

The Role of Fathers in Child and Adolescent Psychopathology: Make Room for Daddy

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This review summarizes research concerning the relation between paternal factors and child and adolescent psychopathology. When compared with mothers, fathers continue to be dramatically underrepresented in developmental research on psychopathology. However, findings from studies of children of clinically referred fathers and nonreferred samples of children and their fathers indicate that there is substantial association between paternal characteristics and child and adolescent psychopathology. Findings from studies of fathers of clinically referred children are stronger for fathers' effects on children's externalizing than internalizing problems. In most cases the degree of risk associated with paternal psychopathology is comparable to that associated with maternal psychopathology. Evidence indicates that the presence of paternal psychopathology is a sufficient but not necessary condition for child or adolescent psychopathology.

A cornerstone of the field of developmental psychopathology involves the identification of factors associated with increased risk for emotional and behavioral maladjustment in children and adolescents. Numerous personal and environmental factors have been identified as correlates of child and adolescent psychopathology, including childhood temperament (e.g., Chess & Thomas, 1984), marital divorce and discord (e.g., Emery, 1982), exposure to stress and adversity (e.g., Compas, 1987; Garmezy & Rutter, 1983), deprivation of adequate care (e.g., Rutter, 1981), and maternal psychopathology (e.g., Downey & Coyne, 1990). However, characteristics of fathers, including paternal psychopathology, have received relatively little attention in the investigation of child and adolescent psychopathology.

The impetus for studying fathers' contributions to maladjustment and psychopathology in their children comes from at least two sources. The first involves the study of the role of fathers in normal child development. In a 1975 article entitled "Fathers: Forgotten Contributors to Child Development," Lamb argued that there was an urgent need to pay more attention, in both theory and research, to the role of fathers in the socialization of children (Lamb, 1975). Since that time, substantial advances have been made in research on the role of the father in child development (for reviews see Bronstein & Cowan, 1988; Earls, 1976; Lamb, 1976, 1981, 1986, 1987; Lamb, Pleck, & Levine, 1985). However, most of this research has been concerned with normative developmental processes, such as attachment and social development. The increased knowledge that is now available about the role of fathers in normal

child development provides a basis for the investigation of the role of paternal factors in deviant or dysfunctional developmental paths.

A second impetus for investigating the role of fathers in developmental psychopathology emanates from concerns regarding a possible sexist bias toward studying mothers' contributions to child and adolescent maladjustment while ignoring similar contributions by fathers. Caplan and colleagues have noted that there has been a pervasive tendency to blame mothers for causes of maladjustment in their children (Caplan, 1986, 1989; Caplan & Hall-McCorquodale, 1985). Caplan and Hall-McCorquodale reviewed publications from 3 different years (1970, 1976, 1982) in nine clinical journals and found that 72 different kinds of child psychopathology were attributed to mothers, whereas none were attributed to fathers. They also found that mothers were mentioned in specific examples of child problems at a rate of 5:1 compared with fathers. Whereas mother-child interactions were investigated in 77% of the studies, only 49% of the studies investigated father-child interactions. Overall, they noted that mothers were never described in solely positive terms, whereas fathers were often mentioned as a solely positive influence on the child (Caplan & Hall-McCorquodale, 1985).

The failure to include fathers in these studies may be the result of several factors (for discussion, see Phares, 1992). For example, researchers may assume that many children do not have contact with their father because of parental divorce. However, although only 67% of U.S. children under 18 years old live with both biological parents, most of the remaining 33% of children have some contact with their biological fathers (Seltzer & Bianchi, 1988). Alternatively, the failure to include fathers in clinical child studies may be due to an assumption that fathers are less willing or able to participate in research. However, in a review of child development studies involving fathers, it was found that fathers were no more difficult to recruit than mothers, and subject refusal was more related to factors such as time involvement and number of data collections than to parent gender (Woollett, White, & Lyon, 1982).

Preparation of this manuscript was supported in part by National Institute of Mental Health Grant MH43819. We are grateful to Tom Achenbach, Harold Leitenberg, and three anonymous reviewers for their comments on a draft of this article.

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How might fathers contribute to child and adolescent psychopathology? The evidence is clear that maternal psychopathology, most notably depression, is strongly associated with child and adolescent psychopathology (Downey & Coyne, 1990; Gelfand & Teti, 1990). The effects of maternal psychopathology appear to be determined by multiple processes and pathways, including (a) genetic transmission of disorder or risk for disorder, (b) dyadic interactions between mothers and children, (c) maternal parenting practices (e.g., managing and structuring the child's social environment, coaching and teaching practices), and (d) marital conflict between parents (e.g., Dodge, 1990; Downey & Coyne, 1990; Rutter, 1990). Which of these processes are involved in the transmission of specific disorders is unclear. For example, although recent research has shed considerable light on the maladaptive patterns of parent-child interactions in families of depressed mothers, it is not clear that all types of maladjustment that have been observed in these children are directly attributable to interactions with their mother. Downey and Coyne suggest that the high rates of depression in these children may be a direct consequence of maternal depression but that externalizing problems in these children may be a consequence of the high levels of marital conflict that are present in families of depressed mothers.

Although fathers interact with their children in somewhat different ways than do mothers (Siegal, 1987), it is likely that these same basic mechanisms underlie any impact that fathers may have on maladjustment in their children. Thus, the contribution of fathers to child and adolescent psychopathology may be the result of fathers' direct interactions with their children as well as through more indirect processes involving marital conflict and family stress. However, before these possible mechanisms can be considered, Dodge (1990) has noted a more fundamental question that must be addressed regarding the role of fathers in their children's adjustment, "Just what difference do fathers make?" (p. 5).

Our purpose is to review recent research on paternal effects on child and adolescent psychopathology and to discuss conceptual and methodological issues related to this research. The following five questions are addressed: (1) Have fathers been included in studies of child and adolescent psychopathology? (2) Is there evidence that fathers contribute to child and adolescent psychopathology, and if so, do paternal factors represent necessary or sufficient conditions for child and adolescent dysfunction? (3) Are paternal effects limited to certain types of problems in children and adolescents? (4) Are paternal effects limited to certain behaviors or disorders of fathers, especially those that are more prone to occur in men (e.g., alcohol abuse and antisocial personality)? (5) What mechanisms are responsible for any paternal effects that are found? To pursue these questions, publications from 1984 to 1991 concerned with parents and child and adolescent psychopathology are analyzed to determine whether there has been a continued tendency to include mothers more than fathers in this research. This is followed by a review of empirical studies during this period that have provided data on the role of fathers in child and adolescent psychopathology.

Are Fathers Included in Studies of Developmental Psychopathology, 1984-1991?

To determine whether fathers continue to be underrepresented in this literature, we examined the inclusion of fathers

and mothers in clinical child and adolescent research. We reviewed the following eight clinical and developmental journals from January 1984 through January 1991: *Child Development*, *Developmental Psychology*, *Journal of Abnormal Child Psychology*, *Journal of Abnormal Psychology*, *Journal of the American Academy of Child and Adolescent Psychiatry*, *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *Journal of Clinical Child Psychology*, and *Journal of Consulting and Clinical Psychology*. In addition to the articles found through the review of these eight journals, a computer-based literature review (PsycLIT) was completed to identify any articles that investigated paternal characteristics (with or without maternal characteristics) in relation to child or adolescent psychopathology. The following criteria were used for inclusion in the tally of articles: the research was empirical (not solely theoretical or a case study), it investigated issues related to child or parental psychopathology or both (not solely normative developmental processes), and it analyzed some characteristic of the parents (other than use of the parent solely as an informant on the child's behavior). Because we were interested in parental characteristics and child psychopathology, studies that examined parental characteristics but did not include the parents themselves as participants (e.g., analyses of paternal or maternal psychiatric history from hospital chart review) were included in the tally.

Of the 577 articles identified, 277 studies (48%) involved mothers only, 151 studies (26%) involved both fathers and mothers and analyzed them separately, 141 studies (25%) either included both fathers and mothers but did not analyze them separately or more frequently involved "parents" and did not specify parents' gender, and only 8 studies (1%) involved fathers only. This distribution differed significantly from chance $\chi^2(3, N = 577) = 251.24; p < .001$. Furthermore, these rates indicate no improvement in the inclusion of fathers in this literature since the Caplan and Hall-McCorquodale (1985) review.

This analysis suggests that clinical child research continues to use mothers more than fathers. The difference in numbers (48% of the studies included mothers only; 1% of the studies included fathers only) is quite striking and would not be expected unless there was not some type of bias operating in the research process (whether because of theoretical framework or presumed availability of fathers and mothers as participants). The 25% of the studies that did not specify whether the parents were fathers or mothers is especially difficult to use to establish paternal versus maternal effects on child psychopathology. The 26% of the studies that included both paternal and maternal characteristics and analyzed the variables separately are included in the current review, as are the studies that included fathers but not mothers.

An important methodological issue in developmental psychopathology concerns the nature of the target population that is sampled (e.g., children receiving outpatient services, children of parents in inpatient settings, nonreferred schoolchildren). The current review is organized by target population as follows: (a) clinically referred or diagnosed children and characteristics of their fathers, (b) clinically referred or diagnosed fathers and characteristics of their children, and (c) nonreferred children and fathers and characteristics of both. Within each section, the reviews are organized by diagnosis or type of problem ad-

dressed. The diagnostic terminology used throughout the review reflects the nomenclature found in these studies.

Fathers of Diagnosed or Clinically Referred Children

The first research methodology has involved the investigation of characteristics of fathers whose children have been referred for clinical services. Studies have used one or more of the following three analyses: comparison of fathers of clinically referred children with fathers of nonreferred control children, comparison of fathers and mothers of clinically referred children, and comparison of fathers of children with one disorder with fathers of children with a different disorder. Each type of study is discussed separately in reference to different types of child psychopathology. Many paternal characteristics have been investigated in relation to a wide range of childhood disorders, with most studies using a cross-sectional design. The studies are grouped by type of child psychopathology, with the primary problem areas being attention-deficit hyperactivity disorder, conduct disorder, delinquency, substance abuse, unspecified behavior problems, depression, suicidal behavior, anxiety disorders, schizophrenia, autism, and eating disorders.

Attention-Deficit Hyperactivity Disorder

Fathers of children with attention-deficit hyperactivity disorder (ADHD) have been found to differ from fathers of normal control children on a variety of characteristics, such as attention span (Alberts-Corush, Firestone, & Goodman, 1986), behavioral interactions (Tallmadge & Barkley, 1983), perceptions of parenting behavior and parental self-esteem (Margalit, 1985; Mash & Johnston, 1983), and expectations for future compliant child behavior (Sobol, Ashbourne, Earn, & Cunningham, 1989). For example, Alberts-Corush et al. (1986) found that biological fathers of ADHD children performed significantly more poorly on several measures of attention and reaction times than adoptive fathers of ADHD children and both biological and adoptive fathers of normal children. With regard to expectations about their children's behavior, Sobol et al. (1989) found that fathers had lower expectations for future compliant behavior from their ADHD children than did fathers of non-ADHD control children. Taken together these studies suggest that there are consistent differences between fathers of ADHD children and fathers of normal children on a variety of characteristics including attention span, perceptions, and expectations.

In contrast, few differences in emotional functioning and psychological symptoms have been found between fathers of ADHD children and fathers of normal control children. For example, fathers of ADHD children did not differ from fathers of nonclinical children in their perceptions of family affective functioning (Cunningham, Benness, & Siegel, 1988). Although fathers of ADHD children reported significantly more drinks per week than did fathers of nonclinical children (Cunningham et al., 1988), fathers of ADHD children did not differ in the rates of alcoholism or antisocial personality disorder (Reeves, Werry, Elkind, & Zametkin, 1987) or in the level of depressive symptoms (Cunningham et al., 1988) when compared with fathers of normal control children. These studies suggest that although fathers of ADHD children differ from fathers of nor-

mal control children on various nonclinical variables (such as attention span and perceptions of parenting behavior), they do not differ on most measures of paternal psychopathology.

A similar pattern was found for mothers of ADHD children when compared with mothers of nonreferred children on nearly all of the variables discussed above (Alberts-Corush et al., 1986; Lahey et al., 1988; Margalit, 1985; Mash & Johnston, 1983; Reeves et al., 1987; Sobol et al., 1989; Stewart, deBlois, & Cummings, 1980; Tallmadge & Barkley, 1983). The only difference was that although fathers of ADHD children did not differ from fathers of normal control children in their level of depressive symptoms, mothers of ADHD children did report significantly more depressive symptoms than mothers of normal control children (Cunningham et al., 1988).

When comparing fathers and mothers of ADHD children, almost no significant differences have emerged on a variety of characteristics, such as attention span (Alberts-Corush et al., 1986), behavioral interactions (Tallmadge & Barkley, 1983), perceptions of parenting behavior and parental self-esteem (Margalit, 1985; Mash & Johnston, 1983), and perceptions of family affective functioning (Cunningham et al., 1988). In a sample of ADHD twins, high paternal and maternal criticism, high paternal and maternal malaise, and low maternal warmth were all associated with fathers' and mothers' ratings of their children's hyperactive behavior (Goodman & Stevenson, 1989). Additionally, Margalit found that ADHD children's life satisfaction in the family was most strongly predicted by paternal support, followed by paternal discipline, paternal indulgence, and maternal support. Note also that the majority of these studies have primarily used boys, and there were no comparisons of ADHD boys and ADHD girls in relation to paternal and maternal characteristics because of the small number of girls involved in these studies.

Two studies have found differences between fathers and mothers of ADHD children (Cunningham et al., 1988; Sobol et al., 1989). Fathers rated attributions of their ADHD children's noncompliant behavior as less external than did mothers (Sobol et al., 1989), and fathers of ADHD children reported fewer depressive symptoms but more drinks per week than did mothers of ADHD children (Cunningham et al., 1988). Taken together, these studies suggest that there may be more similarities than differences between the fathers and mothers of ADHD children.

Two studies have investigated fathers of ADHD children in comparison with fathers of other clinically referred children (Lahey et al., 1988; Stewart et al., 1980). However, because rates of comorbidity between ADHD and conduct disorder have been found to be high, with estimates of the overlap ranging from 41% to 75% (Lahey et al., 1988; for review see Hinshaw, 1987), it is important to focus on comparisons of children diagnosed with ADHD alone and not in combination with other psychiatric disorders such as conduct disorder. Both of these studies of fathers of ADHD children investigated that distinction. In a study comparing ADHD (without conduct disorder) boys with other clinically referred boys (such as conduct disorder, depression), Stewart et al. found that fathers of ADHD boys did not differ from the fathers of other clinically referred boys in their rates of antisocial personality disorder, substance abuse, or affective disorders. Similarly, in a sample of primarily boys (72% of the sample), Lahey et al. found that rates of pater-

nal and maternal antisocial personality disorder, substance abuse, and affective disorders did not differ between the ADHD (without conduct disorder) group and the other clinically referred group. These studies suggest that fathers of ADHD children did not differ from fathers of other clinically referred children in their rates of psychopathology.

In summary, when compared with the fathers of normal control children, fathers of ADHD children have shown many differences, including shorter attention span (Alberts-Corush et al., 1986), poor behavioral interactions (Tallmadge & Barkley, 1983), and less favorable perceptions of parenting behavior and parenting self-esteem (Margalit, 1985; Mash & Johnston, 1983). However, fathers of ADHD children have shown almost no differences in rates of psychopathology when compared with fathers of normal control children or with fathers of other clinically referred children. Finally, fathers of ADHD children have shown almost no differences from mothers of ADHD children, and there appear to be more similarities than differences between fathers and mothers of ADHD children.

Conduct Disorder

Only one study was found that investigated fathers of conduct disorder (CD) children in comparison with fathers of normal control children. In a sample of primarily boys (89% of the CD sample), Reeves et al. (1987) found that fathers of children in the CD group (89% of whom also had an ADHD diagnosis) were more likely to be alcoholic or to have antisocial personality disorder, or both, than fathers of normal control children.

Only one study was found that compared fathers and mothers of CD children, and the study was designed to look specifically at girls with the CD diagnosis. P. L. Johnson and O'Leary (1987) found that the associations between CD girls' characteristics and paternal characteristics were fewer and smaller in magnitude than the corresponding associations between girls' and mothers' characteristics. Of the 10 correlations between parental and children's behavior, none of the paternal correlations were significant, but 5 of the maternal correlations were significant (maternal overt hostility and aggression were positively related to children's conduct problems; maternal marital satisfaction, positive behavior, and low negative behavior were positively related to children's social competence; P. L. Johnson & O'Leary, 1987). This suggests that the relation between the psychopathology of fathers and their CD sons may be stronger than between fathers and their CD daughters, although this has not been directly compared within a single study.

The majority of studies that included fathers of CD children compared these fathers with fathers of other clinically referred or diagnosed children (e.g., Dean & Jacobson, 1982; Hamdan-Allen, Stewart, & Beeghly, 1989; Jary & Stewart, 1985; Lahey et al., 1988; Reeves et al., 1987; Stewart et al., 1980). Reeves et al. found that fathers of children with a dual diagnosis of CD and ADHD were more likely to be alcoholic or to have antisocial personality disorder, or both, than fathers of ADHD children and anxious children. Fathers of CD/ADHD children were also more likely to have a history of aggression, arrest, and imprisonment than fathers of other clinically referred children (Lahey et al., 1988). Fathers of children with CD alone showed higher rates of antisocial personality disorder and substance abuse,

and mothers showed higher rates of antisocial personality disorder and depression than fathers and mothers of other clinically referred children (Lahey et al., 1988). Fathers of CD children were found to be more depressed than fathers of children with either a learning disability or a personality disorder (Dean & Jacobson, 1982). Additionally, Stewart et al. (1980) and Jary and Stewart (1985) found that the fathers of aggressive CD boys were more likely to be alcoholics or to have an antisocial personality disorder when compared with fathers of other clinically referred boys (such as ADHD or depression). In a comparison of pervasive aggressive conduct disorder boys (PACD) with situational aggressive conduct disorder boys (SACD), paternal antisocial personality disorder, maternal alcoholism, and maternal drug abuse were all significantly higher for the PACD group than the SACD and non-CD clinical control groups, and paternal alcoholism was higher in both CD groups than in the non-CD clinical control group (Hamdan-Allen et al., 1989). Overall, a strong link was found between children's (primarily boys') CD and paternal psychiatric disorders and to a lesser extent maternal psychiatric disorders, including antisocial personality disorder, alcoholism, and substance abuse.

A related behavior problem that is not necessarily exclusive to CD children is that of assaultive and aggressive behavior. In a comparison of four groups of adolescent inpatients (nonassaultive-nonsuicidal, assaultive only, assaultive-suicidal, suicidal only), no significant differences were found in paternal or maternal alcohol abuse or affective disorder (Pfeffer, Newcorn, Kaplan, Mizruchi, & Plutchik, 1989). Paternal and maternal assaultiveness, depression, suicidal behavior, psychiatric hospitalization, and alcoholism were also not significantly correlated with the assaultiveness ratings of their children who were psychiatric inpatients (Pfeffer, Solomon, Plutchik, Mizruchi, & Weiner, 1985). A similar study again found that the assaultive behavior of child psychiatric inpatients was not significantly related to paternal or maternal assaultiveness; however, paternal and maternal assaultiveness were significantly related to child assaultive behavior for a group of outpatients and nonpatients (Pfeffer, Plutchik, Mizruchi, & Lipkins, 1987). Stewart and deBlois (1983) found that the aggressive and antisocial behaviors of boys seen at a child psychiatry clinic were significantly related to their father's aggressive and antisocial behaviors. They also found that the boys' noncompliant behavior was associated with both their father's aggressive behavior and their father's antisocial behavior (Stewart & deBlois, 1983). In a sample of psychiatrically hospitalized children, Lewis, Shanok, Grant, and Ritvo (1983) found that fathers of homicidally aggressive children were more likely to be physically violent and alcoholic than the fathers of nonhomicidal children and that mothers of homicidally aggressive children were more likely to have a history of psychiatric hospitalization than the mothers of nonhomicidal children.

In summary, children's conduct disorders have been found to be strongly linked to fathers' antisocial and aggressive behavior. This link appears to be stronger between fathers and sons than between fathers and daughters, although this has not been directly compared in a single study. This research suggests the need for investigation into the differential effects of fathers and mothers with their CD sons and daughters.

Delinquency

A variety of paternal and maternal factors have been found to be associated with adolescent delinquency, including lack of paternal and maternal supervision and discipline along with a history of parental criminality (for review see Loeber, 1990; Loeber & Dishion, 1983); inconsistent family communication patterns (Lessin & Jacob, 1984); high amounts of paternal and maternal defensive communication in a competitive context (Alexander, Waldron, Barton, & Mas, 1989); conflictual, unaffectionate father-son relations and conflictual, unsupportive mother-son relations (Borduin, Pruitt, & Henggeler, 1986; Hanson, Henggeler, Haefele, & Rodick, 1984); poor relationships with parents regarding paternal and maternal affection and autonomy (Atwood, Gold, & Taylor, 1989); high paternal social desirability and high maternal social desirability and neuroticism (Borduin, Henggeler, & Pruitt, 1985); and high levels of paternal deviance, parental aggressiveness, parental conflict, and low levels of maternal self-confidence, maternal affection, and supervision (McCord, 1979).

In a comparison of a group of delinquents with a nondelinquent control group, families of delinquents showed lower rates of facilitative information exchange, fathers of delinquents were more dominant toward their wife, and delinquent adolescents were more dominant toward their mothers (Henggeler, Edwards, & Borduin, 1987). Additionally, Lewis, Pincus, Lovely, Spitzer, and Moy (1987) found that when compared with nondelinquents, delinquents were significantly more likely to have been physically abused by their fathers and mothers, to have witnessed severe family violence, and to have a mother with a history of psychiatric hospitalization. The groups did not differ significantly in fathers' psychiatric hospitalizations, paternal alcoholism, or maternal alcoholism (Lewis et al., 1987). However, paternal alcohol use was found to be associated with the delinquents' attentional problems at 11 years old and number of arrests at the age of 18 (Wallander, 1988). Alcohol abuse was also found to be more prevalent among the fathers and mothers of delinquents who had been physically abused when compared with the fathers and mothers of delinquents who had not been physically abused (Tarter, Hegedus, Winsten, & Alterman, 1984).

As was true of the ADHD and CD literature, the majority of research on juvenile delinquency also used samples of primarily male delinquents. In an exception, Henggeler et al. (1987) compared the fathers and mothers of female and male delinquents and found that fathers of female delinquents were significantly more neurotic than fathers of male delinquents and that fathers and mothers of female delinquents showed significantly more conflict toward each other than fathers and mothers of male delinquents (Henggeler et al., 1987).

Two studies have investigated paternal factors related to adolescent runaway behavior. Englander (1984) found that adolescent female runaways felt that their fathers and mothers showed less positive feelings toward them and showed less family harmony than did nonrunaways. Fry (1982) investigated paternal correlates of runaway behavior of both male and female adolescents and found that father attributes of detachment, less child-centeredness and less communicativeness, and adolescent attributes of rebelliousness and irresponsibility were the most

significant predictors of adolescent runaway behavior. Taken together, these studies suggest that adolescent runaways perceived their fathers as unsupportive and as being in an adversarial role.

In summary, numerous studies have shown a link between paternal factors and delinquency. Furthermore, paternal and maternal effects apparently are comparable, although this has not been directly tested in any of these studies.

Alcohol and Substance Abuse

Very few studies have investigated adolescent alcohol and substance abuse and paternal characteristics in clinically referred samples of adolescents, and the findings have been equivocal. For example, Klinge and Piggott (1986) found that fathers' and mothers' alcohol and drug use were not significantly related to their adolescents' alcohol and drug use. Significant relations were found, however, for fathers' and mothers' scapegoating of their drug-abusing adolescents (Gantman, 1978) and in heroin-abusing adolescents' perceptions of paternal, but not maternal, ineffectiveness and inability to communicate (Jiloha, 1986). These findings point to the need for further investigation into the relation between paternal characteristics and adolescent alcohol and substance abuse, both through cross-sectional and prospective designs.

Nonspecific Behavior Problems

In contrast to the work with ADHD, CD, delinquent, and substance-abusing children, some researchers have investigated paternal and maternal correlates of child behavior problems of clinically referred children without specifying diagnostic categories. For example, Roehling and Robin (1986) compared unrealistic beliefs regarding parent-adolescent relationships in distressed families referred for therapy and nondistressed control families from the community. On the basis of the Family Beliefs Inventory, they found that distressed fathers adhered to more unreasonable beliefs concerning perfectionism, ruination, obedience, and malicious intent of their adolescents than did fathers in nondistressed families (Roehling & Robin, 1986). There were no significant differences between mothers in distressed and nondistressed families.

In comparing the personal adjustment of fathers and mothers of children referred for unspecified conduct problems, Webster-Stratton (1988) found that fathers reported significantly less parenting stress, depression, and negative life events than mothers. Additionally, Webster-Stratton found that although fathers' personal adjustment measures were unrelated to fathers' behavior with their children, maternal personal adjustment measures (parenting stress, depression, poor marital adjustment, and negative life events) were significantly related to a high number of maternal criticisms and physically negative behaviors with their children. Similarly, Schaughency and Lahey (1985) found that fathers' ratings of their children's conduct problems and externalizing problems were unrelated to their self-reported depression although mothers' ratings of their children's behavior problems were significantly related to their self-reported depression. Christensen, Phillips, Glasgow, and Johnson (1983) found that both fathers' and mothers' depression was

associated with poor marital adjustment and less likelihood of a positive approach with their children referred for behavior problems. These authors also found that fathers' personal discomfort was negatively related to a positive approach with children and positively related to intolerance of their children's negative behaviors (Christensen et al., 1983).

Two intriguing studies have compared perceived paternal and maternal responsibility for children's behavior problems (Penfold, 1985; Watson, 1986). In a sample of children referred for treatment of unspecified emotional/behavioral problems, parents differed in their perceived responsibility for their children's problems in much the same way that responsibility has been attributed in the psychological literature. Fathers tended not to attribute responsibility for their children's problems to themselves, but mothers were significantly more likely to attribute the responsibility of their children's problems to themselves rather than to external sources (Penfold, 1985; Watson, 1986). In fact, fathers were much more likely to blame the mothers for their children's behavioral problems (Penfold, 1985).

In summary, these studies provide conflicting evidence of the effect of paternal characteristics on characteristics of their children referred for nonspecific behavior problems. Schaughency and Lahey (1985) found no relation between paternal depression and paternal reports of child behavior, and Webster-Stratton (1988) found no relation between paternal adjustment and fathers' interactions with their children. However, Christensen et al. (1983) found that fathers' depression and personal discomfort were related to their interactions with their children. These relations need to be clarified in further research on paternal characteristics and children's emotional/behavioral problems. Consistent evidence was found, however, in the perception of responsibility for children's emotional/behavioral problems. Both fathers and mothers tended to feel that mothers were responsible for their children's emotional/behavioral problems. Note that the "mother blaming" that exists in the literature parallels the mother blaming that exists in the community.

Depression

In a review of parent-child relations and depression, Burbach and Borduin (1986) noted that in comparison with the amount of research on retrospective reports of parent-child relations of depressed adults, few studies have investigated the parent-child relations of depressed children. However, a few studies have directly investigated the fathers of depressed children. In a study comparing depressed children and normal control children, John, Gammon, Prusoff, and Warner (1987) found that children's self-reported relationships with their fathers, but not their mothers, were significantly more maladaptive for children with major depression than for normal control children. In contrast, Cole and Rehm (1986) found no differences in father-child interactions but found that mothers of depressed children rewarded their children less than mothers of normal control children (and clinic-nondepressed children). Kaslow, Rehm, Pollack, and Siegel (1988) found that there were no differences in rates of fathers' depression between three groups (depressed clinic, nondepressed clinic, and nonclinic children) but that there were significantly more depressed

mothers in the two clinic-referred groups. Additionally, children with dysthymia perceived their relationships with both their father and their mother to be more maladaptive than did normal control children (John et al., 1987).

A few studies have compared the relations of paternal and maternal psychopathology with children's depression. In studies of depressed children, paternal-child interactions were not significantly related to childhood depression, but poor maternal communication and low maternal affection were associated with increased childhood depression (Puig-Antich et al., 1985a, 1985b). Paternal psychological symptoms were related to children's anxiety but not depression, whereas maternal psychological symptoms were significantly related to children's self-reported depression and anxiety (Jensen, Bloedau, Degroot, Usery, & Davis, 1990). Fathers' depressive symptoms were, however, related to clinician-father discrepancies of child depressive symptoms, but there was no relation between mothers' depressive symptoms and clinician-mother discrepancies (Ivens & Rehm, 1988). This indicated that depressed fathers rated their children as having more depressive symptoms in a structured diagnostic interview than did clinicians. Fathers were less likely than mothers to have a history of depression, and fathers were more likely than mothers to have a history of substance abuse and antisocial pathology in a sample of depressed children (Mitchell, McCauley, Burke, Calderon, & Schloredt, 1989).

In a sample comparing depressed and nondepressed psychiatrically disturbed children and adolescents, neither paternal nor maternal depression alone distinguished between the two groups, but depressed children and adolescents were significantly more likely to have two parents with a history of depression than the nondepressed group (Mitchell et al., 1989). Additionally, rates of paternal psychopathology did not distinguish between the two groups, although rates of maternal anxiety disorders, alcoholism, drug abuse, and suicidality were significantly higher in the depressed group (Mitchell et al., 1989). In an analysis of children with coexisting depression and anxiety disorders, fathers and mothers were no more likely to have an anxiety disorder than the fathers and mothers of children with only depression (Mitchell, McCauley, Burke, & Moss, 1988). Similarly, fathers and mothers of children with coexisting depression and CD were no more likely to have a history of substance abuse or antisocial personality than fathers and mothers of children with depression only. In regard to bipolar affective disorder, no significant differences were found in paternal or maternal care or protection (Joyce, 1984) nor in fathers' and mothers' rates of psychiatric disturbance (Dwyer & DeLong, 1987).

Overall, there does not appear to be a strong link between paternal factors and childhood depression. Instead, there appears to be a somewhat stronger association between maternal characteristics and childhood depression than between paternal characteristics and childhood depression. Only in the study by John et al. (1987) did father effects emerge where no mother effects were found, but in five studies maternal effects were found in the absence of paternal effects (Cole & Rehm, 1986; Jensen et al., 1990; Kaslow et al., 1988; Puig-Antich et al., 1985a, 1985b). However, there were important paternal correlates to

child depression, such as children's self-reported paternal-child relationships, that require further investigation.

Suicidal Behavior

Three studies were found that investigated the fathers and mothers of suicidal children and adolescents. McKenry, Tishler, and Kelley (1982) compared adolescents who had attempted suicide with nonsuicidal adolescents admitted to an emergency room with minor injuries. They found that the attempters and nonattempter controls did not differ in their perceptions of their fathers' interest in them, although attempters perceived their mothers to be significantly less interested in them than did the nonattempter controls. Attempters and their fathers, but not their mothers, rated the parents' marriage as less well adjusted than did the nonattempters and their fathers. All three members in the attempters' family (father, mother, and adolescent) viewed time spent with the family as significantly less enjoyable than the three corresponding members of the nonattempters' family. Fathers of attempters perceived their spouses' parenting skills as significantly lower than did the fathers of nonattempters. Fathers of attempters were significantly more depressed than fathers of nonattempters, and mothers of attempters were significantly more anxious and had more prior suicidal ideation than mothers of nonattempters (McKenry et al., 1982).

In a comparison of fathers of suicidal children with fathers of children with other psychiatric disorders, Myers, Burke, and McCauley (1985) examined suicidal and nonsuicidal preadolescents on an inpatient psychiatric unit and found that the suicidal preadolescents were significantly more likely to have a physically abusive biological father and a physically abused mother than nonsuicidal preadolescents. They also found that the suicidal and nonsuicidal inpatients did not differ significantly in family history of alcoholism, depression, antisocial activities, personality disorder, or psychosis, although they did not investigate these disorders separately for fathers and mothers (Myers et al., 1985). These results are consistent with a previously mentioned study that found that paternal and maternal alcohol abuse and affective disorder did not distinguish between adolescent inpatients who were either nonassaultive-nonsuicidal, suicidal only, assaultive only, or assaultive-suicidal (Pfeffer et al., 1989). None of these studies directly compared fathers and mothers of suicidal children and adolescents.

In summary, fathers of suicidal children and adolescents appear more distressed than fathers of normal control children with regard to increased depression and decreased enjoyment of time in the family and in the marriage. Fathers of suicidal children do not appear different from fathers of nonsuicidal, psychiatrically disturbed children except for a higher incidence of physical abuse toward their children and spouse. Although fathers and mothers of suicidal children were not directly compared, the pattern of findings for fathers and mothers appears relatively comparable.

Anxiety Disorders

A few studies have examined fathers of children with diagnosed anxiety disorders. Both fathers and mothers of anxious

and obsessive-compulsive adolescents were found to have more obsessional characteristics than fathers and mothers in a non-clinical control sample (Clark & Bolton, 1985). However, fathers of anxious children were not found to have any greater likelihood of antisocial personality disorder or alcoholism compared with fathers of normal control children, but mothers of children with anxiety disorders were found to have increased rates of anxiety disorders themselves when compared with children in a nonclinical sample (Reeves et al., 1987). In a sample of school phobic children, fathers reported clinically significant levels of family dysfunction in the father-child relationship in the areas of role performance, values, and norms (Bernstein, Svingen, & Garfinkel, 1990). Mothers reports were also clinically significant in the same areas for the mother-child relationship. Overall, fathers and mothers rated their relationships with their school phobic child in a very similar manner (Bernstein et al., 1990). Taken together, these studies provide some evidence for greater disturbance in fathers of children with anxiety disorders when compared with fathers in nonclinical control samples, although the findings are somewhat equivocal.

Schizophrenia

The study of schizophrenia has had a long history of focusing on mother-child interactions in the etiology of the disorder. Still, there has been some research investigating fathers' interactions with children who eventually develop schizophrenia. As long ago as 1956, Lidz, Parker, and Cornelison used clinical observations and interviews to investigate the role of the father in the development of schizophrenia. More recently, harsh paternal discipline has been found to be associated with schizophrenic inpatient assaults and dangerousness (Yesavage et al., 1983), and paternal outward-directed hostility and maternal inward-directed hostility have been associated with readmittance to a psychiatric inpatient unit (Angermeyer, 1982).

Family communication style, such as expressed emotion (EE) and communication deviance, has been linked to the onset and course of schizophrenic disorders (e.g., Hahlweg et al., 1989; Miklowitz, Goldstein, et al., 1989; Miklowitz, Strachan, et al., 1986; Strachan, Feingold, Goldstein, Miklowitz, & Nuechterlein, 1989). Although most of these studies included both fathers and mothers of schizophrenic offspring, differences between fathers and mothers were rarely evaluated. In a sample of relatives of schizophrenics that were combined for the analyses (36% fathers, 56% mothers, and 8% other relatives), Miklowitz et al. (1986) found that high-EE relatives showed significantly higher communication deviance than low-EE relatives. Additionally, they found that high-EE critical attitudes were more evident in fathers and nonparent relatives than mothers, whereas high-EE overinvolvement and critical overinvolvement attitudes were more evident in mothers than fathers and nonparent relatives (Miklowitz et al., 1986). They also found that relatives with high-EE overinvolvement attitudes (represented primarily by mothers rather than fathers) showed the highest levels of communication deviance; however, the direct comparison was not completed for fathers and mothers.

Autism

In a comprehensive review, Sanua (1986) reviewed 20 years of research on autistic children and concluded that fathers and

mothers of autistic children were no different than fathers and mothers of normal control children. Sanua also concluded that fathers and mothers of autistic children were no different than fathers and mothers of nonautistic clinically referred children and children with organic damage. Although some studies have found differences between fathers of autistic children and nonautistic children (e.g., Wolff, Narayan, & Moyes, 1988), the overriding evidence has suggested that there were no differences between fathers and mothers of autistic children and parents of nonautistic children.

Eating Disorders

Numerous studies have investigated family interaction patterns in families of anorexic, bulimic, and nonreferred adolescents (e.g., Garfinkel et al., 1983; Humphrey, 1986, 1987, 1989; Humphrey, Apple, & Kirschenbaum, 1986; Leon, Lucas, Colligan, Ferdinande, & Kamp, 1985). The eating-disordered and non-eating-disordered families are usually found to differ in observations or perceptions of family interactions; however, there are notable examples in which no differences were found. For example, fathers of anorexics did not differ from fathers of nonreferred control adolescents on a measure of family relationships, but mothers and their anorexic daughters reported more difficulty with task accomplishment, role performance, communication, and affective expression than did controls (Garfinkel et al., 1983). Additionally, Garfinkel and colleagues (1983) found that fathers and mothers of anorexics did not differ from controls in ratings of their own body size or body satisfaction. Fathers of anorexics showed higher levels of conscientiousness than fathers of nonreferred adolescent controls on the Sixteen Personality Factor Questionnaire (16PF), but mothers of anorexics did not differ from mothers of controls in rates of psychopathology (Garfinkel et al., 1983).

Leon et al. (1985) also investigated perceptions of family interactions with anorexic adolescents and their fathers and mothers. When compared with their counterparts in a normal-weight control group, fathers and mothers of anorexic girls perceived the family environment to be less conducive to the expression of feelings and as less cohesive. The anorexic and normal-weight adolescents did not differ significantly in their perceptions of the family environment (Leon et al., 1985). Humphrey and her colleagues (Humphrey, 1986, 1987, 1989; Humphrey et al., 1986) did, however, find differences between anorexic adolescents (as well as bulimics and bulimic-anorexics) and normal control adolescents in their perceptions of parent-child relationships. For example, Humphrey (1986) found that bulimics and bulimic-anorexics perceived their parents to be less affirming, understanding, nurturing, and comforting toward them than did nonclinical adolescents. Bulimic adolescents also perceived greater deficits in parental nurturance than the bulimic-anorexic, anorexic, and nonclinical adolescents. These findings were most consistent for the bulimic daughter-father relationship (e.g., significant findings on eight out of eight clusters) and less consistent for the bulimic daughter-mother relationship (e.g., significant findings on only two of the eight clusters).

In a related study of observed family interactions, Humphrey (1989) found that both fathers and mothers of anorexics gave a

double message of nurturance and affection combined with neglect of their daughter's needs. Fathers and mothers of bulimics were hostilely enmeshed with their daughter and appeared to undermine their daughter's attempts at separation and self-assertion. In contrast, the fathers and mothers of nonreferred adolescents showed higher levels of helping, protecting, trusting, approaching, and enjoying one another. Although these different patterns were found for both fathers and mothers in the three groups, fathers showed less unique differences across the groups than mothers (Humphrey, 1989).

Taken together these studies suggest that investigation of perceptions of paternal and maternal relationships may be helpful in distinguishing subtypes of eating disorders as well as elucidating different patterns of involvement of fathers and mothers of adolescents with eating disorders and normal weight non-eating-disordered adolescents.

Summary

Overall, fathers of children who have received a psychiatric diagnosis or who have been referred for psychological treatment show increased levels of psychopathology when compared with fathers of children who have not been diagnosed or referred for psychological treatment. The results of these studies are summarized in Table 1. Paternal characteristics are more consistently related to externalizing problems (ADHD, conduct disorder, delinquent behaviors) than internalizing problems (depression, anxiety disorders) in their children.

Children of Diagnosed or Clinically Referred Fathers

A second research methodology has involved studies of children whose fathers have sought or been referred for clinical services or have received a psychiatric diagnosis. The behavioral and psychological adjustment of these children has been examined in cross-sectional, retrospective, and—more rarely—prospective longitudinal studies. Fathers with a variety of diagnoses have been included. Furthermore, children's adjustment has been measured using a variety of methods (behavior checklists, self-report questionnaires, diagnostic interviews) and from a variety of informants (children, parents, teachers, clinicians). The studies are grouped by type of paternal psychopathology, with the major diagnostic groups being antisocial personality/criminality, alcoholism and substance abuse, depression, anxiety disorders, schizophrenia, perpetrators of child physical and sexual abuse, and physical illness.

Paternal Antisocial Personality Disorder and Criminality

Paternal criminality and antisocial behavior have been identified as significant risk factors for delinquent behavior in offspring in a number of studies (see reviews by Loeber & Dishion, 1983, 1987). In spite of the importance of this area of research, we were able to identify only one study that examined the functioning of children whose parents had committed criminal or antisocial acts (Kandel et al., 1988). This study focused on the role of IQ as a protective factor for offspring at high risk for antisocial behavior. Offspring of fathers with serious criminal offenses who were able to avoid criminal behavior themselves

Table 1
Findings From Studies of Paternal Factors in Child and Adolescent Psychopathology: Studies of Referred/Diagnosed Children

Problem type	Referred children
Attention-deficit hyperactivity disorder (ADHD)	Fathers of ADHD children higher on nonclinical measures than fathers of controls (5 studies); no differences from fathers of controls on paternal psychopathology (2 studies) No differences reported between mothers and fathers (6 studies); mixed findings on paternal-maternal differences in 2 studies No differences in comparisons with children from other diagnostic categories (2 studies)
Conduct disorder (CD)	Fathers of CD children higher in alcoholism and antisocial personality disorder than fathers of controls (1 study) Greater associations between mothers and CD daughters than fathers and CD daughters (1 study) Fathers of CD sons higher in disturbance than fathers of sons with other disorders (6 studies)
Delinquency	Equivocal findings comparing fathers of delinquent adolescents with controls (2 studies) Fathers and mothers of delinquent daughters show more conflict than fathers and mothers of delinquent sons (1 study) No comparisons with other disorders Multiple paternal characteristics correlated with delinquency in adolescents (6 studies)
Alcohol/substance abuse	Equivocal findings regarding paternal correlates and adolescents' substance abuse (3 studies) No other studies
Nonspecific behavior problems	Fathers had more unrealistic beliefs than in control families (1 study) Equivocal findings comparing fathers and mothers (3 studies) No comparisons with other disorders
Depression	No differences from controls in family interactions and paternal depressive symptoms (2 studies) Greater evidence for child depression associated with maternal than paternal depression (4 studies) No differences in paternal psychopathology compared with other diagnostic groups of children (3 studies)
Suicidal behavior	Fathers of attempters more depressed than controls (1 study) No studies comparing fathers and mothers Fathers of suicidal children more physically abusive than clinical comparison (1 study)
Anxiety disorders	Fathers higher in obsessional characteristics than fathers of controls (1 study) No differences between fathers and mothers of school phobics (1 study) No studies with other diagnostic groups
Schizophrenia	No studies with control groups, father-mother comparisons, or with other diagnostic groups Harsh paternal discipline and hostility correlated with schizophrenia in offspring (2 studies)
Autism	See Sanua (1986) for review of studies
Eating disorders	More maladaptive family interactions and environments, including fathers, than controls (5 studies); no differences from controls (1 study) Equivocal findings comparing fathers and mothers (1 study) No studies with other diagnostic groups

were found to have higher IQs than those offspring of criminal fathers who had been identified for serious criminal behavior.

The apparent absence of research in this area may be the result of reliance on an alternative research methodology to pursue the relation between paternal criminality/antisocial behavior and child functioning. That is, the more typical research design has been to identify a sample of youth who have committed delinquent acts and then to examine the criminal status of

their father. Although this has been a productive approach to understanding the link between parental and offspring criminality and delinquency, it may have led to a somewhat distorted picture of the effects of paternal criminality. By focusing on identified populations of delinquent youth, other problems of the offspring of criminal fathers may have been overlooked. Thus, studies that examine a broad range of factors related to the adjustment and functioning of children of fathers who are

identified for antisocial or criminal behaviors are still much needed.

Paternal Alcoholism and Substance Abuse

Substantial research indicates that children of alcoholic fathers, or more generally fathers who abuse alcohol, are at increased risk for a wide range of emotional and behavioral difficulties. In fact, the literature on the relation between parental alcoholism and children's maladjustment is rare in that fathers with this disorder have been studied more often than mothers. In a comprehensive review of this literature from 1975 to 1985, West and Prinz (1987) noted, "nearly all of the samples in studies reviewed contained more male than female alcoholics, and many consisted entirely of men. Consequently, less is known about the impact of maternal alcoholism on children's risk for psychopathology" (p. 205). This is not surprising in light of the higher rate of alcoholism in men as opposed to women (Helzer, 1987).

The findings of studies between 1975 and 1985 reviewed by West and Prinz (1987) indicate that paternal alcoholism is related to a host of problems in children, including externalizing behavior problems such as hyperactivity and conduct disorder (e.g., Fine, Yudin, Holmes, & Heinemann, 1976; Knop, Teasdale, Schulsinger, & Goodwin, 1985), alcohol/substance abuse (e.g., Herjanic, Herjanic, Penick, Tomelleri, & Armbruster, 1977; Merikangas, Weissman, Prusoff, Pauls, & Leckman, 1985), and delinquency (e.g., Offord, Allen, & Abrams, 1978; Rimmer, 1982) and symptoms of internalizing problems such as depression and anxiety (e.g., Herjanic et al., 1977).

Studies that have appeared after those reviewed by West and Prinz (i.e., after 1985) have continued to report that children of alcoholic fathers evidence a wide range of emotional and behavioral difficulties. When compared with control samples, children of alcoholic fathers have been found to have higher rates of alcoholism (Goodwin, 1986); to have a greater tendency for self-deprecation (Berkowitz & Perkins, 1988); to be less happy (Callan & Jackson, 1986); to perceive their family environment as less happy, trusting, secure, cohesive, and affectionate (Callan & Jackson, 1986); to be higher in the *impatience-aggressive* dimension of Type A behavior (Manning, Balson, & Xenakis, 1986); and to display more symptoms of neuroticism (Benson & Heller, 1987) and acting out problems (Benson & Heller, 1987).

Perhaps because of the lower incidence of alcoholism in women, studies comparing children of alcoholic mothers and children of alcoholic fathers have been rare. Those data that are available offer mixed results. In a study of responsivity to stress, Levenson, Oyama, and Meek (1987) found that paternal alcoholism was associated with increased children's responsivity to stress after consuming alcohol, whereas maternal alcoholism was not related to stress responsivity in children. In contrast, Werner (1986) found that children with an alcoholic mother were more likely to develop high levels of psychosocial problems compared with children of alcoholic fathers. Steinhilber, Gobel, and Nestler (1984) compared children with either an alcoholic mother, an alcoholic father, or two alcoholic parents and did not find differences on a series of questionnaires and psychiatric symptom scores related to children's adjustment.

An earlier study by El-Guebaly, Offord, Sullivan, and Lynch (1978) is noteworthy in this regard. They compared groups of children who were identified on the basis of either paternal or maternal alcoholism, depression, or schizophrenia and did not find differences in parents' reports of their children's behavior problems in families with alcoholic fathers as compared with families with alcoholic mothers.

Only a few studies have compared children whose fathers are alcoholic with children whose fathers suffer from other forms of psychiatric disturbance. However, these studies indicate that this is an important area for further research. For example, Jacob and Leonard (1986) found that children of alcoholic fathers and children of depressed fathers did not differ from one another but were both rated higher than normal controls on combined ratings by both parents on the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983); however, no differences were found among children of depressed fathers, alcoholic fathers, and normal control fathers on teacher ratings of behavior problems. El-Guebaly et al. (1978) found some evidence that parents' reports of child behavior problems were higher in families of depressed fathers and schizophrenic fathers than in families of alcoholic fathers. However, these differences were no longer significant after controlling for differences between families in number of children.

In summary, children of alcoholic fathers have been consistently found to be at risk for a wide variety of emotional and behavioral difficulties. Findings have been more limited and equivocal when comparing the effects of paternal alcoholism and maternal alcoholism and when comparing the effects of alcoholic fathers with other psychiatrically disturbed fathers.

Paternal Depression

Depression is perhaps the most extensively researched form of parental psychopathology as a source of risk for child maladjustment. Given the substantially higher rate of depression in adult women than in adult men, it is not surprising that the vast majority of this research has examined the functioning of children of depressed mothers. In fact, in several recent reviews of studies of children of depressed parents, no mention is made of depression in fathers (e.g., Beardslee, 1986; Beardslee, Bemporad, Keller, & Klerman, 1983; Cytryn, McKnew, Zahn-Waxler, & Gershon, 1986; Orvaschel, Weissman, & Kidd, 1980; Weintraub, Winters, & Neale, 1986). However, findings from a number of recent studies indicate that failure to consider the impact of paternal depression represents an important omission.

At least 11 recent studies have examined the functioning of children of depressed fathers (Atkinson & Rickel, 1984; Beardslee, Schultz, & Selman, 1987; Billings & Moos, 1983, 1985; El-Guebaly et al., 1978; Jacob & Leonard, 1986; D. N. Klein, Clark, Dansky, & Margolis, 1988; D. N. Klein, Depue, & Slater, 1985; Orvaschel, Walsh-Allis, & Ye, 1988; Radke-Yarrow, Cummings, Kuczynski, & Chapman, 1985; Zahn-Waxler, Cummings, McKnew, & Radke-Yarrow, 1984). In 8 of these studies, children of depressed fathers were found to be at increased risk for behavioral and psychological maladjustment when compared with control children (Atkinson & Rickel, 1984; Beardslee et al., 1987; Billings & Moos, 1983, 1985; El-Guebaly et al., 1978; Ja-

cob & Leonard, 1986; D. N. Klein et al., 1988; Orvaschel et al., 1988). For example, Jacob and Leonard found that children of depressed fathers (and children of alcoholic fathers) were rated by their parents as higher in behavior problems than children of control fathers. These authors also noted that there was considerable heterogeneity among the children with alcoholic and depressed fathers, with only a minority of these children exceeding the clinical cutoffs suggested by Achenbach and Edelbrock (1983) for the CBCL. Orvaschel et al. (1988) used structured clinical interviews to assess psychopathology in children of parents with recurrent major depression and found that children of depressed fathers (and mothers) had higher rates of psychopathology than children of nondepressed control parents. Data reported by Billings and Moos (1983, 1985) are particularly important because they provide the only follow-up data on children of depressed fathers. Both at the initial assessment (Billings & Moos, 1983) and at a 1-year follow-up (Billings & Moos, 1985), children of depressed parents, including depressed fathers, were found to be rated as more impaired than controls.

Samples of depressed fathers are most often included in studies along with samples of depressed mothers, and the majority of these studies have failed to find any differences in children's risk for maladjustment as a function of which parent is identified as depressed (Atkinson & Rickel, 1984; Beardslee et al., 1987; Billings & Moos, 1983, 1985; D. N. Klein et al., 1988; Orvaschel et al., 1988). For example, Orvaschel et al. (1988) examined the rates of psychopathology in children of 8 fathers and 26 mothers diagnosed for major depression. They found that the rates of psychopathology in children of depressed parents were consistently higher when compared with control children, but the association between sex of the diagnosed parent and children's diagnostic status was not significant. Children of depressed parents in this study were found to have higher rates of diagnoses of not only affective disorders but also attention-deficit disorder (ADD) and anxiety disorders. Similarly, Billings and Moos (1983) reported on parents' ratings of the functioning of their children in a sample of 90 depressed mothers, 43 depressed fathers, and 135 controls. They found that the gender of the depressed parent was not related to children's functioning, with children of depressed parents being rated as having more physical, emotional, behavioral, school, and peer problems than control children. These findings held up at a subsequent follow-up with this sample (Billings & Moos, 1985). Finally, the earlier study by El-Guebaly et al. (1978) reported evidence indicating that children of depressed fathers were rated by their parents as having more behavior problems than were children of depressed mothers. However, this difference was no longer significant after the investigators controlled for differences in family size between the two samples.

Two studies by D. N. Klein and colleagues suggest that the effects of unipolar and bipolar depression may differ for fathers and mothers. D. N. Klein et al. (1988) compared children of 5 fathers and 19 mothers with unipolar depression, 8 fathers and 11 mothers with medical illnesses, and 18 controls. The rate of dysthymia was greater in the offspring of depressed parents than in controls but was not related to the sex of the depressed parent. In contrast, D. N. Klein et al. (1985) examined the adolescent children of 11 fathers and 13 mothers diagnosed with

bipolar depression. They found that a significantly greater number of children of bipolar mothers received a psychiatric diagnosis (69%) than did children of bipolar fathers (27%).

In summary, although samples of depressed fathers have been small, the findings of recent studies indicate that children of depressed fathers are at increased risk for a variety of emotional and behavioral problems. Furthermore, at least with regard to unipolar depression in parents, children of depressed fathers appear to exhibit a similar level of problems as children of depressed mothers.

Paternal Anxiety Disorders

As indicated by findings from the Epidemiological Catchment Area (ECA) study, anxiety disorders may be the most frequent psychiatric disorder among adults (Regier et al., 1984). Although rates of all types of anxiety disorders are higher among women than among men, data from the ECA study and other surveys of adult samples indicate that some forms of anxiety have surprisingly high rates of prevalence among adult men (Barlow, 1988). For example, estimates of prevalence rates of simple phobias in men range from 2.3% to 7.3% of men, and social phobia is estimated at approximately 1.7% in men. These high rates of anxiety disorders among men make it especially important to examine the relation between anxiety disorders in fathers and the adjustment of their children.

In light of these statistics, it is distressing that we were able to identify only one study of the functioning of children whose fathers have anxiety disorders (reported in Weissman, Gershon, et al., 1984; Weissman, Leckman, Merikangas, Gammon, & Prusoff, 1984). Furthermore, this study was designed to examine the functioning of children whose parents were diagnosed for depression in a sample of 60 probands (43% fathers, 57% mothers), and the effects of parental anxiety were only studied when anxiety disorders were present in addition to parental depression. The presence of an anxiety disorder (agoraphobia, panic disorder, generalized anxiety disorder) in a parent increased the risk for disorder in children when compared with children of normal control parents and children whose parents were diagnosed with only depression. There were no differences in the rates of psychiatric disorders in children when examined as a function of gender of the diagnosed parent. However, the authors urge caution in interpreting this failure to find a difference as a function of sex of parent because of the small samples of children in some of the groups.

The high base rates of the prevalence of some forms of anxiety disorders in men, combined with the virtual absence of data on the functioning of children of fathers with anxiety disorders, make this an area of high priority for future research.

Paternal Schizophrenia

Similar to research on parental depression, studies of the adjustment and development of children of schizophrenic parents have focused predominantly on children whose mothers have been diagnosed with the disorder. The absence of investigations of children of schizophrenic fathers may be the result of two factors. First, many of the children in these studies have mothers who were schizophrenic and unmarried, and typically

little or no information is available to researchers on the psychiatric status of the biological father (Walker & Emory, 1983). Second, schizophrenic men are said to be unlikely to marry and have children and therefore are considered atypical and are not often available for study (Watt, 1986).

Note that several ongoing longitudinal projects concerned with children at risk for schizophrenia have included samples of offspring of both fathers and mothers who were diagnosed as schizophrenic (see Watt, 1986; and Watt, Anthony, Wynne, & Rolf, 1984, for reviews of these studies). For example, the St. Louis High-Risk Research Project (Worland, Janes, Anthony, McGinnis, & Cass, 1984), the New York High-Risk Project (Erlenmeyer-Kimling et al., 1984), and the Stony Brook High-Risk Project (Weintraub & Neale, 1984) all included both schizophrenic fathers and mothers in the selection of their original samples. Unfortunately, most of the reports of analyses of the data from these comprehensive studies have not included parental gender as an independent variable.

The few reports of analyses that distinguish schizophrenic fathers and mothers have produced mixed results regarding the development, adjustment, and presence of psychopathology in their children. Silverton, Mednick, Schulsinger, Parnas, and Harrington (1988) studied the relation between low birth weight and cerebral ventricular enlargement in individuals whose mother was schizophrenic, some of whom had fathers who were also schizophrenic and some of whom had fathers who did not receive this diagnosis. They found that the association between birth weight and ventricular enlargement was greater in those individuals whose father was schizophrenic and interpreted this as an indicator of increased genetic risk for the disorder when the father was also schizophrenic. In contrast, Itil, Huque, Shapiro, Mednick, and Schulsinger (1983) compared the electroencephalogram (EEG) functioning of 21 children of schizophrenic fathers, 43 children with schizophrenic mothers, 7 children whose father and mother were schizophrenic, and 71 children whose parents had no psychiatric diagnosis. Children of schizophrenic fathers differed from controls on only 4 of 22 EEG measures, whereas children of schizophrenic mothers differed from controls on 13 of 22 measures. Furthermore, children of schizophrenic fathers were found to differ from children of schizophrenic mothers on 11 of these measures. The authors concluded that "it appears that schizophrenic mothers have a more dominating effect on the brain function of their offspring than do schizophrenic fathers" (Itil et al., 1983, p. 74).

With regard to children's social and psychological functioning, an early study described above (El-Guebaly et al., 1978) compared the functioning of children whose father as opposed to mother was diagnosed as schizophrenic. They found that children of schizophrenic fathers were rated by their parents as having more behavioral and emotional problems than were children of schizophrenic mothers. However, these effects were no longer significant after controlling for differences in family size. In analyses of data from the New York High-Risk Project, Erlenmeyer-Kimling et al. (1984) reported on the adjustment of 23 children of schizophrenic fathers, 44 children of schizophrenic fathers, 13 children with two schizophrenic parents, 25 children of psychiatric control parents, and 100 children of parents who received no psychiatric diagnosis. Specifically, they

examined the proportion of each group who had been hospitalized or received treatment for psychological problems. With regard to children of schizophrenic parents, 3 of 23 (13%) of schizophrenic fathers, 10 of 44 (22.7%) of schizophrenic mothers, and 3 of 13 (23%) of two schizophrenic parents had been hospitalized or received treatment. Although the authors did not report any statistical analyses of these data, we conducted a chi-square analysis, and this failed to reveal a significant difference as a function of gender of the diagnosed parent. Weintraub and Neale (1984) reported that schizophrenic fathers were perceived more negatively (i.e., unaccepting and uninvolved) by their children than were fathers who received no psychiatric diagnosis. In contrast, schizophrenic mothers were perceived by their children as more involved, more child-centered, and more lax in discipline than were nondiagnosed mothers. Finally, findings from the University of Rochester Child and Family Study provided information on the interactions of schizophrenic fathers and mothers as well as their spouse with their children in a free-play situation (Baldwin, Baldwin, Cole, & Kokes, 1984). Fathers were more active than mothers with their children regardless of their status as patient or spouse, and nonschizophrenic spouses were more active than patients with their children regardless of their gender.

In summary, the literature to this point on the degree of risk for children of schizophrenic fathers is unclear. These children may be at increased risk for neurological, psychological, and behavioral difficulties. However, in at least some areas of functioning, children of schizophrenic fathers may be less impaired than are children of schizophrenic mothers. Several ongoing longitudinal studies of children of schizophrenic mothers and fathers may shed more light on these issues.

Fathers Who Physically and Sexually Abuse Their Children

The literature on fathers who are identified for abuse of their children encompasses sexual, physical, and emotional abuse. Research into these various types of abuse has taken very different forms. Because most intrafamilial sexual abuse of children is perpetrated by fathers, this literature has concentrated primarily on this population. In contrast, studies of physical and emotional abuse have involved mothers almost exclusively (Wolfe, 1985).

In a review of the literature on childhood sexual abuse, Browne and Finkelhor (1986) concluded that in those studies in which the relationship of the victim and the perpetrator was examined, there was evidence of greater psychological trauma in victims from experiences involving fathers or father figures compared with all other types of perpetrators. However, at the time of their review this evidence was based on only two studies that found more severe maladjustment in children victimized by their father (Finkelhor, 1979; Russell, 1987), one study that found a greater effect for sexual abuse by step-fathers but not biological fathers (Tufts' New England Medical Center, Division of Child Psychiatry, 1984), and one study that found small but nonsignificant differences in victims' maladjustment as a result of being abused by their father.

Since this review, several more recent studies have found increasing evidence for greater levels of psychological maladjust-

ment associated with sexual abuse by fathers or father figures as opposed to other perpetrators (Harter, Alexander, & Neimeyer, 1988; Scott & Stone, 1986; Sirles, Smith, & Kusama, 1989). Scott and Stone (1986) compared adolescents who had been victims of father-daughter incest with a control sample with no history of sexual abuse and found that incest victims were more elevated than controls on all clinical scales of the Minnesota Multiphasic Personality Inventory (MMPI), and these victims were in the clinical range on the Validity (*F*), Psychasthenia, and Schizophrenia Scales. In a comparison of 29 college women with a history of sexual abuse by a family member and 59 controls, Harter et al. (1988) found that abuse in general was not related to victims' maladjustment after controlling for a set of family and social cognitive variables. However, abuse by a paternal figure was related to poorer adjustment even after accounting for these other factors. Sirles et al. (1989) examined the initial psychiatric profiles of a sample of sexually abused children who were evaluated at an outpatient child psychiatry clinic. Children abused by a paternal figure were significantly more likely to receive a psychiatric diagnosis (45% of those abused by their biological father and 44% of those abused by their stepfather) than children who had been abused by another relative (25.7%). In summary, these more recent studies underscore the adverse outcomes associated with childhood sexual abuse and underscore the increased risk when this abuse has been perpetrated by the biological father or other father figure.

The picture with regard to the effects of physical abuse by fathers is much less clear. In a previous review of this literature, Wolfe (1985) reported that studies to that point in time had been based almost entirely on samples of mothers only. Although the majority of research with parents of physically abused children has continued to involve primarily mothers, some recent studies have investigated paternal correlates of child physical abuse. For example, Garbarino, Sebes, and Schellenbach (1984) found that families at high risk for physical abuse were more chaotic and enmeshed, with low paternal supportive behavior and high maternal punitiveness. Rogeness, Amrunga, Macedo, Harris, and Fisher (1986) also found higher rates of psychopathology in parents, especially fathers, of physically abused and neglected children. More specifically, they found mothers of neglected children had higher rates of psychiatric disturbance, but not alcoholism or antisocial personalities, than mothers of children who were not abused or neglected. Fathers of abused or neglected children had higher rates of psychiatric disturbance and antisocial personality than fathers of nonabused or neglected children. Additionally, fathers of abused or neglected boys, but not girls, were found to have significantly higher rates of alcoholism (Rogeness et al., 1986).

Mothers and fathers who have physically abused their children were also found to report more psychological symptoms than mothers and fathers of nonabused children (Reid, Kavanagh, & Baldwin, 1987). Mothers of abused children reported higher rates than controls on all self-reported psychological symptoms that were measured (disposition, hostile-withdrawn, aggression, intellectual inefficiency, and conduct problems), but fathers of abused children self-reported higher rates of only conduct problems compared with fathers of nonabused children. Mothers and fathers of abused children also reported

significantly more child conduct problems than controls; however, independent observations showed few differences in child, maternal, or paternal behavior between the two groups (Reid et al., 1987).

Taken together, these studies suggest the importance of including both mothers and fathers, as well as observers, in the investigation of parental correlates to child physical abuse, because different patterns of results have been found with the use of different informants.

Paternal Physical Illness

The presence of a chronic or acute illness in fathers may have an impact on the psychological adjustment of their children. However, this possibility has not been examined to any great extent in the literature. We identified only one study that directly examined the psychological adjustment of children whose father was physically ill. Rickard (1988) assessed the level of behavior problems in children of fathers with chronic low-back pain (CLBP), children of diabetic fathers, and children of fathers with no identifiable physical illness. Children of fathers with CLBP were higher than children in either of the comparison groups on teacher-reported and self-reported behavioral and emotional problems, including externalizing behavior problems, physical complaints, crying/whining, avoidance, dependency, greater external health locus of control, days absent from school, and visits to the school nurse.

A second study examined parent-child interactions in families of fathers with hypertension (Baer, 1983). Families with hypertensive fathers showed higher rates of negative nonverbal behaviors in laboratory interactions than control families. These differences were not accounted for by fathers' behavior but rather were attributable to differences in the actions of mothers and children in these families. When the authors examined a specific nonverbal behavior, gaze aversion, during family interactions, they found that mothers—but not fathers or children—in families with hypertensive fathers showed higher rates of gaze aversion before and after but not during negative and critical remarks by the father.

These studies suggest the need for more research on the possible effects of paternal physical illness on children. Furthermore, they suggest that the mechanisms by which paternal illness might affect children may be rooted in complex forms of family interactions, especially when associated with chronic illness.

Summary

As summarized in Table 2, children whose father has been referred for psychological treatment or has received a psychiatric diagnosis are at increased risk for a variety of different types of psychopathology as compared with children whose father has not been referred or diagnosed. In many cases, the level of maladjustment is similar in children whether their father or mother has received a diagnosis or been referred for treatment.

Studies of Nonreferred Samples of Fathers and Children

A third methodology has involved studies of indicators of maladjustment and psychopathology in children in samples in

Table 2
*Findings From Studies of Paternal Factors in Child and Adolescent Psychopathology:
 Studies of Referred/Diagnosed Fathers*

Problem type	Referred fathers
Antisocial personality disorder (APD)	No studies comparing APD fathers to controls, mothers, or other diagnostic groups
Alcohol/substance abuse	Children of alcoholic fathers more disturbed than children of control fathers (7 studies) No differences between children of alcoholic fathers and mothers (4 studies) No differences between children of alcoholic fathers and children of fathers with other disorders (2 studies)
Depression	Children of depressed fathers more disturbed than controls (8 studies); no differences from controls (3 studies) No differences between children of depressed fathers and children of depressed mothers (6 studies) No differences from other disorders (1 study)
Anxiety disorders	No differences between children of anxious/depressed fathers and children of controls (1 study) No differences between children of anxious/depressed fathers and children of anxious/depressed mothers (1 study)
Schizophrenia	No studies with other diagnostic groups Children of schizophrenic fathers more disturbed than children of controls (2 studies) No difference between children of schizophrenic fathers and children of schizophrenic mothers (2 studies); children of schizophrenic mothers more disturbed than children of schizophrenic fathers (1 study)
Physical and sexual abuse	No studies with other diagnostic groups Children sexually abused by fathers more disturbed than children abused by nonfathers (3 studies) Children physically abused by fathers or mothers more disturbed than controls (2 studies)
Physical illness	No studies with other diagnostic groups Children of physically ill fathers more disturbed than controls (3 studies); no differences from controls (2 studies) No other studies

which neither the father nor the child has been diagnosed or referred for clinical services. The majority of these studies are correlational, examining the degree of association between an index of psychological symptoms in the father and a comparable measure for the child.

Delinquency

Several delinquent-type behaviors in children and adolescents have been investigated in relation to parental characteristics, and similar patterns tend to emerge for fathers and mothers. For example, rejection by father or by mother was associated with lying in a sample of fourth- and seventh-grade boys (Stouthamer-Loeber & Loeber, 1986), and low levels of paternal and maternal acceptance were associated with boys' fighting in both school and home (Loeber & Dishion, 1984). Decreased perceptions of love by their father and mother and increased amounts of anger toward their father and mother were associated with increased levels of self-reported delinquency in a sample of male and female adolescents (R. E. Johnson, 1987), and both fathers' and mothers' support for aggres-

sion was associated with self-reported aggressive delinquency in male and female adolescents (Neapolitan, 1981). Additionally, in a study that only investigated fathers and sons, boys who share their future plans, thoughts, and feelings with their father were less likely to exhibit violent behavior (Brownfield, 1987). Overall, paternal and maternal correlates of delinquent behavior are similar and quite evident in nonreferred samples.

Alcohol and Substance Use

Several studies with nonreferred samples of adolescents have found an association between paternal characteristics and the use of alcohol and marijuana by their offspring. Forney et al. (1984), in a study of alcohol use by sixth and eighth graders, found that children who were heavy drinkers tended to have fathers who were heavy drinkers. Barnes and colleagues (Barnes, 1984; Barnes, Farrell, & Cairns, 1986) did not find a significant relation between paternal alcohol use and drinking by adolescents, but they did find an association between paternal socialization practices and child alcohol use. Specifically, adolescents who drank more heavily had fathers who were rated

as low in providing support and nurturance to their children. Lack of support and nurturance from mothers was also found to be positively related to adolescent alcohol use in both of these studies (Barnes, 1984; Barnes et al., 1986).

A series of papers by J. S. Brook and colleagues have reported on the association between paternal characteristics and marijuana use in a sample of college men and women (Brook, Whiteman, Brook, & Gordon, 1982; Brook, Whiteman, Gordon, & Brook, 1983, 1984a, 1984b, 1986). Participants in this study were 403 female and 246 male college students and their fathers. A very similar picture was obtained of the role of paternal factors in marijuana use by both sons and daughters. Fathers' personality characteristics and child-rearing practices were directly and indirectly related to their sons' and daughters' marijuana use, with the nature of the effects depending on which other predictor variables were included in the analyses. For example, fathers' personality and child-rearing practices were directly related to their sons' marijuana use even after controlling for characteristics of the mother-son relationship (Brook et al., 1983), but these paternal characteristics interacted with sons' peer relationships in predicting marijuana use (Brook et al., 1982). A similar pattern of findings was found in analyses of father-daughter effects (Brook et al., 1984b, 1986).

These studies indicate that the relations between paternal characteristics and child behaviors, alcohol use, and drug use found in studies of referred samples of fathers and children (reported above) are also evident in samples of nonreferred fathers and children. Thus, paternal factors are important in understanding children's alcohol and drug use even in the absence of clinically significant levels of substance abuse.

Nonspecific Behavior Problems

A wide variety of paternal and maternal characteristics have been investigated in relation to children's emotional/behavioral problems in nonreferred samples. Four areas will be summarized in this section: parental behavior and child sociometric status, parental behavior and child adjustment, parental psychological symptoms and child emotional/behavioral problems, and marital conflict and child adjustment.

In analyses of children's sociometric status, fathers of neglected boys engaged in less affectively arousing physical play than fathers of rejected and popular boys, and mothers of rejected boys were more directive than mothers of neglected or popular boys (MacDonald, 1987). Additionally, fathers and mothers of unpopular and moderately popular children used fewer explanations to aid their children than fathers and mothers of popular children (Roopnarine & Adams, 1987), and fathers and mothers of rejected or isolated children reported more patriarchal child-rearing attitudes, had lower self-confidence, and used praise more infrequently than fathers and mothers of amiable or popular children (Peery, Jensen, & Adams, 1985).

With regard to parental behavior and child adjustment, fathers' but not mothers' perceptions of their child were related to teachers' and peers' reports of psychosocial adjustment (Stollak et al., 1982), but fathers' and mothers' problem solving skills were not related to their children's emotional/behavioral problems (Kendall & Fischler, 1984). Fathers' but not mothers' par-

enting behavior was associated with children's temperament, where paternal involvement, reasoning guidance, limit setting, responsiveness, and intimacy were associated with children's increased behavioral adaptability and decreased emotional intensity (Nelson & Simmerer, 1984).

Paternal and maternal psychological symptoms have been investigated in a variety of nonreferred samples where both fathers' and mothers' symptoms were generally associated with their children's symptoms. For example, both fathers' and mothers' self-reported psychological symptoms were associated with their children's emotional/behavioral problems (e.g., Jensen, Traylor, Xenakis, & Davis, 1988; Phares, Compas, & Howell, 1989). However, Forehand, Long, Brody, and Fauber (1986) found that mothers' but not fathers' self-reported depressive symptoms were related to children's CD problems, although both fathers' and mothers' levels of conflict with their children were related to children's CD problems. Additionally, in a community-based sample in Puerto Rico, maternal psychiatric history but not paternal psychiatric history was associated with a child having a *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1980) diagnosis and impairment in adaptive functioning (Bird, Gould, Yager, Staghezza, & Canino, 1989). When controlling for socioeconomic status and the other parent's psychiatric history, paternal psychiatric history was related to children's diagnoses of overanxious disorder, and maternal psychiatric history was related to children's diagnoses of oppositional disorder and major depression (Velez, Johnson, & Cohen, 1989). Overall, these studies suggest that both fathers' and mothers' psychological symptoms are risk factors for children's problems in adjustment.

Fathers' and mothers' reports of interparental conflict and poor marital quality have been associated with a number of adverse effects on children, including increased behavior problems (M. M. Klein & Shulman, 1980) and poor cognitive and social functioning (Wierson, Forehand, & McCombs, 1988). Father-child and mother-child teaching interactions were also influenced by poor marital quality but in opposite directions: Fathers in distressed marriages used ineffective teaching practices, whereas mothers in distressed marriages used effective and involved teaching practices (Brody, Pillegrini, & Sigel, 1986). In both good and poor marriages, poor father-child relationships and poor mother-child relationships were associated with children's increased psychological symptoms (Jenkins & Smith, 1990). These authors argued that good father-child and mother-child relationships can serve as protective factors against the deleterious effects of interparental conflict (Jenkins & Smith, 1990).

Depression

Seven recent studies have examined the relation between paternal factors and symptoms of depression in nonreferred children. Father characteristics were related to their children's depressive symptoms in five of the seven studies. Three of the studies were cross-sectional in design and examined depressive symptoms (Forehand & Smith, 1986), suicidal thoughts (Wright, 1985), and self-criticism and dependency as sources of vulnerability to depression (McCranie & Bass, 1984). Forehand

and Smith (1986) found that adolescent daughters' reports of depressive symptoms on the Children's Depression Inventory were related to fathers' reports of depressive symptoms on the Beck Depression Inventory (BDI) but not to mothers' BDI scores. Wright (1985) examined the incidence of suicidal ideation in high school seniors and college students and found that fathers' problems with alcohol and a poor relationship with the father distinguished those with and without suicidal thoughts in the high school sample, whereas a poor relationship with the father distinguished the groups in the college sample. No maternal variables distinguished the groups in either sample. McCranie and Bass (1984) studied the relation between retrospective reports of parental behavior in childhood and current levels of dependency and self-criticism in a sample of young women. Self-criticism was correlated with reports of fathers' use of strict control, inconsistency of love, and achievement control; none of the father variables were related to dependency. Reports of mothers' parenting behaviors were correlated with both self-criticism and dependency.

Two longitudinal studies found a relation between paternal characteristics and their children's depressive symptoms. Lefkowitz and Tesiny (1984) found that fathers' rejection of the children at age 8 was a significant predictor of their children's depressive symptoms at age 19. This relation held even after controlling for characteristics of the mother-child relationship. Unfortunately, in two additional cross-sectional studies reported in this article, the authors obtained data concerning mothers but not fathers. Richman and Flaherty (1987) examined reports of depressive symptoms and recollections of parental behavior during childhood in a sample of 1st-year medical students. Data were collected at the beginning and end of the academic year to allow for prospective analyses of the data. Reports of low levels of paternal affection and paternal overprotection were related to depressive symptoms at follow-up after controlling for initial levels of depressive symptoms; only overprotection by the mother was a significant predictor.

Two studies failed to find an association between paternal factors and children's depression. Seligman et al. (1984) did not find a relation between fathers' depressive symptoms or attributional style and children's depressive symptoms. Both depressive symptoms and attributional style of mothers were related to children's depressive symptoms. Kashani, Burbach, and Rosenberg (1988) failed to find an association between fathers' methods of conflict resolution in the family and depressive symptoms in their adolescent children. In contrast, both adolescents' and their mother's methods of conflict resolution were related to adolescents' depressive symptoms.

In summary, there is relatively strong support for the link between paternal factors and child depressive symptoms in nonreferred samples. This is in contrast to the lack of association between paternal factors and the level of depression in clinically referred depressed children reported above.

Paternal Unemployment

The acute and chronic stressful experiences associated with paternal economic loss and unemployment have received sufficient attention in the literature that they warrant a separate comment here. In an excellent recent review of this area of

research, McLoyd (1989) reported that significant effects of paternal job and economic loss on children have been found in numerous studies. However, rather than indicating a direct effect of paternal unemployment on children's adjustment, the evidence supports an indirect model in which paternal economic loss leads to greater negativity and pessimism in the father, which in turn leads to deterioration in the father-child relationship, which results in children's sociemotional problems, somatic symptoms, and reduced personal expectations and aspirations.

McLoyd (1989) identified several moderating variables that affect the relation between paternal economic loss and child maladjustment, including the child's gender, temperament, relationship with the mother, degree of contact with the father, and the child's attractiveness as rated by the father. For example, in their analyses of data on fathers and their children during the Great Depression, Elder, Nguyen, and Caspi (1985) found that adolescent girls' behavior was strongly adversely influenced by the fathers' rejecting behavior but that no such effect was found for adolescent boys.

Paternal Stressful Events

Although personally experienced stressful life events have been shown to be related to psychological maladjustment in numerous studies involving adults, adolescents, and children, considerably less research has examined the association between psychological maladjustment and stressful events experienced by others. Along this line, a few studies have investigated the association between fathers' stressful events and levels of maladjustment in their children and have provided moderate support for this relation. A strength of research in this area is that five of the six recent studies were longitudinal in design.

Two studies have examined fathers' reactions to and coping with specific stressful events. Handford et al. (1986) studied the reactions of 35 children and their parents to the Three Mile Island nuclear accident over a period of 1 1/2 years. Children's anxiety about the event was not directly related to fathers' or mothers' reactions but was related to the discrepancy between parents' reactions. That is, children reported higher anxiety in families in which fathers and mothers differed in their mood and reaction to the accident compared with families in which parents reacted similarly. Elizur (1986) examined the coping responses of parents of children who were experiencing difficulties in adjusting to the transition to elementary school. Improvements in children's adjustment over the first 2 years of school were related to fathers' coping behavior, efforts by the mothers to stimulate fathers' coping behavior, parental cooperation regarding coping behaviors, and supportive parental attitudes toward the child.

Four studies examined the association of a variety of unspecified major and minor stressful events in parents' life with levels of psychological adjustment in their children. Using prospective designs in which parent and child stress and psychological adjustment were assessed at two points in time, Cohen, Burt, and Bjork (1987) and Holahan and Moos (1987) reported some evidence that fathers' stress and their children's maladjustment were correlated cross-sectionally but no evidence that they were associated in prospective or longitudinal analyses.

In cross-sectional analyses (Compas, Howell, Phares, Williams, & Ledoux, 1989) and longitudinal analyses (Compas, Howell, Phares, Williams, & Giunta, 1989) with a sample of parents and their young adolescent children, it was hypothesized that the relation between parental stress and their children's emotional/behavioral problems would be mediated by the parents' psychological symptoms. Structural equation analyses with the cross-sectional data indicated that fathers' stressful events led to increases in their psychological symptoms and that fathers' (but not mothers') psychological symptoms were related to their children's self-reports of maladjustment (Compas, Howell, Phares, Williams, & Ledoux, 1989). In longitudinal analyses (Compas, Howell, Phares, Williams, & Giunta, 1989), fathers' symptoms were also associated with their children's self-reports of maladjustment at follow-up, but similar to the findings of Cohen et al. (1987) and Holahan and Moos (1987), fathers' symptoms did not predict their children's maladjustment in prospective or longitudinal analyses. When mothers' reports of their children's maladjustment were used as the criterion, fathers' psychological symptoms were not a significant predictor, but mothers' symptoms were significant in these analyses. Additional analyses of these data were conducted to determine the effect of including as opposed to excluding fathers from the analyses. Using children's self-reports of their maladjustment as the criterion, when fathers were excluded from the analyses, mothers' psychological symptoms were a significant predictor of their children's symptoms in cross-sectional analyses at the first point in time, although this effect was not replicated at follow-up. These additional analyses suggest that including as opposed to excluding fathers from studies such as this can change the picture that is obtained of the association between mothers' and children's psychological symptoms.

Summary

Consistent with studies of referred or diagnosed children and studies of referred or diagnosed fathers, studies with nonreferred samples of fathers and children indicate that there is a substantial association between paternal factors and child and adolescent maladjustment (see Table 3).

Discussion

We now return to the five questions that we outlined in the introduction to guide our interpretation of this literature.

1. Have fathers been included in studies of child and adolescent psychopathology? Evidence for the role of paternal factors in child and adolescent psychopathology has accumulated in spite of a strong tendency to include mothers but not fathers in recent investigations of developmental psychopathology. Specifically, of the studies reviewed between 1984 and 1991, 48% included only mothers, whereas only 1% included only fathers. Although it is encouraging that 26% of studies during this time period obtained and analyzed data separately for fathers and mothers, the bias toward studying mothers and therefore implicitly blaming mothers for problems in their children has continued unabated.

2. Is there evidence that fathers contribute to child and adoles-

cent psychopathology, and if so, do paternal factors represent necessary or sufficient conditions for child and adolescent dysfunction? It is clear from the studies described in this review that fathers play a significant and substantial role in the occurrence of psychopathology in their children. Findings from studies of children who have been referred for clinical services or who have received a psychiatric diagnosis, studies of fathers who have been referred for services or who have received a psychiatric diagnosis, and studies of nonreferred or nondiagnosed samples of fathers and children all lead to the same conclusion: Paternal behaviors, personality characteristics, and psychopathology are significant sources of risk for child and adolescent psychopathology.

The evidence for the contribution of paternal factors differed somewhat in studies of referred or diagnosed children, as opposed to studies of referred or diagnosed fathers or nonreferred samples. In studies of referred children, there were clear differences between fathers of children with externalizing problems (ADHD, CD, delinquent behaviors) and fathers of control children without identified clinical problems. However, the evidence was either weak or equivocal in comparisons of fathers of children with internalizing problems (depression, anxiety disorders) and fathers of children in control samples. On the basis of only studies of diagnosed or referred children, paternal factors apparently are more clearly implicated in children's externalizing than internalizing problems. However, the picture is different when one examines the studies of diagnosed or referred fathers and studies of nonreferred samples. Children of referred or diagnosed fathers were found to function more poorly than control children regardless of the type of problem identified in the father.

This pattern of findings indicates that child and adolescent psychopathology is the result of a variety of different factors, of which paternal characteristics are but one. When researchers identify a sample of referred or diagnosed children, the sample may be quite diverse with regard to the etiological factors that have contributed to maladjustment in these samples. Paternal factors may be implicated in the onset and maintenance of problems for some of these children and adolescents but not for others. On the other hand, when researchers have identified samples of fathers who are characterized by substantial levels of psychopathology, the majority of children of these fathers may be at risk for maladjustment. As such, paternal psychopathology may represent a sufficient condition for the development of maladjustment in children, but it may not be a necessary condition for child or adolescent psychopathology.

3. Are paternal effects limited to certain types of problems in children and adolescents? The answer appears to depend somewhat on the type of methodology used. The evidence from studies of clinically referred or diagnosed fathers and of nonreferred fathers and children indicates that paternal factors are related to symptoms of a wide range of both externalizing (e.g., ADHD, CD, delinquency) and internalizing (e.g., depression, anxiety) disorders in children. However, in studies that included samples of clinically referred or diagnosed children, paternal factors were more strongly implicated in child and adolescent externalizing than internalizing problems. Thus, the correlates of child and adolescent internalizing appear to be more heterogeneous than correlates of externalizing problems.

Table 3
Findings From Studies of Paternal Factors in Child and Adolescent Psychopathology: Studies of Nonreferred Fathers and Children

Problem type	Nonreferred fathers and children
Delinquency	Consistent correlations of paternal factors with delinquent behaviors in children (5 studies)
Alcohol/substance use	Consistent correlations between paternal factors and adolescent alcohol and substance use (5 studies)
Nonspecific behavior problems	Significant correlations between paternal factors and child adjustment, symptoms, and behavior (12 studies); no association between paternal factors and child adjustment or symptoms (3 studies)
Depression	Significant correlations between paternal factors and children's depressive symptoms (5 studies); no association between paternal factors and children's depressive symptoms (2 studies)
Paternal unemployment	See McLoyd (1989) for review of recent studies
Paternal stress	Consistent correlations between paternal stress or psychological symptoms and children's adjustment and symptoms (6 studies)

4. Are paternal effects limited to certain behaviors or disorders of fathers, especially those that are more prone to occur in men (e.g., alcohol abuse and antisocial personality)? We found no evidence that risk for child maladjustment was limited to any particular type of paternal psychopathology. It is not surprising to find that problems that have high rates of occurrence in adult men (e.g., alcoholism and antisocial personality) and problems that have similarly high rates of problems in boys (e.g., conduct disorder and delinquency) showed a strong father-child association. Surprisingly strong evidence was found for increased levels of maladjustment in children of fathers with problems more typically associated with adult women (and therefore with mothers). Most noteworthy was the evidence for the adverse effects of paternal unipolar depression on children. Other areas, such as paternal anxiety disorders, have received relatively little attention and are important topics for future research. Furthermore, we found no evidence of specificity in risk for particular disorders. For example, children of alcoholic fathers and children of depressed fathers have been found to have increased rates of a wide variety of internalizing and externalizing behavior problems. Similarly, children with a particular type of clinical problem cannot be distinguished by the presence of a specified problem in their fathers.

5. What mechanisms are responsible for any paternal effects that are found? Although it is clear that fathers do make a difference in child and adolescent maladjustment, the mechanisms for these effects have not been clearly identified. However, direct comparisons of different diagnostic groups of both fathers and of children have provided data that have been useful in two ways in this regard. First, comparative studies allow for the determination of the differential effects of various types of paternal disorders on child adjustment and of the role of paternal factors in different childhood disorders. Second, comparative data allow researchers to determine which effects are attributable to a specific disorder and which are associated with nonspecific effects of paternal psychopathology. For example, Jacob and colleagues have found that most effects of paternal alcoholism and paternal depression on child and adolescent

functioning are common to the two disorders (e.g., Jacob, Krahn, & Leonard, 1991). This indicates that the adverse effects associated with paternal alcoholism and depression are the result of characteristics and processes that are common to the families of both of these diagnostic groups.

The paucity of data on the mechanisms underlying paternal effects is perhaps not surprising in light of the relative absence of studies of fathers and child and adolescent maladjustment. By contrast, in spite of considerably more research on maternal factors in this area, the mechanisms underlying maternal contributions remain unclear as well (Downey & Coyne, 1990; Rutter, 1990). Downey and Coyne (1990) point out the importance of considering both proximal characteristics of the parent-child relationship as well as more distal features of the family environment and stressors impacting on the family when attempting to explain the processes through which parents contribute to child and adolescent maladjustment. Their reminder to consider "third variables" that may lead to both parental and child maladjustment will be important to consider in the identification of mechanisms for paternal effects.

Implications for Future Research

The studies we have reviewed strongly suggest an agenda for future research in the field of developmental psychopathology. Although studies to date provide a clear affirmative answer to the question of whether fathers make a significant contribution to the occurrence of psychopathology in their children, these investigations have not clarified the mechanisms through which these effects are exerted. It will not be sufficient to merely increase the amount of evidence that is accumulated concerning fathers and child psychopathology; there need to be substantial changes in the types of evidence that are gathered as well. We now discuss six broad issues that need to be addressed in future research. Throughout this discussion we draw on two exemplary research programs in this area as illustrations of the types of research that are needed. These are the research programs of Jacob and colleagues on children of alcoholic and

depressed fathers (e.g., Jacob et al., 1991; Jacob & Leonard, 1986; Jacob, Seilhamer, & Rushe, 1989) and Humphrey and associates on paternal characteristics associated with adolescent eating disorders (e.g., Humphrey, 1986, 1987, 1989; Humphrey et al., 1986).

Separate analyses of maternal and paternal factors. An essential first step in further clarifying the role of fathers in child and adolescent psychopathology is the acquisition of data that can be uniquely attributed to characteristics of fathers. Although this may seem to be a straightforward point, it is problematic that 25% of the studies reviewed between 1984 and 1991 obtained data concerning both fathers and mothers but aggregated the data in such a way that it was not possible to determine the separate contributions of fathers and mothers to child maladjustment. When data are aggregated in this way, we can consider only the effects of parental factors on child psychopathology without identifying the separate contributions of fathers and mothers, or the interaction of paternal and maternal variables. Along this line, in their investigations of eating disorders Humphrey and colleagues have used discriminant function analysis to distinguish maternal and paternal effects (Humphrey, 1986, 1987, 1989; Humphrey et al., 1986). Jacob et al. (1991) have conducted direct observation studies of depressed fathers and alcoholic fathers and their wives interacting with their adolescent children, both in dyad and triad patterns. These authors note that in the future their sample will include depressed and alcoholic mothers as well, allowing for direct comparisons of mothers and fathers matched for type of disorder (Jacob et al., 1991).

It is only by separating the data pertaining to fathers and mothers that we can discern when and under what circumstances paternal and maternal factors have similar or different effects on child psychopathology. Many of the studies we reviewed made direct comparisons of the effects of paternal and maternal factors. The findings were quite mixed, and no simple conclusions can be drawn from these comparisons at present except to say that in general, little evidence could be found distinguishing the contributions of fathers and mothers. However, this remains an important target of future research, as the degree of maternal and paternal differences may vary across different types of problems. For example, evidence suggests that unipolar and bipolar depression may have different effects on children when manifested by mothers as opposed to fathers (D. N. Klein, Clark, et al., 1988; D. N. Klein, Depue, & Slater, 1985). Furthermore, patterns of assortative mating associated with certain disorders may lead to substantial numbers of families in which there is evidence of significant psychopathology in both parents (e.g., Merikangas & Spiker, 1982). This highlights the need for careful analysis of the diagnostic status of both parents within families.

Variables that may moderate paternal effects. Although main effects of father characteristics on child maladjustment are certainly of interest, paternal factors more likely affect child psychopathology through interactions with other variables that serve as moderators of these associations. Although findings from prior studies have suggested a number of potential moderators of paternal effects, no clear and replicable evidence has accumulated to support conclusions regarding the role of any specific variables as yet. Several factors warrant systematic at-

ention in future research. First, the gender of the child will be important to consider and may be of greater consequence for some types of problems than for others. Jacob et al. (1991) report separate analyses of the interactions of sons and daughters with depressed and alcoholic fathers in laboratory conditions involving parental access to alcohol. Father-daughter interactions varied as a function of the consumption of alcohol by the father during the observation session, whereas father-son interactions did not. Humphrey and colleagues have not investigated gender differences in their studies of eating disorders, most likely because of the dramatically higher prevalence of these disorders in adolescent girls as compared with boys.

A second potential moderator variable is the developmental level of the child. Paternal personality characteristics, parenting practices, or the onset of paternal psychopathology may exert different effects on the child or adolescent as a function of the period of development in which the potential disruption occurs. For example, the onset or reoccurrence of severe symptoms of paternal alcoholism and associated disruptions in parenting and parent-child relationships may have very different implications when this occurs during infancy as opposed to early adolescence. Furthermore, exposure to problems associated with chronic alcoholism, depression, or other disorders over long periods of development may have a substantially different effect than exposure to paternal symptoms in an acute episode of disorder during a specific developmental period. Unfortunately, children's developmental level has not been systematically investigated.

Third, nonshared environmental factors may play an important role in determining which children within a family may be adversely affected by paternal factors. That is, it cannot be assumed that all children within a single family will experience the same environment—including their interactions with, perceptions of, and response to their father. The importance of understanding nonshared environmental factors has been shown in studies of a variety of different developmental processes in the field of behavioral genetics (e.g., Plomin & Daniels, 1987). These processes need to be studied in relation to paternal factors in developmental psychopathology. This requires that researchers study all children within a family, rather than the traditional design of randomly selecting one child within a family for study, and that they analyze within-family as well as between-families differences. Note that very few of the studies reviewed above obtained data concerning more than one child per family.

Nonshared experiences within the family may relate to other moderating factors, such as child gender. Research has shown that fathers treat boys and girls more differently than do mothers (Siegal, 1987). This suggests that paternal factors may contribute substantially to different experiences within the family for boys and girls. These effects may be magnified in families in which the father displays dysfunctional patterns of parenting.

Mechanisms through which paternal factors exert their influence. As noted above, now that associations between paternal factors and child psychopathology have been documented, it is essential for researchers to discern *how* characteristics of fathers exert their effects. Potential mechanisms of the transmission of father effects could include but are not limited to (a)

genetic effects and gene-environment interactions, (b) dyadic interactions between parent and child, including modeling and related social learning processes, (c) parenting practices and behaviors, including coaching and teaching and providing a guiding and nurturing social environment, (d) patterns of disrupted or dysfunctional family interactions, and (e) mutual or reciprocal processes of father-child and child-father effects (cf. Parke, MacDonald, Beitel, & Bhavnagri, 1988). For example, Humphrey and colleagues have included analyses of reciprocal processes of father-daughter, daughter-father, mother-daughter, and daughter-mother effects in their observations of adolescents with eating disorders and their parents (Humphrey, 1986, 1989; Humphrey et al., 1986).

The study of possible mechanisms through which paternal factors exert their influence on child psychopathology involves distinguishing mediating variables from the moderating factors described above. That is, mediating factors involve variables that could account for the association between paternal and child characteristics without altering this relation. In contrast, moderating factors are variables that statistically alter the association between paternal and child factors. The distinction between mediating and moderating factors will be important to retain in future research in this area (for more extended discussions of this distinction, see Baron & Kenny, 1986; Finney, Mitchell, Cronkite, & Moos, 1984).

Paternal and maternal protective factors. In the interest of understanding factors that contribute to child and adolescent psychopathology, research with fathers has concentrated on those variables that are associated with increased risk for child and adolescent maladjustment. However, it is equally important to understand those characteristics of fathers and aspects of the father-child relationship that could protect children from psychopathology. This approach requires the investigation of family processes of both risk and protection, including paternal factors that could protect children from the adverse effects of maternal psychopathology and maternal characteristics that could protect children from paternal psychopathology.

Explicit acknowledgement of conceptual models to guide future research. In the pursuit of understanding factors that may moderate paternal effects and the mechanisms through which paternal factors exert their effects, large and complex sets of variables quite likely will emerge as important in this research area. Therefore, it is imperative that future research be guided by clearly defined and conceptually sound models of parent-child relationships and family functioning. Without the conceptual clarity offered by sound theoretical models, investigations of paternal contributions to child and adolescent psychopathology are likely to offer little more than a hodgepodge of complex statistical findings.

At the most general level, models for studying parent-child relationships and interactions can be categorized as (a) noninteractive models, (b) unidirectional models, (c) dyadic models that include bidirectional processes, (d) dyadic models that include the impact of third parties, and (e) family network models (Sigel & Parke, 1987). More specifically, research can be guided by particular theories of the etiology of psychopathology. For example, in a review of research concerned with children of depressed mothers, Gelfand and Teti (1990) noted the influence of cognitive theories, coercive family process models, in-

teractional models of depression, social cognitive theories, mutual regulation models, and attachment theories. Research on paternal factors in developmental psychopathology has often lacked a specified model to guide the selection of measures and interpretation of findings. The field will benefit from more careful attention to the conceptual basis of future research.

The work of Humphrey and of Jacob are instructive in this regard. A strength of Humphrey's research has been the investigation of the structural analysis of social behavior model, a circumplex model of interpersonal dyadic relationships and their intrapsychic representations (Humphrey, 1986, 1987, 1989). Similarly, Jacob and colleagues have been explicit about the family systems model that provides the basis for their investigations of families of depressed and alcoholic fathers (Jacob et al., 1989).

Methodological problems. As we have noted throughout this review, four important methodological issues that need to be addressed in future research are (a) the use of different forms of measurement and informants to assess child and adolescent maladjustment, (b) the use of different methods of assessment and different criteria in the identification of paternal psychopathology and the identification of correlates of various paternal diagnoses, (c) the need for longitudinal as opposed to cross-sectional research designs, and (d) concerns regarding the representativeness of samples of fathers and children.

The importance of taking account of differences in reports on child and adolescent psychopathology obtained from different informants has been well documented (Achenbach, McConaughy, & Howell, 1987). However, differences in reports from parents, teachers, clinicians, and children have not been systematically dealt with by studies of paternal effects on child maladjustment. The use of fathers as sources of information on their own functioning as well as the adjustment of their children may be especially problematic, as both measures may be subject to similar sources of error and bias. This problem has been discussed extensively in regard to research on maternal factors in developmental psychopathology (e.g., Brody & Forehand, 1986; for review see Forehand, 1987), but the problem has not been addressed in studies of fathers. Fathers' psychological symptoms have been found to be associated with their reports of their children's maladjustment in the same manner as mothers' reports, which highlights the need to attend to this possible confound (Phares et al., 1989).

A similar concern needs to be addressed regarding the assessment and identification of paternal psychopathology. Most studies have relied on fathers' self-reports of symptoms or of clinical interviews, although other studies have also used mothers' reports on their husband's functioning. In addition to concerns about the source of information, there has also been variability in the criteria used to define the diagnostic status of fathers. Concerns about the use of diagnostic interviews as opposed to questionnaires and problems resulting from the use of differing diagnostic criteria have been outlined by Downey and Coyne (1990) in their review of studies of children of depressed mothers. The concerns that they describe should be taken to heart by researchers examining paternal psychopathology as well.

Virtually all of the research in this area has been cross-sectional and retrospective. As such, it has been aimed at describ-

ing the association between paternal and child characteristics but has not provided information on the predictive relations between these variables or on generating explanations for the relations that have been found. Prospective longitudinal data are needed to clarify the direction of influence (father to child, child to father, bidirectional) and the nature of these relations.

Finally, attention needs to be paid to the sample characteristics of those fathers, children, and families who are recruited to participate in research. Although no selective bias has been identified in fathers who consent to participate in psychological research versus those who decline participation, researchers need to remain vigilant in their attempts to discern possible biases not only in fathers but also in children and families who consent versus decline to participate in research. Attention to selection criteria for fathers and children should facilitate comparisons of fathers with different disorders and children with different disorders who are carefully matched on other variables to determine the specific and nonspecific effects associated with different forms of psychopathology.

Summary

Fathers continue to be dramatically underrepresented compared with mothers in research on developmental psychopathology. However, this review has shown that fathers play a significant role in the development of child and adolescent psychopathology. Specifically, paternal psychopathology appears to be a sufficient but not necessary condition for child and adolescent maladjustment. The role of paternal factors does not appear to be limited to any particular type of paternal or child disorder. Although previous studies have established the importance of fathers' contribution to child and adolescent maladjustment in general, an important agenda for future research is to generate data that will allow for more specific predictions of when and how fathers are involved in the development and maintenance of psychological disorders in their children.

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Received December 6, 1990

Revision received April 15, 1991

Accepted June 11, 1991 ■