS-L</td>
<td>DSM-III, based on K-SADS interviews with mother and child. DSM-III, based on K-SADS, mother’s CBCL, child social cognition and depression; Connors’s Teacher Rating Scale</td>
</tr>
<tr>
<td>Hammen, Adrian, et al. (1987); Hammen, Gordon, et al. (1987b)</td>
<td>Unipolar = 19 (major), bipolar = 16, medical control = 18, control = 39 (middle SES mothers in treatment for depression; medical controls had chronic arthritis or diabetes.)</td>
<td>8-16 years</td>
<td>RDC, based on SADS-L, Beck Depression Inventory; family strain interview</td>
<td>DSM-III, based on K-SADS, mother’s CBCL, child social cognition and depression; Connors’s Teacher Rating Scale</td>
</tr>
<tr>
<td>Hirsch, Moos, &amp; Reischl (1985)</td>
<td>Unipolar = 16, medical control = 16, control = 16 (unipolars from treatment facilities; medical controls had arthritis.)</td>
<td>12-18 years</td>
<td>RDC, based on hospital records</td>
<td>Children completed the Hopkins (Psychiatric) Symptom Checklist</td>
</tr>
<tr>
<td>Klein, Clark, Dansky, &amp; Margolis (1988)</td>
<td>Unipolar = 47 (major), medical control = 33, control = 38 (mainly consecutive hospital admissions)</td>
<td>14-22 years</td>
<td>RDC, based on SADS-L, RDC interview guide, &amp; hospital records</td>
<td>DSM-III, based on SADS-L interview with child; life activities interview</td>
</tr>
<tr>
<td>Klein, Depue, &amp; Slater (1985)</td>
<td>Bipolar = 37, nonaffective psychiatric control = 22 (bipolars recruited from inpatients, controls from outpatients.)</td>
<td>15-21 years</td>
<td>DSM-III, based on SADS-L</td>
<td>DSM-III, based on SADS-L interview with child</td>
</tr>
</tbody>
</table>

**DSM-III** refers to the third edition of the *Diagnostic and Statistical Manual of Mental Disorders*. **RDC** refers to the Research Diagnostic Criteria. **SADS-L** refers to the Schedule for Affective Disorders in Children. **K-SADS** refers to the Kiddie-SADS.
Table 2 (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Child age</th>
<th>Parent diagnostic criteria</th>
<th>Child data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee &amp; Gotlib (1989a, 1989b)</td>
<td>Depressed = 16, psychiatric control = 10, medical control = 8, control = 27 (outpatient facilities)</td>
<td>7–13 years</td>
<td>DSM-III, based on SADS</td>
<td>Child Assessment Schedule; CBCL (parent and teacher versions)</td>
</tr>
<tr>
<td>Orvaschel, Welsh-Allis, &amp; Weijai (1988)</td>
<td>Unipolar = 61 (major), control = 46 (research treatment facility)</td>
<td>6–17 years</td>
<td>DSM-III, based on SADS-L</td>
<td>DSM-III, based on K-SADS interviews with mother and child; IQ; teacher CBCL</td>
</tr>
<tr>
<td>Weiland, Weiner, McCray, &amp; Leonard (1977)</td>
<td>Unipolar = 75 (major), control = 152 (middle SES, inpatients)</td>
<td>6–16 years</td>
<td>Feighner et al. (1972), based on intake information</td>
<td>Mother and child interviews about developmental history, adjustment, and symptoms of psychopathology</td>
</tr>
<tr>
<td>Weissman, Gammon et al., (1987); Weissman (1988)</td>
<td>Unipolar = 125 (major), control = 95 (research treatment facility)</td>
<td>6–23 years</td>
<td>RDC, based on SADS-L</td>
<td>DSM-III, based on K-SADS interviews with mother and child; IQ; GAS; school performance; treatment history</td>
</tr>
<tr>
<td>NIMH studies (Gaensbauer, Harmon, Cytryn, &amp; McKnew 1984; Zahn-Waxler, Cummings, McKnew, &amp; Radke-Yarrow, 1984)</td>
<td>Bipolar = 7, control = 20 (bipolar parent was in NIMH treatment program; male children from intact families)</td>
<td>Longitudinal study: 2–3 years, 6 years</td>
<td>DSM-III, based on SADS</td>
<td>Attachment during strange situation at 12 and 18 months; observer ratings of child behavior during interactions with peers and adults at 30 months and at 6 years</td>
</tr>
<tr>
<td>Radke-Yarrow, Cummings, Kuczynski, &amp; Chapman (1985)</td>
<td>Bipolar = 14, unipolar = 42 (major), unipolar = 12 (minor), control = 31 (community sample of mothers)</td>
<td>2–3 years</td>
<td>DSM-III, based on SADS</td>
<td>Attachment during strange situation procedure</td>
</tr>
<tr>
<td>Richters &amp; Pelligrini (1989)</td>
<td>Depression = 26 (in episode), depression = 27 (in remission), control = 25 (community sample of mothers)</td>
<td>9 years (study is longitudinal)</td>
<td>RDC, based on SADS-L</td>
<td>Parent and teacher forms of the CBCL</td>
</tr>
</tbody>
</table>


Discussion provide several promising lines of inquiry. Testable theories relating childhood risk factors with adult depression are clearly needed because clinical depression does not usually emerge until adulthood. We must remember, however, that a demonstration of elevated levels of a potential risk factor is an insufficient test of a theory. One must also show that the putative risk factor predicts later psychopathology.

Summary: Adjustment of Children With a Depressed Parent

Children of depressed parents show heightened rates of general problems in adjustment, putative markers of risk for depression, and clinical depression. Difficulties are found even in infancy. They emerge in peer, teacher, and observer reports as well as in self- and parent reports. The general adjustment problems shown by children of depressed parents include social and academic difficulties at school and internalizing and externalizing behavior problems. In showing these problems, they resemble other children who experience the stress and disruption that accompany serious parental psychiatric or medical illness.

We do not yet know whether the putative risk markers for depression are a unique consequence of parental depression because most studies did not include the appropriate control groups. Existing results question the specific prognostic value of some of the risk markers and caution against inferring risk for depression from elevated rates of proposed risk factors.

There is some suggestion that depression, and especially major depression, is a more specific consequence of having a unipolar-depressed parent. Depression is the only diagnosable disorder for which children of depressed parents show significantly heightened risk. The risk for bipolar disorder in children with a bipolar-disordered parent is not yet established because few studies have investigated the offspring of bipolar-disordered parents and because manic episodes have a later onset than depressive episodes.

Several caveats are in order. First, there is little agreement between mothers and children about children's affective symp-
Table 3
Diagnostic Status of Children of Affectively Disorders and Control Parents
(Percentage of Sample in Each Diagnostic Category)

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>N</th>
<th>Any DSM-III diagnosis</th>
<th>Affective Major</th>
<th>Nonaffective only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beardslee, Schultz, &amp; Selman (1987)</td>
<td>11-19</td>
<td>64</td>
<td>—</td>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td>Cytryn, McKnew, Bartko, Lamour, &amp; Hamovitz (1982)</td>
<td>5-15</td>
<td>21</td>
<td>—</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Decina et al. (1983)</td>
<td>7-14</td>
<td>18</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Gershon et al. (1985)</td>
<td>6-17</td>
<td>37</td>
<td>51</td>
<td>38</td>
<td>14</td>
</tr>
<tr>
<td>Hammen, Gordon, et al. (1987b)</td>
<td>8-16</td>
<td>39</td>
<td>29</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Klein, Depue, &amp; Slater (1985)</td>
<td>15-21</td>
<td>22</td>
<td>18</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Klein, Clark, Dansky, &amp; Margolis (1988)</td>
<td>14-22</td>
<td>38</td>
<td>24</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Orvaschel, Welsh-Allis, &amp; Weijs (1988)</td>
<td>6-17</td>
<td>46</td>
<td>15</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Weissman (1988)</td>
<td>6-23</td>
<td>97</td>
<td>57</td>
<td>—</td>
<td>13</td>
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<tr>
<td>Unipolar</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Beardslee et al. (1987)</td>
<td>11-19</td>
<td>108</td>
<td>—</td>
<td>38</td>
<td>26</td>
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<tr>
<td>Cytryn et al. (1982)</td>
<td>5-15</td>
<td>19</td>
<td>—</td>
<td>70</td>
<td>23</td>
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<td>Decina et al. (1983)</td>
<td>7-14</td>
<td>—</td>
<td>—</td>
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<td></td>
</tr>
<tr>
<td>Gershon et al. (1985)</td>
<td>6-17</td>
<td>—</td>
<td>—</td>
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<tr>
<td>Hammen et al. (1987)</td>
<td>8-16</td>
<td>19</td>
<td>74</td>
<td>74</td>
<td>47</td>
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<td>Klein et al. (1985)</td>
<td>15-21</td>
<td>—</td>
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</tr>
<tr>
<td>Klein et al. (1988)</td>
<td>14-22</td>
<td>47</td>
<td>51</td>
<td>32</td>
<td>9</td>
</tr>
<tr>
<td>Orvaschel et al. (1988)</td>
<td>6-17</td>
<td>61</td>
<td>41</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Weissman (1988)</td>
<td>6-23</td>
<td>125</td>
<td>76</td>
<td>—</td>
<td>28</td>
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<tr>
<td>Bipolar</td>
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</tr>
<tr>
<td>Beardslee et al. (1987)</td>
<td>11-19</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>Cytryn et al. (1982)</td>
<td>5-15</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Decina et al. (1983)</td>
<td>7-14</td>
<td>31</td>
<td>52</td>
<td>26</td>
<td>—</td>
</tr>
<tr>
<td>Gershon et al. (1985)</td>
<td>6-17</td>
<td>29</td>
<td>72</td>
<td>41</td>
<td>10</td>
</tr>
<tr>
<td>Hammen et al. (1987)</td>
<td>8-16</td>
<td>16</td>
<td>92</td>
<td>67</td>
<td>25</td>
</tr>
<tr>
<td>Klein et al. (1985)</td>
<td>15-21</td>
<td>37</td>
<td>43</td>
<td>38</td>
<td>3</td>
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<tr>
<td>Klein et al. (1988)</td>
<td>14-22</td>
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<td>Orvaschel et al. (1988)</td>
<td>6-17</td>
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<tr>
<td>Weissman (1988)</td>
<td>6-23</td>
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Note. DSM-III = Diagnostic and Statistical Manual of Mental Disorders, third edition.

toms, and the diagnostic rules used in the face of inconsistencies are never explicit. Second, most studies compared only children of depressed and normal parents. Thus, conclusions about the specific risk for major depression associated with parental depression are based on only two studies that also included a medical control group (Hammen, Gordon, et al., 1987b; Klein et al., 1988). Third, the studies focused primarily on the preadult years. Because the study of childhood depression is just beginning, it is not yet known whether what is being observed is a precursor of adult depression or a short-term stress reaction with limited developmental implications.

Depression is a heterogeneous episodic phenomenon. Child adjustment is likely to reflect the type of depression, the degree of family stress and marital discord experienced, and the parent's level of social impairment as distinct from affective symptomatology. In addition, child adjustment may respond to changes in the parent's symptomatology. With a few notable exceptions, researchers have ignored the heterogeneity of affective disturbance. For example, only two studies have compared the adjustment of children of unipolar- and bipolar-disordered parents (Conners, Himmelhoch, Goyette, Ulrich, & Neil, 1979; Hammen, Gordon, et al., 1987b). Consistent with recent findings from the high-risk studies of schizophrenia (Fishet al., 1984; Weintraub, 1987), these studies depict children of unipolar-disordered parents as somewhat less socially competent and more clinically disturbed than children of bipolar-disordered parents. A possible explanation for these differences is that the course of illness may be chronic for a higher proportion of unipolar-disordered parents than bipolar-disordered parents.

The effect on children of whether a parent is currently in an
episode has also been neglected. However, available evidence suggests that child adjustment does not fluctuate as parents move in and out of episodes (Billings & Moos, 1985; Richters & Peligrini, 1989). Perhaps the chronic impairment and family stress that often accompany parental depression have more serious implications for child development than the acute impairment associated with acute depressive episodes (Richters, 1987).

In summary, parental depression places children at considerable risk for adjustment problems in a variety of domains, including depression. The question that we must now address is how and under what circumstances parental depression is linked with child disturbance.

Explaning the Link Between Parental Depression and Child Adjustment

In the introduction we identified three possible, but nonexclusive, explanations for maladjustment in children of depressed parents: genetic factors, parenting by a depressed person, and characteristics of the depressed parent's broader interpersonal context that may provide an alternative explanation for both their children's problems and their own depression. Our methodological review suggested a further possibility. The impairment of depressed persons aside from diagnosis (e.g., personality disorder, enduring distress) may explain their children's problems.

The genetic hypothesis is implicit in studies of children with a psychiatrically disturbed parent. However, direct tests of this hypothesis are difficult because trait markers of genetic liability have not yet been identified. Twin and adoption studies provide indirect tests of this hypothesis. As we have noted, the results of these studies confirm that these children's problems cannot be attributed solely to genetic factors. In fact, the results of one major adoption study of children of affectively disturbed parents led the investigator to doubt that these children's risk for adult affective disturbance is discernible during childhood (Cadoret, 1983). The adoptive parents of children who became depressed as adults reported that these children were not particularly symptomatic during childhood. Cadoret (1983) has suggested that affective disturbance in young children living with an affectively disturbed parent is due to stress and that "if there is a genetic diathesis, it may not manifest itself early in life" (p. 65). However, this conclusion may be more applicable to children of bipolar-disordered than of unipolar-disordered parents (Cadoret et al., 1985).

Of the three social transmission models outlined, the model that has received the most attention proposes that there is something uniquely depressing about the parenting behavior of a depressed person, or more specifically, a depressed mother. This model has the virtue of simplicity, but, as we shall see, it is becoming clear that the processes linking parent and child depression are considerably more complex.

Parenting Behavior of Depressed Persons

Research on the parenting practices of depressed parents reflects the growing interest in the interpersonal context of depression. Coyle (1976a) showed that depressed persons evoke negative reactions in strangers following brief interactions. Researchers have since documented several characteristics of depressed persons' behavior during social encounters that may explain this response, although these differences are not always specific to depression (Coyne, Birchill, & Stiles, in press; Youngren & Lewinsohn, 1980). First, depressed persons' rate of behavior is reduced. In social situations they speak less often and with less intensity; they gaze at their partner less frequently; and they respond more slowly. Second, they are more hostile and irritable, especially in intimate relationships. Third, they act more depressed. This is evident in their sad and anxious facial expression and posture, and in the content of their speech. Overall, these behaviors are unlikely to foster positive relationships with significant others.

This may be especially true of the parent-child relationship. Parenting is a particularly complex form of social interaction. The sustained effortful behavior that it involves is likely to prove difficult for depressed parents, especially when their children are young and exaggerated affective tone and a high tolerance for aversive behavior are required. When interacting with her young child, the typical mother bears the behavior toward fostering sustained positive interaction and expresses a high level of positive affect. Hostility and aggression are seldom seen. Mothers maintain the interaction by responding quickly and contingently with exaggerated facial expression and vocal intonation (Cohn & Tronick, 1987).

Depressed mothers have been described in the clinical literature as experiencing difficulties in the parenting role that reflect the symptoms of their disorder (Burbach & Borduin, 1986). For example, Weissman and Paykel (1974) observed that "at the simplest level, the helplessness and hostility which are associated with acute depression interfere with the ability to be a warm and consistent mother" (p. 121). Fisher et al. (1980) also suggested that "depressed patients may display high degrees of non-acknowledgement such that they do not interact meaningfully with the child" (p. 354). In general, depressed mothers view the role of parent less positively than do control mothers. They experience negativity toward the demands of parenthood and feelings of rejection and hostility toward their child (Colletta, 1983; Davenport, Zahn-Waxler, Adland, & Mayfield, 1984; Webster-Stratton & Hammond, 1988; Weissman & Paykel, 1974). They also perceive themselves to be less competent and adequate than other parents (Davenport et al., 1984; Fleming, Ruble, Flett, & Shaul, 1988; Rutter, 1966; Webster-Stratton & Hammond, 1988; Weissman & Paykel, 1974).

Evidence that depressed mothers also show difficulties during interactions with their children comes from observational studies of clinically depressed mothers and of mothers with elevated depressive symptomatology. The behaviors that characterize depressed persons' interactions their children resemble the behaviors that characterize depressed persons' interactions with adults. These studies are summarized in Table 4. The studies are based mainly on observations of mothers during short structured or semistructured interactions with their infant or toddler, although some studies have focused on school-aged children. None of the studies observed depressed fathers. Most of the studies identified depressed mothers from elevated depressive symptomatology, but these studies and studies of clinically depressed mothers typically yield similar results.

The high-risk studies of schizophrenia provide the earliest systematic evidence about the parenting behavior of depressed mothers. Cohler et al. (1977) observed that psychotic mothers, whether depressed or schizophrenic, had more difficulty inter-
Table 4

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Child age</th>
<th>Parent diagnostic criteria</th>
<th>Observation situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bettes (1988)</td>
<td>Unipolar = 10, control = 26 (community sample of mothers)</td>
<td>3–4 months</td>
<td>BDI &gt; 10</td>
<td>3–15 min face-to-face interaction in the home</td>
</tr>
<tr>
<td>Cohn, Matias, Tronick, Connell, &amp; Lyons-Ruth (1986)</td>
<td>Unipolar = 13 (community sample of low SES mothers with multiple other risk factors; no control group)</td>
<td>6–7 months</td>
<td>CES-D in range for outpatient depressives</td>
<td>6 min face-to-face and 40 min naturalistic interaction</td>
</tr>
<tr>
<td>Cohn, Campbell, Matias, &amp; Hopkins (1990)</td>
<td>Unipolar = 24 (community sample)</td>
<td>2 months</td>
<td>RDC based on SADS</td>
<td>3 min face-to-face interaction</td>
</tr>
<tr>
<td>Field (1984)</td>
<td>Unipolar = 12, control = 12 (mothers identified by social workers as depressed postpartum)</td>
<td>3 months</td>
<td>BDI &gt; 15</td>
<td>3 min face-to-face interaction during mother’s simulation of looking normal and of looking depressed</td>
</tr>
<tr>
<td>Field et al. (1985)</td>
<td>Unipolar = 12, control = 12 (mothers prenatally identified as depressed)</td>
<td>3–5 months</td>
<td>BDI &gt; 11</td>
<td>10 min face-to-face free play</td>
</tr>
<tr>
<td>Field et al. (1988); Field, Healy, Goldstein, &amp; Guthertz (1990)</td>
<td>Unipolar = 40, control = 34 (low SES community sample of mothers)</td>
<td>3–6 months</td>
<td>BDI &gt; 12</td>
<td>3 min face-to-face interaction with mother and with a stranger</td>
</tr>
<tr>
<td>Fleming, Ruble, Flett, &amp; Shaul (1988)</td>
<td>N = 41 (max.) (primiparous, middle SES mothers from intact families from community; correlational study)</td>
<td>Longitudinal study: 3 days and 1, 3 and 16 months</td>
<td>10-item mood scale</td>
<td>At 3 days, feeding situation; at 1, 3, &amp; 16 months, naturalistic interaction for 15–20 min.</td>
</tr>
<tr>
<td>Hops et al. (1987)</td>
<td>Unipolar = 27, control = 27 (mothers from intact families; outpatient treatment facilities)</td>
<td>3–16 years</td>
<td>RDC based on SADS</td>
<td>Naturalistic in-home interaction of all family members</td>
</tr>
<tr>
<td>Livingood, Daen, &amp; Smith (1983)</td>
<td>Unipolar = 25, control = 25 (community sample of mothers from intact, middle-SES families)</td>
<td>2 days</td>
<td>BDI &gt; 10</td>
<td>15-min feeding session</td>
</tr>
<tr>
<td>Lyons-Ruth, Zoll, Connell, &amp; Grunebaum (1986)</td>
<td>N = 56 (correlational study of mothers from same source as Cohn et al., 1986)</td>
<td>1 year</td>
<td>CES-D</td>
<td>40 min naturalistic in-home interaction</td>
</tr>
<tr>
<td>Panaccione &amp; Wahler (1986)</td>
<td>N = 33 (correlational study of mothers in Head Start program)</td>
<td>M = 4.3 years</td>
<td>BDI</td>
<td>120 min naturalistic in-home interaction in four 30-min sessions</td>
</tr>
<tr>
<td>NIMH Study (Davenport, Zahn-Waxler, Adland, &amp; Mayfield 1984)</td>
<td>Bipolar = 7, control = 20</td>
<td>Longitudinal study: DSM-III based on SADS-L</td>
<td>12, 15, &amp; 18 months</td>
<td>Behavior of mothers and child during strange situation procedure</td>
</tr>
<tr>
<td>Breznitz &amp; Sherman (1987)</td>
<td>Unipolar = 14, control = 18 (mothers)</td>
<td>3 years</td>
<td>RDC based on SADS-L</td>
<td>Interaction in unstressful and mildly stressful situation</td>
</tr>
<tr>
<td>Kochanska, Kuczynski, Radke-Yarrow, &amp; Welsh (1987)</td>
<td>Unipolar = 37, bipolar = 17, control = 33</td>
<td>1–4 years</td>
<td>RDC based on SADS-L</td>
<td>90 min naturalistic interaction with control episodes targeted</td>
</tr>
<tr>
<td>UCLA Family Stress Study (Gordon, et al., 1989; Hammen, Gordon, et al., 1987a)</td>
<td>Unipolar = 19 (major), bipolar = 16</td>
<td>8–16 years</td>
<td>RDC based on SADS-L</td>
<td>5 min interaction during achievement and during conflict resolution task</td>
</tr>
</tbody>
</table>

Note. BDI = Beck Depression Inventory; CES-D = Center for Epidemiological Studies–Depression; SES = socioeconomic status; RDC = Research Diagnostic Criteria; SADS = Schedule of Affective Disorders and Schizophrenia, L = Lifetime; DSM-III = Diagnostic and Statistical Manual of Mental Disorders, third edition.

acting with their children than did control mothers and confused their own needs with their children’s needs. Samaroff et al. (1982) described depressed mothers as being less spontaneous, less vocal, less positive, and more distant than control mothers when playing with their 4-month-old children. However, these differences did not emerge consistently during later observations, and depressed mothers resembled schizophrenic mothers on many measures. Although these studies show that depressed mothers differ from control mothers in ways that may affect children’s social development, the results indicate that the deficits may not be specific to depression. Unfortunately, recent research has not considered this possibility carefully.
The dampening effect of depression on social behavior is evident in the picture of the depressed mother emerging from the recent cross-sectional studies (see Table 4, Bettes, 1988; Cohn, Campbell, Matias, & Hopkins, 1990; Cohn, Matias, Tronick, Connell, & Lyons-Ruth, 1986; Davenport et al., 1984; Field, 1984; Field, Healy, Goldstein, & Gutherz, 1990; Field et al., 1988; Field et al., 1985; Fleming et al., 1988; Livingood, Daen, & Smith, 1983; Radke-Yarrow, Richters, & Wilson, in press). During interactions with their young children, depressed mothers showed lower rates of behavior and of affective expression. Specifically, they expressed little positive affect, perhaps reflecting their anhedonia. They also responded more slowly, less contingently, and less consistently to the children.

These findings support the view that depression may affect parenting by reducing the effort that parents put into interacting with their child. This may be due to the reduced energy levels and self-absorption that are symptomatic of depression. Studies of the speech of depressed mothers have provided more detailed evidence of reduced effort in parenting. Clinically depressed mothers speak less often to their 3-year-old children and respond more slowly to their children’s speech (Brezniitz & Sherman, 1987). Mothers with mild depressive symptoms also respond more slowly to their 4-month-old infants (Bettes, 1988). Moreover, the length of their pauses and utterances are more variable than those of control mothers, and they are also less likely to use the exaggerated intonation typical of caretakers’ speech with infants. These findings led Bettes (1988) to suggest that depression impedes mothers’ ability to imbue their speech with the affective signals thought to play an important role in the socialization of affect modulation in children.

The dampening effect of depression on effortful interaction is also evident in the strategies used by clinically depressed or bipolar-disordered mothers to resolve control episodes with their children (Kochanska, Kuczynski, Radke-Yarrow, & Welsh, 1987). Depressed mothers choose strategies that require less cognitive effort more frequently than do control mothers. These include enforcing obedience unilaterally or withdrawing when faced with child resistance. Control mothers, by contrast, are more likely to negotiate a solution with their child. The former approach maximizes short-term compliance by the child, whereas the latter approach maximizes long-term compliance goals (Kuczynski, 1984). Thus, by opting for less cognitively effortful conflict resolution strategies, depressed mothers may socialize their children to resolve interpersonal conflict through coercion or withdrawal.

The hostility and irritability that are symptomatic of depression and that characterize depressed adults’ interactions with their spouses also emerge in their interactions with their children. Studies have reported that depressed mothers are more irritable toward their infants than are control mothers (Cohn et al., 1986, 1990; Field, 1984; Lyons-Ruth, Zoll, Connell, & Grunebaum, 1986; Radke-Yarrow et al., in press), and there is some suggestion that maternal irritability and hostility increases under stress (Cohn et al., 1986; Field et al., 1990; Lyons-Ruth et al., 1986; Rutter, 1990).

Hostility is more pronounced in the interactions of depressed mothers with school-aged children than with younger children, perhaps reflecting the more active role of older children during interactions. Clinically depressed mothers from the UCLA Family Stress Project were more irritable and critical and less positive and task focused than other mothers during a conflict resolution task with their child (Gordon et al., 1989; Hammen, Gordon, et al., 1987a). Mothers’ depressive symptomatology also predicted hostility toward children in a nonclinical sample. Panaccione and Wahler (1986) found a strong association between mother’s depressive symptoms and hostile child-directed behavior, including shouting and slapping, even when the adversity of child behavior was partialed out.

Surprisingly, observational studies have paid very little attention to depressed mothers’ sad affect during interactions with their children. In a key exception, the Oregon Research Institute group (Biglan et al., 1985; Biglan, Rothlin, Hops, & Sherman, 1989; Hops et al., 1987) reported that depressed mothers showed high levels of sadness during interactions with husbands and children. Expressions of anger by other family members were particularly likely to evoke these indications of sadness. Mothers’ displays of sadness functioned, in turn, to suppress the hostility of other family members. Thus, by observing the control that mothers’ distress exerted over other family members’ behavior, children may learn the coercive value of displaying distress. The failure of other investigators to study mothers’ sadness largely reflects a reliance on coding schemes developed for purposes other than to study depressed parents and their children. Future observational studies need to be better informed by existing knowledge about depression and to tailor their coding schemes accordingly, as the Oregon Research Institute group has done.

In sum, these observational studies show that, in at least two important respects, the behavior of depressed mothers during interactions with their children resembles that of depressed persons during interactions with other adults. First, their behavior and affective expression is constricted and their speech is flat as compared with other mothers. They respond less positively, less frequently, and less quickly to their children’s efforts to engage their attention. Second, they show heightened levels of child-directed hostility and negativity, and their attempts to control child behavior are marked by coercion rather than by negotiation. More studies are needed before any conclusions can be drawn about mothers’ displays of sad affect during family interaction.

Although existing studies provide a rich description of how depressed mothers differ from normal control mothers, this description is not a basis for concluding that a unique causal relation exists between parents’ depression and their children’s depression and maladjustment that is mediated through depression-related parenting difficulties. This conclusion is premature until we can show that (a) the difficulties of depressed parents are a unique consequence of depression rather than a shared consequence of other aspects of parental dysfunction or of stressors in the broader social environment; (b) specific parenting behaviors in depressed parents are associated with child depression and adjustment problems; and (c) the direction of causality goes from depressed parent to child. We review the evidence for each of these conditions.

Specificity of parenting difficulties of depressed persons. We begin with a consideration of some possible explanations for the parenting difficulties of depressed persons. First, these difficulties may be a specific consequence of depression. In this case they should not be evident in parents with other disorders or in parents who are experiencing stress but not clinical depression.
Second, the difficulties may be a final common pathway through which different sources of stress on mothers, including depression, affect child adjustment. For example, these difficulties might be a consequence of depression in a nonmaritally distressed mother and a consequence of marital discord in a nondepressed mother. Third, they may be attributable to a correlate of depression such as marital discord, chronic stress, or personality disorder. In this case, parenting difficulties should be restricted to those depressed mothers who also show the true causal factor (e.g., marital discord), and should occur also in nondepressed mothers who show that factor. Of course, these models may work differently for the two types of parenting problems identified: hostility and constrained behavior and affect.

The relative merits of these models are difficult to establish. The samples used in most observational studies of depressed parents are not large enough to use statistical controls to explore alternative explanations, and most studies included only normal comparison groups. Nonetheless, several pieces of evidence converge to suggest that the parenting difficulties of depressed mothers are not unique. First, the high-risk studies of schizophrenia found similar difficulties in the parenting of depressed and schizophrenic mothers. In fact, when interacting with their child, schizophrenic mothers have been found to show more of such characteristically depressive behaviors as withdrawal and detachment than do depressed mothers (Goodman & Brumley, 1990). Second, there is considerable overlap between the parenting difficulties of clinically depressed mothers and mothers with mild depressive symptomatology. Third, parenting difficulties similar to those reported in depressed mothers have been found in mothers coping with several different stressors, including premature infants (Cronin, Greenberg, Ragozin, Robinson, & Basham, 1983), divorce (Hetherington, Cox, & Cox, 1982), and poverty (McLoyd, 1989). For example, following divorce, custodial mothers often become self-involved, erratic, uncommunicative, inconsistent, and punitive in dealing with their children (Hetherington, Stanley-Hagan, & Anderson, 1989).

These findings suggest that the parenting difficulties observed in depressed mothers may be common to mothers who are distressed because of stressors that originate within the family (e.g., marital conflict), outside the family (e.g., neighborhood, economic conditions), or within the mother herself (e.g., physical illness, psychiatric illness) (cf. Patterson, 1982; Wahler & Dumas, 1989). Chronic stressors can produce chronic or intermittent depressive symptoms or general distress without the development of clinical depression (Breslau & Davis, 1986). The prolonged distress and dysfunction shared by clinically depressed mothers and nonclinically depressed mothers under stress may have more consequences for their parenting than other aspects of the syndrome of depression. Consistent with this view, Hammen and her colleagues found that chronic stress and mother's current depressive symptomatology were more predictive than affective diagnosis of the mother's critical and unproductive behavior during interactions with her child (Gordon et al., 1989; Hammen, Gordon, et al., 1987a). Moreover, the usual differences in parenting between depressed and normal control mothers did not emerge when depressed mothers who were poor, Black, and single were compared with controls living in similar circumstances (Goodman & Brumley, 1990), further suggesting that stress has a stronger impact than diagnosis on parenting.

In sum, there is still no evidence that the parenting difficulties of depressed mothers are a specific consequence of depression. The task is now to determine whether the various groups of mothers who show similar parenting difficulties share a common correlate (e.g., chronic stress) or whether these difficulties are a common pathway through which different stressors affect child adjustment.

Causal relation between depressed persons’ parenting behavior and child adjustment. Diagnostic studies of children with a depressed parent have concentrated on children aged 6 years and older, whereas studies of parenting by depressed persons have concentrated on infants and toddlers. Thus, it is not yet known whether the parenting difficulties of depressed persons can account for depression or other adjustment problems in their offspring. The consequences of the interactional difficulties that children of depressed mothers show in infancy are unclear. They may be transitory, disappearing when mothers' symptoms subside. Or they may indicate a vulnerability to later depression that results from the depressed mothers' parenting difficulties or from some constitutional vulnerability. Unfortunately, as we have noted, there is still little known about the prognostic value of putative markers of vulnerability to depression. Nonetheless, there is evidence linking parents' negativity and hostility toward their children with children's negative self-concept (Jaenick et al., 1987) and attachment difficulties (Radke-Yarrow et al., in press).

Indirect evidence of an association between negative, hostile parenting behavior and adjustment problems in children with a depressed parent comes from several sources. Retrospective reports of harsh, unfair disciplinary practices during childhood have been found to account for the relation between parents' depression and depression in their adult children (Holmes & Robins, 1988). Child abuse has been found to be more prognostic than parental depression of child psychopathology (Kashani, Shekim, Burk, & Beck, 1987). A history of harsh, punitive, and inconsistent parenting is common in clinically depressed children (see Burbach & Borzu, 1986, for review), and abused children show high levels of depressive symptoms (Kazdin, Moser, Colbus, & Bell, 1985).

Direct evidence of a link between hostile, negative parenting by depressed mothers and child maladjustment comes from two observational studies (Hammen, Gordon, et al., 1987a; Radke-Yarrow et al., in press). In both cases, however, the mother's negative behavior was reciprocated by the child. This reciprocal pattern makes it difficult to interpret Radke-Yarrow et al.'s finding that this interaction pattern predicted maladjustment in the index children 4 years later (Radke-Yarrow et al., in press). The child's maladjustment might have been caused by the mother's behavior or it might be a continuation of preexisting child problems that elicit negative responses from mothers (Bugental, Blue, & Cruzosca, 1989; Bugental & Shennum, 1984). Hammen, Burge, and Stansbury (1990) used longitudinal analyses to disentangle these causal processes and found that mother's difficulties did contribute to subsequent changes in child adjustment net of the child's initial adjustment level. However, the analyses revealed a much more complex reciprocal process, with both the child and the mother contributing to each other's current difficulties and to the child's future difficulties.
Thus, negative, hostile parenting may be one source of the adjustment problems in children of depressed parents. This parenting style has been identified as a risk factor for several other forms of maladjustment and especially for conduct disorders (Patterson, 1982). Whereas it may provide a sufficient explanation for the externalizing symptoms of children with a depressed parent, it may not explain their higher rates of major depression. Perhaps this parenting style elicits clinical depression in children only in combination with a parental style that is behaviorally and affectively nonresponsive and that is characterized by high rates of dysphoric affect. Although researchers have speculated about the impact of diminished rates of maternal behavior and constricted affect on children, this question has not yet been investigated.

**Direction of causality in mother–child interaction.** We have noted that the reciprocal aversiveness of interactions between depressed mothers and their children poses problems for assessing the contribution of the depressed mother’s behavior to her school-aged children’s maladjustment. Difficulties with disentangling the causal direction of mother–child interaction are present even in infancy. Reciprocity between depressed mothers and their infants is evident in the first months of the infant’s life. Several of the observational studies summarized in Table 4 have reported that the behavior of children of depressed mothers resembles their mothers’ behavior. Compared with control children, children of depressed mothers direct their behavior toward their mother less frequently, smile and express happiness less often, and are more irritable and fussy (Cohn et al., 1986, 1990; Field, 1984; Field et al., 1985, 1988; Lyons-Ruth et al., 1986). Two recent studies undertook time series analyses to disentangle the causal direction of interactions between mothers and their infants (Cohn et al., 1990; Field et al., 1990). Both studies found that regardless of mother’s clinical status, mothers and infants contributed equally to maintaining the observed interaction pattern. Neither the mother nor the infant took the lead in directing the course of the interaction.

Although these studies provide a snapshot of the structure and content of mother–child interaction, they do not reveal the process by which this structure came about. In their efforts to understand this process, Field and her colleagues took as their starting point the finding that when nondepressed mothers simulated depression, their infants responded with distress and persistent efforts to reinstate the mother’s normal mood (Cohn & Tronick, 1983). When this study was replicated with children of depressed mothers, the behavior of these children changed little when their mother simulated depression (Field, 1984). This lack of response suggests that the children may have adapted to their mothers’ depression and are no longer upset by it. Alternatively, their lack of distress may reflect a passive coping style that generalizes to other situations.

Field et al.’s (1988) finding that 3-month-old infants of depressed mothers behaved similarly during interactions with their mother and with a female stranger supports this latter alternative. This depressed interaction style may develop very early in life in response to the depressed mother’s behavior, or may be present from birth. There is some evidence to support the latter possibility. Infants of depressed mothers have been found to show limited responsivity to stimulation, depressed activity levels after delivery (Field et al., 1985; Sameroff et al., 1982), and more perinatal problems (Weissman et al., 1986).

Whatever the origin of the child’s interactional pattern, it is noteworthy that it generalizes to strangers early in life and also evokes a negative response from strangers (Field et al., 1988). This points to the need to consider parent–child interaction as an interpersonal system and to explore more fully the child’s contribution to its maintenance.

**Summary.** Maternal depression is associated with difficulties in parenting. However, the difficulties that have been identified are not specific to depressed mothers. They also occur in mothers experiencing high stress and distress. There is some suggestion that these factors may have a more direct impact on parenting than does clinical depression. This raises the possibility that some of the parenting difficulties of depressed mothers are due to a correlate of depression (e.g., chronic stress, marital discord) or that a variety of stressors can result in similar parenting difficulties.

The implications of these parenting difficulties for the disorders that emerge in children of depressed parents in later childhood and adolescence are not yet known. There is an association between negative, hostile parenting and child maladjustment, but the direction of causality is unclear. As early as age 3 months, children reciprocate their depressed mother’s negative and less-effortful interaction behavior and evoke negative responses from strangers (Field et al., 1988). Although the origins of these children’s problematic style of interaction are not yet known, it is clear that as a group they are more challenging to parents than are control children.

This collection of evidence challenges the view that the parenting behavior of depressed mothers is the only route by which depression and general maladjustment is transmitted intergenerationally. It argues instead for moving from a unidirectional maternal behavior → child maladjustment model to look at the broader interpersonal context of maternal depression and at the child’s contribution to the interpersonal context.

**Interpersonal Context of Depression**

We noted earlier several ways in which the interpersonal context of families with a depressed parent differs from that of control families. Marital discord and family stress are more common in families with a depressed parent. Social impairments aside from diagnosis are also more characteristic of depressed persons and of their spouses. Just as these co-occurring risk factors may explain the parenting difficulties of depressed women, they may also explain the adjustment difficulties of their children.

The similarity between children of depressed parents and children of medically ill or nonaffectively disturbed parents provides indirect support for this proposal. More direct support comes from studies showing that child maladjustment also depends on nondiagnostic aspects of parental impairment (i.e., chronicity and severity of the illness, current level of distress and adaptive functioning) and on chronic stress and marital discord. This is true for children’s general adjustment problems (Billings & Moos, 1983; Hammen, Adrian, et al., 1987; Keller et al., 1986) and for clinical disorders (Hammen, Adrian, et al., 1987; Keller et al., 1986). The effect of these co-occurring risk factors on general adjustment problems is powerfully illustrated by Billings and Moos (1983). They found that in families with a depressed parent where stress was low and support was high and the illness was not severe, only 10% of the children were...
disturbed as compared with 3% in control families and 25% in all families with a depressed parent. In light of our argument that parental depression may place children at specific risk for clinical depression, it is noteworthy that when Hammen, Adrian, et al. (1987) controlled for chronic stress and distress, rates of clinical depression in children of unipolar-depressed mothers were unaffected.

*Marital conflict.* Adjustment problems in children, especially conduct disturbance, increase following divorce (Emery, 1982; Hetherington et al., 1989) and respond to parental conflict (Long & Forehand, 1987; Long, Forehand, Fauber, & Brody, 1987). The high rates of conflict in the marriages of depressed persons suggest that marital discord may be a particularly viable alternative explanation for their children’s adjustment problems. In fact, studies have shown that marital distress plays an important role in accounting for these children’s general adjustment problems (Conners et al., 1979; Emery et al., 1982; Keller et al., 1986; Kuyler, Rosenthal, Igel, Dunner, & Fieve, 1980) and for current and lifetime diagnoses (Keller et al., 1986). Using families from the Stony Brook High-Risk Project, Emery et al. (1982) conducted the strongest test yet of the role of marital distress in the adjustment of children with a depressed parent. As noted earlier, marital discord accounted for the relation between parental depression and child competence, and this effect was specific to depression. These results led Emery et al. to conclude that

the relationship between having a unipolar depressed or a bipolar parent and children’s disturbed behavior is largely accounted for by concomitant marital discord. Where there is no marital discord present in families with an affectively disturbed parent, the risk for problematic school behavior is similar to that found in controls. (p. 226)

This set of findings provides some empirical corroboration for Rutter’s (1966) speculations on the relation between problematic child behavior and marital discord. He suggested that

children may be adversely affected by disturbed relationships between the two parents. Mental disorder, especially longstanding mental disorder, is often associated with hostility and discord between husband and wife. Quarreling and bickering may increase and the atmosphere in the house may reflect rising tension. This may sometimes have more impact on the child than the mental illness itself. (p. 110)

Whereas marital conflict may explain the general adjustment problems of children with a depressed parent, it is not yet known whether it can explain their high rates of clinical depression. Two studies using different designs provide converging evidence that the processes underlying depression in these children may differ from those underlying the externalizing problems that contribute heavily to general adjustment scores. Hops and his colleagues investigated interaction patterns in marital discordant and nondiscordant families that included a clinically depressed mother, and in normal control families (Biglan et al., 1985; Friedman, 1984; Hops et al., 1987; Hops, Sherman, & Biglan, in press). Hostile, irritable behavior was most common in the maritaly distressed families. By contrast, families with a depressed mother showed high rates of dysphoric affect and low rates of positive affect irrespective of marital distress. Children of depressed mothers in maritally distressed families were more irritable than children in nonmaritaly distressed families, but both groups of children showed similar levels of depressive behavior. Fendrich, Werner, and Weissman (1990) used epidemiological data to compare the relative impact of parental depression and family disunity on children. Whereas family discord was most strongly linked with conduct disorders, parental depression was most strongly linked with child depression. Thus, marital discord may account for externalizing problems but not for clinical depression.

*Linking marital discord, parental depression, and child adjustment.* Several causal models of the association between marital discord, parental depression, and child maladjustment are possible (see Figure 1). First, marital discord may mediate the link between parental depression and child maladjustment (Model 1). This implies that parental depression affects child adjustment primarily by increasing children’s risk of exposure to marital discord. Second, parental depression may mediate the relation between marital discord and child maladjustment (Model 2). This implies that depression has a direct impact on child adjustment and that marital discord affects child adjustment primarily by increasing children’s exposure to parental depression. Third, the relation between parental depression and child maladjustment may be spurious, with marital discord causing both parental depression and child maladjustment (Model 3). Fourth, the relation between marital discord and child maladjustment may be spurious, with parental depression causing both marital discord and child maladjustment (Model 4). Of course, these models are for heuristic purposes and do not incorporate the complex reciprocal processes that probably operate.

In evaluating these models, we need to consider two strands of evidence. First, we must consider the research just reviewed on the relative impact of marital discord and parental depression on child adjustment. This research demonstrates the need to distinguish between externalizing problems and depression in children in evaluating the efficacy of the models we have outlined. It appears that marital discord directly increases children’s risk for externalizing problems, whereas parental depression has its primary impact on children’s risk for depression.

Second, we must consider studies of the relation between marital discord and parental depression. Research on the interpersonal context of depression in adults provides some evidence that marital discord plays a causal role in the onset and maintenance of adult depression (see Coyne, 1990, for review; Epstein, Baldwin, & Bishop, 1983; Miller et al., 1986). Patients with marital problems are less responsive to psychotherapy (Courtney, 1984; Jacobson, Schmaling, & Holtzworth-Munroe, 1987) and antidepressant medication (Rounsaville et al., 1980), and are more likely to relapse (Hooley & Teasdale, 1989). When family functioning does not improve, patients experience longer depressive episodes (Keitner, Miller, Epstein, Bishop, & Fruzzetti, 1987). Furthermore, spousal criticism at the time of a depressed person’s admission to a hospital predicts subsequent relapse (Hooley, Orley, & Teasdale, 1986; Hooley & Teasdale, 1989; Vaughn & Leff, 1976). Thus, marital conflict may affect the course of depression, and continued disunity may impede its progress, limit response to treatment, and be associated with high rates of relapse. In addition, people who become divorced are at heightened risk for increased depressive symptomatology (Menaghan & Lieberman, 1986) and for clinical depression (Hetherington et al., 1989). Finally, many spouses of depressed persons...
have adjustment problems that predate their marriages (Parker & Hadzi-Pavlic, 1984; Quinton et al., 1984) and that may play a role in their spouse’s depression (Coyne, 1990).

There is evidence that depression is also a source of stress on the marital relationship. Approximately 40% of the adults living with a currently depressed persons are so distressed that they meet standardized criteria for referral (Coyne et al., 1987). Most of the elevated distress associated with living with a currently depressed person is due to the burden of coping with the illness.

The research we have reviewed offers some support for all four models, provided that we distinguish between children’s externalizing problems and their depression. First, marital distress contributes directly to children’s externalizing problems, and by inducing and maintaining parental depression, indirectly increases their risk for clinical depression. Consistent with Model 3, the direct relation between marital discord and child depression may be spurious, and may be explained by their joint relation with parental depression. Second, parental depression directly increases children’s risk for depression and, by increasing marital strife, indirectly increases their risk for externalizing problems. Consistent with Model 4, the direct relation between parental depression and children’s externalizing problems may be spurious and may be explained by their joint relation with marital discord. Model 5, which combines Models 1–4, illustrates these observations. Because few studies have examined the broader interpersonal context of these children’s lives, the conclusions that Model 5 incorporates are tentative and require further study.

Children’s contribution to the interpersonal processes of depression. Our discussion so far has treated child maladjustment as an outcome of depression and marital distress. However, evidence from multiple sources and across multiple situations shows that children of depressed parents pose a greater parenting challenge than the average child. Problems emerge early in these children, and they may be more difficult from birth than

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**Figure 1.** Alternative models linking marital discord, parental depression, and child problems.
other children. As with spouses, the feedback available from interactions with children may further validate the feelings of ineptitude, worthlessness, and rejection that characterize depressed persons, thus maintaining their depression.

Although the impact of children's behavior on parents' depression has not been systematically investigated, there is some reason to believe that child disturbance contributes to the continuation of maternal depression. First, there is evidence of a reciprocal relation between maternal depression and child maladjustment (Hammen et al., 1990). Second, declines in mothers' depression parallel the successful treatment of their children's behavior problems (Forehand, Wells, & Griest, 1980; Patterson, 1982). Third, parents of less-disturbed children are more likely to recover from their depression within a year, whereas parent's recovery status does not predict changes in child adjustment (Billings & Moos, 1985). Thus, a comprehensive model of the interpersonal context of depression must incorporate the child's contribution to the interpersonal context.

Efforts to understand child characteristics that might modify risk for psychopathology have typically focused on identifying sources of resilience in children. Several studies have identified superior social and social-cognitive skills as characteristic of resilient children (Beardslee et al., 1987; Beardslee & Podorefsky, 1988; Downey & Walker, 1989; Kaufman, Grunebaum, & Cohler, 1979; Pelligrini et al., 1986; Radke-Yarrow & Sherman, in press). A frequent conclusion is that social skills help ensure that children receive positive attention from adults other than their depressed parent. However, socially skilled children may also be less likely to confirm their depressed parent's feeling of ineptitude and rejection, and thus to elicit the negative responses that are common in depressed parents.

A recent study of resilient children participating in the NIMH project provides some support for this suggestion (Radke-Yarrow & Sherman, in press). Resilient children (i.e., socially and academically competent children without psychiatric problems) were characterized by high intelligence and social charm, and by holding a special place in their families because of some trait that their parents valued. Radke-Yarrow and Sherman argued that for these reasons they received all the warmth and resources that their parents could provide.

Studies linking temperament with resilience in children (Garmezy, 1983) have suggested further ways in which child characteristics may elicit or maintain particular parental behaviors. Perhaps as Crockenberg (1981) has found for children in general, temperamentally easygoing children are more impervious to their depressed mother's behavior than are more irritable children. Imperviousness to mothers' negative behavior may impede the development of the reciprocal pattern of negativity often seen in the interactions of depressed mothers and their children. Bugental and her colleagues have documented such a pattern in families with a child at high risk for being abused (Bugental et al., 1989). Compared with their low-risk siblings, children at high risk for abuse were behaviorially more "difficult" and evoked a more negative reaction in their mothers, who reported feeling little control over their "difficult" child's behavior. The high-risk children also evoked more negative reactions from strangers who felt threatened by them, but not from strangers who felt in control of the situation. Similar processes may operate when depressed mothers are faced with a difficult child, given their perceptions of being incompetent parents. The coercive behavior that these children evoke in their mothers may further exacerbate existing child difficulties.

Commentary, Integration, and a Look Ahead

Research on the children of depressed parents has now achieved considerable momentum, with a great increase in the past 5 years in the quantity and quality of available studies. The accumulation of better-designed studies has yielded some consistent findings. It is clear that depression in parents is associated with problems of adjustment and diagnosable disorders, particularly depressive disorders, in their children. However, the specificity and origin of this association is not definitively established. The evidence at this point supports the tentative conclusion that an increase in diagnosable depression is specific to the children of depressed parents, but that more general problems in adjustment are shared with children of mothers with a physical illness or a psychiatric condition other than depression and of mothers who are otherwise under stress. In particular, marital discord is a viable alternative explanation for the general adjustment difficulties of children with a depressed parent.

The behavior observed between depressed mothers and their children has continuities with the behavior of depressed mothers toward other adults. Depressed mothers emit lower rates of behavior and show constricted affect; they adopt less-effortful control strategies; and they show considerable hostility and negativity. Here, too, there are unresolved issues of specificity. Unfortunately, the studies that established the heightened risk for depression among the children of depressed parents have usually involved a more seriously disturbed sample of mothers or have focused on children who are older than the children in the studies of parenting by depressed mothers. Thus, it is not yet possible to draw conclusions about possible links between parenting and this apparently specific risk.

With recent progress in the study of children of depressed parents, it is becoming more obvious that adequate explanatory models must incorporate considerable complexity (see Rutter, 1990, for a similar conclusion). We have reviewed evidence suggesting reciprocal influences in interactions between depressed mothers and their children. Furthermore, the interpersonal context of depression—that is, conditions such as marital discord and family stress that precede, precipitate, or co-occur with maternal depression—is clearly implicated. The difficulties of depressed mothers and the adjustment problems of their children may be contingent on such conditions. At least some of the association between depression and both parenting problems and child maladjustment may be spurious, with the same interpersonal factors (e.g., marital discord) that produce depression in mothers also producing parenting and child problems. Whereas this conclusion may be true of children's externalizing problems, it does not appear to be as true for their depression.

With the recent accumulation of studies, the requirements for making a meaningful contribution to the literature have become more stringent. There is now a need for more specific hypotheses, measures tailored to these hypotheses, and attention to the heterogeneity of depressed persons and their spouses and life circumstances, as well as their children and their various adjustment problems. Recent studies are meeting many of these requirements. Nonetheless, our review has revealed some important gaps in the factors being considered and the methods.
being used. These gaps limit the generalizability of the results that are being obtained, as well as the ability of researchers to interpret the patterns of association that are found. We now identify the areas most in need of attention.

**Patient characteristics.** Most depressed persons are either treated in the community or fail to obtain treatment (Weissman & Myers, 1980). The processes that bring a depressed person to a tertiary facility where rigorous research is being conducted are not well understood, but the resulting treatment population is biased in terms of severity, chronicity, and treatment history. Many of the studies that we have reviewed report exceptionally high rates of past episodes and hospitalizations among the depressed mothers. There is a pressing need for basic data on the adjustment of children with clinically depressed persons whose disturbance is less severe. In the absence of such data, we should be cautious in our generalizations from the children of the tertiary care and inpatient populations that are currently being studied.

Whereas most studies of the problems among children of depressed parents now use interview-based diagnosis for identifying depressed mothers, studies of parenting behavior still rely mainly on self-report depression scores. It is important that studies of parenting behavior routinely use diagnosis based on structured interviews, and that the two types of studies become comparable in terms of severity of parental disturbance and age of the children. There is also a need for attention to Axis II diagnoses, because personality disorders are common among depressed patients. They may be both a direct source of parenting problems and increased risk for child disturbance and be associated with systematic differences in the course and severity of parents’ depression.

Investigators should also consider the severity of depressive symptoms in both depressed and comparison groups (Fisher & Kokes, 1983; Hammen, Adrian, et al., 1987). Prolonged or recurrent periods of psychological distress may be one of the crucial commonalities among mothers who are depressed, mothers with nonaffective psychiatric disorders or physical conditions, and mothers under stress. Some investigators have ignored the problem of depressive symptoms in comparison groups. Others have tried to solve it by establishing exclusion criteria that have the unintended effect of producing unrepresentative samples with truncated distributions of depression scores. Lee and Gotlib (1989a, 1989b), for example, reported a mean depression score for their psychiatric comparisons group that was not significantly lower than their exclusion score for elevated depressive symptoms. This suggests selective sampling from a population with a high prevalence of depressive symptomatology.

Resources and positive characteristics of depressed mothers that might reduce the risk to their children have been totally neglected. Despite a growing interest in protective factors and evidence that the contextual factors that contribute to child maladjustment may also precipitate mothers’ depression, depressed mothers are still studied almost exclusively in terms of their negative impact on children. The ability of depressed mothers to continue to provide for their children, even though they are demoralized and highly symptomatic and the children are difficult and unrewarding, may be a protective factor in the face of other adversities.

**Depressed fathers.** Depressed mothers have received considerably more attention than depressed fathers. Although some studies have found that children of depressed fathers are less disturbed than children of depressed mothers (Keller et al., 1986; Klein et al., 1985), other studies find equivalent disturbance levels (Billing & Moos, 1983; Klein et al., 1988; Weinman, Gammon, et al., 1987). Thus, the effects of paternal depression are in need of further study. Aside from the intrinsic interest of families with a depressed father, comparisons with families where the depressed mother is the primary caretaker may elucidate the processes underlying the high levels of disturbance in children of depressed mothers.

**Spouses of depressed mothers.** The spouses of depressed mothers remain shadowy figures. We have noted that there is some evidence of selective mating, that husbands are inclined to be disturbed themselves, and that marital conflict is often present. These factors contribute to the wife’s vulnerability to become depressed, the course of her illness, parenting problems, and children’s risk for disturbance. A comprehensive model of the causes of disturbance in the children of depressed parents will require attention to the many ways in which husbands contribute both positively and negatively to their wife’s functioning and their child’s well-being. Progress in researchers’ understanding of the association between maternal depression and child outcomes will accelerate if they routinely assess the background, current functioning, and lifetime psychiatric history of spouses. Furthermore, observational studies should more routinely sample family interaction in which husbands are present and should examine husbands’ interactions with children and their effects on interactions between mothers and children.

**Role of marital turmoil.** Marital turmoil appears to have both direct and indirect effects on the parenting difficulties of depressed persons and on their children’s difficulties, and remains a plausible rival explanation for some of these difficulties. At this point it is not enough to merely demonstrate that marital turmoil is a factor; more refined hypotheses about the processes by which this association comes about are needed. Among the possibilities are that parenting and child well-being are jeopardized by (a) inconsistencies in child rearing, not only between the depressed parent and the spouse but also within each parent as they become embroiled in marital disputes; (b) lack of support for parenting; and (c) children witnessing and being unwitting participants in overt marital conflict. These factors may directly affect child well-being, interact with parental depression, or mediate its effects.

**Separation and divorce.** Some studies included only intact, two-parent families, whereas others have also included single-parent families but have failed to explore the effects of family configuration. Studies that have examined these effects suggest that children of depressed parents in separated or divorced families are at higher risk than those in intact families (Conners et al., 1979; Kuyler et al., 1980). However, these studies have not simultaneously considered the level of conflict between the parents. Perhaps it is not marital dissolution per se that is the source of problems, but the overt parental conflict that leads up to it and continues after separation (Long et al., 1987). When separation reduces the children’s exposure to parental conflict, it may reduce their risk for maladjustment. Adequately addressing the impact of marital dissolution on children requires attending to both family configuration and marital conflict.
Depressive behavior of parents. The interactional model of depression (Coyne, 1976a; Coyne et al., in press) emphasizes the support-seeking displays of sadness and the inhibiting quality of depressed persons. Clinical writers have also suggested that depressed mothers lean on their children, engaging in a "frantic search for support" (Fabian & Donohue, 1956, p. 403). Drake and Price (1975) viewed these children as "a primary vehicle through which parents meet their dependency needs" (p. 164). Whereas the hostility and irritability of depressed parents has received considerable attention, their characteristically depressed behavior has been virtually ignored (for exception, see Hops et al., 1987). There needs to be a greater emphasis on measures of parenting and parent-child interaction that are theoretically relevant and tailored to the phenomenon of depression. Such measures may reveal the processes underlying clinical depression in children of depressed parents.

Experience of depressed parents and their children. Questions about the reciprocal influences of depressed parents, their spouses, and their children might be more readily answered by asking family members directly about what transpires between them. Structured interviews, questionnaires about how each family member coped with critical incidents, and structured daily diaries all have unrealized potential for uncovering family processes that short-term observations cannot reveal. These approaches are particularly applicable to older children who can serve as reliable informants. Self-report procedures may reveal that children with serious adjustment problems reinforce some depressed women's sense of guilt and inadequacy. At the same time, more positive aspects of the family relationships of depressed persons may be identified, as the following study showed. Williams and Carmichael (1985) found that a lower-class, multiethnic Australian sample of depressed women reported a full range of difficulties with their school-aged children but not with their infants. In fact, most of the "mothers were very protective of their infants and had good relationships with them, and the infants seemed to be the source of joy and comfort in their otherwise sad, drab lives" (p. 86). Positive features of the family relationships of depressed persons have been ignored in the search for protective factors. Interviews, questionnaires, and daily diaries might be particularly appropriate for identifying these processes.

Child characteristics. Children with high social skills and intelligence are at reduced risk for disturbance. Beyond this, little is known about how child characteristics modify risk for maladjustment. Evidence that mother-child interaction is reciprocal and that some children show difficulties shortly after birth suggests a possible influential role for children's reactive characteristics, including temperament. By this, we mean that some children may prove troublesome for any mother and may be particularly difficult for mothers who have a low tolerance for frustration and are prone to demoralization. As in other areas of child and adult psychopathology, a comprehensive explanatory model for disturbance in children of depressed parents will probably be diathesis-stress in form (Zubin & Spring, 1977), but for now researchers must learn more about child vulnerability and protective factors. Comparisons within the families of depressed parents as well as between families will help to clarify this issue. We have already noted that comparisons of siblings are proving useful in elucidating the processes linking maternal feelings of ineptitude, difficult child behavior, and child abuse in high-risk families (Bugental et al., 1989).

Depression in children of depressed parents. The tentative conclusion that children of depressed parents are at particular risk for diagnosable depression suggests a need to sharpen the focus on the nature of their depression. As a start, researchers need to know about the construct validity and clinical features of these diagnoses, and the natural history of the condition that is being identified. Recent studies have indicated that major depressive disorder among hospitalized children is similar to that among hospitalized adults in terms of phenomenology, family history, drug-versus-placebo response, and neuroendocrine markers (Preskon, Weller, Hughes, Weller, & Bolte, 1987). However, the continuities between milder depressive disorder in children, particularly nonreferred children identified through a screening, and the adult disorder are unclear. We have noted the speculation of one genetics researcher that the depression found in the young children of affectively disturbed parents is a stress response and not an expression of a genetic vulnerability (Cadorre, 1983). On the other hand, in a recent retrospective study the proportion of children of depressed parents who remained depressed for 2 years was similar to rates found in investigations of both children referred for psychiatric disorder and adult depressed patients (Keller, Beardslee, Lavori, Wunder, & Samuelson, 1988). This finding may be seen as underscoring the seriousness of the child depression identified in the studies that we have reviewed, although more research is needed.

Another way of addressing questions about the nature of depression in children of depressed parents is by examining biological correlates of their depression. One study of children with major depressive disorder found that 40% met Research Diagnostic Criteria for endogenous depression (Chambers, Puig-Antich, Tabrizi, & Davies, 1985). It would be interesting to establish what proportion of children of depressed parents met these criteria and the degree of concordance with their parents. During a depressive episode, many depressed children apparently show some of the same evidence of abnormalities in the hypothalamic-pituitary-adrenal (HPA) axis as do depressed adults, such as that demonstrated with the dexamethasone suppression test (DST; Weller & Weller, 1988). Although the DST is hardly the "gold standard" for depression that some once considered it to be, this test can be an important research tool when properly administered and interpreted (Baldessarini & Aranas, 1985). Namely, when taken together with an elevated symptom score or diagnosis based on structured interview, a positive DST or other neuroendocrine marker offers further assurance of the specificity of the diagnosis (Weller & Weller, 1988). Findings of positive DST results with the depressed children of depressed parents can be used to strengthen arguments for the connection between the disturbance they manifest and risk for depression in adulthood. The test might also be useful in studying the role of psychosocial factors such as family interaction in the development of biological risk for depression. There is some evidence that affective symptoms in the context of unsupportive relationships in early childhood are an antecedent of enduring alterations in the HPA axis functions in adults (Breier et al., 1988). To date, support for this intriguing hypothesis has depended on retrospective reports of adults about childhood adversity. Inclusion of HPA measures in studies of the children of depressed parents could provide a much more direct test.
Specificity reconsidered. Addressing the issue of specificity through the inclusion of appropriate control groups is a way of clarifying what is unique among the many complex processes occurring in families with a depressed parent. Yet the issue of specificity has sometimes been distorted, with investigators becoming set on giving substantive interpretations to the finding that children of depressed parents do not differ from some comparison group. When one uses small convenience samples matched on only a few variables and global measures of child adjustment as criteria, null findings are likely but not particularly meaningful. Concluding that similar levels of child outcomes reflect the same underlying processes may therefore be incorrect. For instance, children of mothers recently hospitalized for an acute medical condition may be as distressed as children of mothers hospitalized for depression, but in the first case distress may be due to the mother's hospitalization and in the second the distress may decrease following the mother's hospitalization because of a reduction in aversive interactions.

To be useful, comparison groups should be chosen with a particular rationale, be representative of the population from which they are sampled, and be matched and well described. Measures of child outcome should include both diagnosis and measures of general adjustment. Assessments of intervening processes should be extensive enough to identify both differences and similarities between families of depressed and comparison parents. Identification and recruitment of appropriate comparison groups can be difficult, and speculative interpretation of null results can be hazardous. At this point, one might argue that too little is known to pick appropriate comparison groups, other than normal controls. Faced with limited resources and the choice between using a small, somewhat arbitrarily selected comparison group or doubling the size of the depressed parent group, an investigator might do well to adopt the second strategy and explore the relations among variables within the depressed sample. For example, comparisons of families in which a parent is currently in an episode with families in which the parent is in remission are particularly relevant given knowledge of the effects of living with a depressed person on adults (Coyne et al., 1987). Later, carefully selected comparison groups might be used to test the hypotheses that have been isolated and refined in this fashion.

The next step. We have identified a large set of domains that should be considered in efforts to understand the connection between depression in parents and child problems. No study can be expected to address all of them, but cognizant of this complexity, researchers should be cautious in interpreting the results of any study. Within each of these domains, there needs to be a great deal of sorting and refinement of hypotheses. Experience from studies of the children of schizophrenic parents, some of which we have reviewed, suggests that it is foolhardy to proceed with ambitious longer-term, longitudinal studies without first carefully refining one's research questions. Baldwin's (1960, cited in Garvey & Devine, 1984) earlier comments about the need for caution in launching ambitious longitudinal studies of personality development are equally appropriate to the current state of research on children of depressed parents:

It should be apparent that a longitudinal study of the effects of one, two, or three variables of childhood experience upon later personality is a big investment for relatively small return—quantitatively speaking. It behooves us, therefore, to precede such an undertaking with careful pretesting, study of cross-sectional differences, and cruder retrospective studies to establish the likelihood of major effects. A longitudinal study is the last, not the first step in a research program. It is an absolutely essential research method if we are to get firm knowledge of psychological change. (p. 27)

Before undertaking long-term, longitudinal studies of children of depressed parents, researchers should learn what they can from the studies of schizophrenia. Researchers can learn about the logistics of longitudinal high-risk studies, and can also learn substantively about children of depressed parents. Children in these early studies are now reaching adulthood, and some of the studies are undertaking diagnostic assessments. Thus, existing data ostensibly collected for another purpose can be used to address questions about whether children of depressed parents are at specific risk for adult depression, as distinct from childhood depression, and to sort the relevance of some childhood risk factors for adult vulnerability to depression.

Implications for the development of an interactional perspective on depression. An interactional perspective on depression starts with the assumption that depression takes on the characteristics of an emergent interpersonal system, and that an understanding of depressed persons requires that something about their interpersonal circumstances or ecological niches be known—that is, the conditions of their everyday lives, the problems that they face and how they cope, and the reciprocal influences between them and the key persons around them (Coyne, 1976b, Coyne et al., in press). Despite recent refinements, this perspective provides a rather sketchy picture of the interpersonal processes associated with depression. Findings concerning the children of depressed parents can serve as an important impetus for further refinements. The studies we reviewed highlight the correlates, if not clearly the effects, of depression in one set of close relationships, those between parent and child. The children are indeed distressed and are more likely to be depressed. However, as with the spouses of depressed persons, explanations of their maladjustment will require a complex model (Coyne & DeLongis, 1989; Coyne et al., in press). Studies of interactions between depressed parents and their children have downplayed the effects of the parents' depressive displays and support seeking, but as in the study of the marital interactions of depressed persons, these studies highlight the importance of reciprocal irritability and overt hostility. They also call attention to the negative effects of the less-effortful interaction strategies used by depressed persons. Most important, the study of the children of depressed parents reinforces the notion of how difficult the close relationships of depressed persons can be for everyone involved, and the complexity of the links to the larger context.

Concluding Remarks

The high rate of serious psychological problems in children of depressed parents suggests an important social and public health problem. The literatures that we have reviewed also indicate that depressed mothers have a variety of difficulties as parents. Yet our review points to the need for caution in how the connection between the problems of these children and their parents is drawn. In particular, researchers must be sensitive to the pitfalls of laying too much responsibility on the alleged shortcomings of depressed mothers. Taking an overview of the
diverse literatures that we have considered, we find a distinct and consistent, even if unintentional, “mother-bashing” quality to much of this body of work. Studies establishing rates of disturbance in children have been interpreted in terms of the adverse consequences of the difficulties of depressed mothers. Studies finding both adjustment problems in the children and parenting problems in the mothers are taken as proof of the simple link between the two. What is most troubling is that the designs of many studies provide no opportunity to challenge prevailing simplistic notions about the nature of this link. They simply fail to include assessments of the contextual factors that might produce spurious relations between the parenting provided by depressed persons and their children’s difficulties.

As we have noted, depression in a parent may represent only one source of the many disadvantages and deprivations faced by children of depressed parents. Furthermore, depression may be just one of the problems that depressed parents have in dealing with these children. Little is known about the compensatory strengths and resources of these parents, the reactive characteristics of their children, or the broader context of the mother-child relationship. However, what is known suggests that these factors should receive more attention. Depressed parents and their children are heterogeneous groups and need to be described in terms of their strengths as well as their difficulties, if researchers are to better understand why and under what circumstances parental depression is associated with problems in child development. Clearly, this requires moving beyond the deficit model implicit in the inordinate attention given to negative parental attitudes and behavior and problematic child outcomes. At this point, it is matter of social responsibility as well as good theoretical and empirical sense to adopt a more contextual view of depressed parents and their children.

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CHILDREN OF DEPRESSED PARENTS


Received December 5, 1988
Revision received November 13, 1989
Accepted November 30, 1989