

Family Discord, Parental Depression, and Psychopathology in Offspring: Ten-Year Follow-up

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ABSTRACT

Objective: To determine the independent effects of parental depression and family discord on psychopathology in offspring at high and low risk for major depression. **Method:** One hundred eighty-two offspring of depressed or nondepressed parents were followed over 10 years. In direct interviews, parents' and offspring's psychopathology was evaluated by raters blind to parents' clinical status. Five dimensions of family discord—poor marital adjustment, parent-child discord, low family cohesion, affectionless control, and parental divorce—were assessed. **Results:** Offspring exposed to either parental depression or family discord had higher rates of psychopathology than their counterparts. High-risk offspring had few family discord measures associated with their psychopathology; in low-risk offspring, family discord was associated with all offspring diagnoses. Between the two risk factors, parental depression proved a more important predictor for offspring major depressive disorder (MDD) and anxiety disorder, whereas family discord was a more important predictor for substance use disorder. **Conclusions:** Parental depression is a strong and consistent risk factor for offspring MDD and anxiety disorder. Without parental depression, offspring have less exposure to family discord and lower rates of psychopathology. In the presence of family discord, rates of MDD, anxiety disorder and substance use disorder increased. When offspring matured into young adulthood, effects of parental depression and family discord persisted. *J. Am. Acad. Child Adolesc. Psychiatry*, 2002, 41(4):402–409. **Key Words:** adolescents, depression, high risk, family discord, parental depression, 10-year follow-up.

There is considerable evidence that both parental depression and family environment increase the risk of psychopathology in offspring (Beardslee et al., 1993, 1998; Downey and Coyne, 1990; Fendrich et al., 1990; Hammen et al., 1990; Weissman et al., 1997). Whereas some studies have found that marital distress between parents explained general adjustment problems in their offspring (Beardslee et al., 1987; Keller et al., 1986) and that parental depression was a major risk for depression in their offspring (Fendrich et al., 1990; Hammen et al., 1987), oth-

ers have found that family environment measured by expressed emotion explained both depression (Mino et al., 2001) and behavioral problems in offspring (Baker et al., 2000). Because parental depression and family environment are highly related (Beardslee et al., 1993; Fendrich et al., 1990; Hammen et al., 1990), disentangling their independent effects is problematic. Moreover, it is unclear whether the effect is specific to childhood major depressive disorder (MDD) or to overall psychopathology.

In an attempt to determine the relative importance of parental depression and family discord on offspring psychopathology, we studied offspring at high and low risk for depression by virtue of parental major depression. At the 2-year follow-up, we found that family discord, as measured by parents' poor marital adjustment, parent-child discord, affectionless control, low family cohesion, and parental divorce, was more prevalent among the offspring of depressed parents compared with the offspring of nondepressed parents (Fendrich et al., 1990). The presence of family discord was associated with higher rates of MDD, conduct disorder, and any diagnosis in offspring.

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When offspring were stratified by parents' MDD, the presence of family discord was associated with higher rates of MDD and any diagnosis only among offspring of nondepressed parents. There was little association with these outcomes among offspring of depressed parents. Moreover, parental depression was more important than family discord as a predictor of MDD, anxiety disorders, and any diagnoses in offspring, whereas both parental depression and measures of family discord were important as predictors of conduct disorder. At the 2-year follow-up, the average age of offspring was 19 years, and they had not passed through the age of risk for MDD and other disorders, particularly substance abuse.

In this paper we will again investigate the relationship between parental depression, family discord, and offspring psychopathology in the same sample of offspring, who have now been followed over a 10-year period and are now an average age of 28 years. The purpose is to extend the initial findings by exploiting the longer period of follow-up, during which these offspring will have passed through a greater period of risk.

Specifically, we will address four questions: (1) Does parental MDD increase the risk of family discord? (2) Does parental depression or family discord increase the risk of psychopathology in offspring? (3) Does the effect of family discord on offspring psychopathology vary by parental major depression? and (4) What is the relative importance of parental depression and family discord for psychopathology in offspring?

METHOD

SAMPLE

Subjects were parents and their offspring who participated in a 10-year follow-up study of offspring at high and low risk for depression. An extensive description of the design and sample assessment has been published elsewhere (Weissman et al., 1982, 1986, 1987, 1997). The depressed parents (probands) originally were selected from a treatment setting at the Yale University Depression Research Unit. The normal control subjects came from a 1975 survey conducted in the same community and had no history of psychiatric illness as determined by at least four direct interviews. All parents were white and group-matched for age and sex. Offspring were initially selected for the presence/absence of a lifetime history of MDD in their parents, on the basis of Research Diagnostic Criteria. The complete sample of offspring consisted of 220 offspring from 91 families who were between the ages of 6 and 23 years at the time of the initial interview (time 1). Two years after the initial interview, all 91 families were contacted for a second interview (time 2). Eighty-five (93%) of the 91 families, with a total of 203 offspring, consented to participate at time 2. Of the 220 offspring, 182 (82.7%) were assessed 10 years later (time 10).

The previous report from this study (Fendrich et al., 1990) was based on a total of 220 offspring from 91 families (153 offspring from 65

families with one or more depressed parent and 67 offspring from 26 families with neither parent depressed). The data in this paper are based on 182 of the original 220 offspring, from a total of 83 families of the original 91 families (125 offspring from 61 families with one or more depressed parent and 57 offspring from 22 families with neither parent depressed). There was no differential response by any risk factor under examination between those who were reassessed at time 10 and those who were not: parental depression (odds ratio [OR] = 0.8, $p = .54$), poor marital adjustment (OR = 0.9, $p = .70$), parent-child discord (OR = 0.7, $p = .38$), low family cohesion (OR = 0.7, $p = .48$), affectionless control (OR = 1.1, $p = .87$), and parental divorce (OR = 0.83, $p = .63$).

PROCEDURES

Parents and offspring were independently interviewed with the Schedule for Affective Disorders and Schizophrenia-Lifetime version (Endicott and Spitzer, 1978), which was modified to include Research Diagnostic Criteria and *DSM-III* and *DSM-III-R* criteria (Mannuzza et al., 1986). Time 1 and 2 interviews assessed lifetime diagnoses, and time 10 covered a period of assessment from the last interview until the present. Interviewers were experienced mental health professionals with a master's or a Ph.D. degree, who received intensive training, monitoring, and interrater reliability testing (Weissman et al., 1997). Those who interviewed offspring were blind to parents' status and offspring's previous assessments. Diagnoses of offspring were based on the Best Estimate procedure by child and adolescent psychiatrists or psychologists (Leckman et al., 1982). A complete description of the Best Estimate procedure has been published elsewhere (Weissman et al., 1997). The diagnoses for the offspring in these analyses were cumulative across times 1, 2, and 10.

RISK FACTORS

There were two classes of risk factors in these analyses: parental depression and family discord.

Parental Depression

A binary index of depression in either parent was scored as a 1 for offspring if at least one parent was assessed as depressed. All other offspring in the sample received a score of 0.

Family Discord

Family discord included five assessments and is described below.

Poor Marital Adjustment. Levels of marital adjustment were measured by the Short Marital Adjustment Test (SMAT) (Locke and Wallace, 1959), which has been shown to discriminate well between distressed and nondistressed marriages. The validity of the measures as an index of discord was supported by high correlations between low scores on the SMAT and marital relations measured by the Social Adjustment Scale Self-Report (Weissman et al., 1981) concerning recent conflict with a spouse ($r = 0.80$ and $r = 0.65$, respectively, for mothers and fathers). Because a report of poor marital adjustment by at least one spouse indicates the presence of poor adjustment in the marriage, the lowest SMAT score available for a couple was used. Exposure score was divided into tertiles. Offspring with parents reporting scores at or below 93 in the lowest tertile were coded as being exposed to poor marital adjustment and were scored as 1. All others in the sample were scored as 0.

Parent-Child Discord. A binary index of parent-child discord was scored as 1 for offspring whose mothers reported the past existence of much arguing, fighting, or tension between either parent and at least one child in the family. All others in the sample were scored as zero.

Low Family Cohesion. A measure of family cohesion was derived from the Cohesion subscale of the Family Adaptability and Cohesion Evaluation Scale (Olson et al., 1979). It assessed a child's perception of family togetherness and the amount of recreational time family members spent with one another, as well as the independence and autonomy of family members. Research has shown that high scores on the Cohesion subscale are associated with healthy family functioning (Amith and Tamar, 1997; Kashani et al., 1995). Because low cohesion was considered as an index of family disintegration, offspring responding at or below the sample median of 12 were scored as 1; all others were scored as 0.

Affectionless Control. The child's report of parenting behavior was based on response to the Parental Bonding Instrument (PBI) (Parker et al., 1979). The PBI is a self-rating scale designed to measure perceived relationships and experiences with parents on the basis of children's memories of their parents during their first 16 years. The items were allocated into care and protection scores. The two dimensions were then combined to create an affectionless control scale (i.e., low caring or warmth and high protection). Using the previously established cut-off scores (Parker et al., 1979), children who gave their fathers a score below 24 on the care dimension and above 13.5 on the control dimension were counted as having a father with affectionless control. Similarly, children who gave their mothers a score below 27 on the care dimension and above 13.5 on the control dimension were counted as having a mother with affectionless control. A score of 1 was given to offspring on the affectionless control index if his or her report of either parent's behavior met the criteria for affectionless control. All other offspring with completed PBIs on either parent were given a score of 0.

Divorce. Offspring whose biological parents reported a divorce were counted as having been exposed to divorce and were scored as 1; all others were scored as 0.

STATISTICAL ANALYSES

First, to determine whether parental depression is associated with any of the individual measure of family discord, separate univariate analyses were conducted with χ^2 tests to test for associations between parental depression and each measure of family discord. Second, to determine whether parental depression or any of the individual factors measuring family discord increased the risk of offspring psychopathology at time 10, separate univariate analyses were conducted with χ^2 tests to test for association between parental depression or each measure of family discord and offspring psychopathology.

We then tested whether the effect of each measure of family discord on offspring psychopathology at time 10 was modified by parental depression. Stratified on parental depression, first, univariate analyses were conducted with overall χ^2 tests to examine the difference in diagnoses between offspring with or without each measure of family discord. In each stratum, rates of positive diagnoses for MDD, anxiety disorder, and substance use disorder were compared between offspring with and without each risk measure. For the univariate analysis, Breslow-Day χ^2 test of homogeneity was performed to determine whether the association between offspring disorder and the measure of family discord varied between the two strata. This was confirmed by multivariate analysis using logistic regression with an additional cross-product term between parental MDD and each measure of family discord in the model, representing the interaction between these two variables. The age and sex of the offspring and substance use in parents were included in the logistic regression model as potential confounders for statistical adjustment. To evaluate the magnitude of the risk for MDD, anxiety disorder and substance use disorder, an

odds ratio was obtained for offspring with each measure of family discord relative to those without it.

To assess the relative importance of the two risk factors on offspring psychopathology, a series of hierarchical logistic regression were performed. Assessment of the overall change in model fit (i.e., the change in the likelihood ratio statistic) with the addition of individual measures of family discord or parental depression status was made for each of 15 regression models.

In all multivariate analyses, the age and sex of the offspring and socioeconomic status of the parents were considered a priori to be potential confounders and were statistically controlled. When we looked at the effect of parental comorbid disorders, substance use disorder in parents had an association with MDD in parents and with substance use disorder in offspring. Therefore, it was added in our logistic regression as a potential confounder for substance use disorder in offspring. The age of the offspring was entered as a continuous variable, socioeconomic status was entered as a categorical variable, and sex and substance use in parents (at least one versus neither parent had substance use disorder) were entered as dummy variables.

More than one offspring from the same family was included in this study, and consequently the assumption of independence of observations that underlies the computation of standard errors and confidence intervals in the usual manner may be violated. Consequently, standard errors for rates of psychopathology in offspring were computed by using the Taylor series linearization method (Woodruff, 1971), and standard errors and confidence intervals for parameters estimated from the logistic analyses were computed by using the method of weighted maximum likelihood, adapted for survey and clustered data (Binder, 1983) through implicit Taylor series. All analyses adjusting for possible nonindependence of outcomes of family members were performed using the software package SUDAAN (Shah et al., 1996).

RESULTS

Family Discord in Offspring by Parental Depression Status

Of the 182 offspring, 96 were boys and 86 were girls. The mean age at time 10 was 27.7 years. There were no significant differences in the age and sex distribution of offspring and social class by parents' diagnostic status. Compared with offspring of nondepressed parents, offspring of depressed were more likely to be exposed to poor marital adjustment (OR = 13.1, $p = .004$), low family cohesion (OR = 2.2, $p = .03$), parental divorce (OR = 5.5, $p = .01$), and affectionless control (OR = 2.4, $p = .06$) (Table 1). There was no significant association between parental depression and increased risk of parent-child discord (OR = 1.5, $p = .47$).

Parental Depression, Family Discord, and Diagnoses in Offspring

There was an increased risk of diagnoses in offspring by presence of parental depression or assessments measuring family discord (not shown). MDD in offspring was increased by parental depression (OR = 4.2, $p = .0004$), parental

TABLE 1
Distribution of Measures of Family Discord in Offspring by Parental Depression Status

	Poor Marital Adjustment		Parent–Child Discord		Low Family Cohesion		Affectionless Control		Parental Divorce	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Parent depressed										
<i>n</i>	45	54	37	87	57	42	32	67	49	76
%	45.5	54.5	29.8	70.2	57.6	42.4	32.3	67.7	39.2	60.8
Parent nondepressed										
<i>n</i>	3	47	12	45	21	34	9	46	6	51
%	6.0	94.0	21.1	78.9	38.2	61.8	16.4	83.6	5	89.5
OR (95% CI)	13.1** (2.3–72.6)		1.6 (0.4–5.7)		2.2* (1.1–4.5)		2.4† (1.0–6.1)		5.5** (1.4–21.5)	

Note: OR = odds ratio; CI = confidence interval.

† $p \leq .10$; * $p \leq .05$; ** $p \leq .01$.

divorce (OR = 2.1, $p = .05$), and low family cohesion (OR = 2.0, $p = .05$). Anxiety disorder in offspring was increased by parental depression (OR = 4.7, $p = .0003$). Substance use disorder in offspring was increased by low family cohesion (OR = 3.4, $p = .006$) and affectionless control (OR = 2.5, $p = .02$). Although substance use disorder in offspring was not increased by parental MDD, it was increased by parental substance use disorder (OR = 1.9, $p = .06$).

When the effects of family discord on diagnoses in offspring were examined, stratified by parental depression, interesting differences emerged (Table 2). In the offspring of depressed parents, none of the measures of family discord were associated with offspring MDD, anxiety, or substance use disorders. The one exception was low family cohesion, which resulted in a nearly 4-fold increased risk of substance use disorder in offspring of depressed parents. In contrast, in the offspring of nondepressed parents, family discord was associated with diagnoses in offspring. In this group of low-risk offspring, parent–child discord resulted in more than a 4-fold increased risk, and affectionless control more than a 6-fold increased risk, for MDD in offspring. For anxiety disorder in offspring, poor marital adjustment brought about more than a 4-fold increase. For substance use disorder in offspring, low family cohesion resulted in more than a 3-fold increase, and affectionless control resulted in more than a 12-fold increase. These analyses were all controlled for potential confounders such as sex and age of offspring and socioeconomic status and substance use problem (for substance use disorder only) in parents. Formal tests of interaction were performed to determine whether the differences in association between affectionless control and MDD in offspring varied with parental depression while controlling for potential confounders and were found to be sta-

tistically significant ($p = .03$). The differences in association between affectionless control and substance use disorder in offspring by parental MDD status were found to be marginally significant ($p = .06$).

The analyses stratified by parental depression suggest that family discord was relatively more adverse for offspring of nondepressed parents compared with offspring of depressed parents, but they do not show the overall relative importance of family discord and parental depression for the development of offspring psychopathology. Table 3 addresses this through two sets of hierarchical logistic regressions. The first column of Table 3 lists coefficients that indicate the improvement in model fit (i.e., the change in the model log likelihood statistic) with the addition of parental depression. The coefficients in the second column indicate the change in model χ^2 with the addition of the individual measure of family discord. The increment in the model log likelihood statistic from the addition of a variable to a logistic model is distributed as a χ^2 with 1 *df*. The last four columns of the table indicate the odds ratios and standard errors of the log odds ratios generated from each of the main effects (parental depression and family discord), predicting each diagnostic outcome in offspring.

The addition of the parental depression variable improved the model, predicting MDD and anxiety disorder in offspring regardless of the family discord factor included in the model. All of the 10 χ^2 coefficients showed significance beyond the .001 level. None of the coefficients for models adding family discord, however, was statistically significant in predicting MDD and anxiety disorder in offspring. Thus, observed statistical significance in predicting MDD in offspring by parental divorce (OR = 2.1, $p = .05$) and low family cohesion (OR = 2.0, $p = .05$) with-

TABLE 2
Diagnoses (Lifetime Rates per 100) and Adjusted Odds Ratios for Children Exposed Versus Unexposed to Family Discord Factors by Parents' Diagnostic Status

Lifetime Diagnosis in Child	Poor Marital Adjustment		Parent-Child Discord		Low Family Cohesion		Affectionless Control		Parental Divorce	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Major depression	(n = 45) 42.2	(n = 54) 63.0	(n = 37) 48.6	(n = 87) 57.5	≥1 Parent Depressed (n = 57) 59.6	(n = 42) 47.6	(n = 32) 50.0	(n = 67) 56.7	(n = 49) 63.3	(n = 76) 50.0
Anxiety disorder	46.7	53.7	37.8	51.7	50.9	47.6	53.1	47.8	38.8	52.6
Substance use disorder	33.3	29.6	35.1	29.9	43.9	16.7	40.6	28.4	34.7	30.3
					3.6*				1.7	0.9
Major depression	(n = 3) 0	(n = 47) 23.4	(n = 12) 33.3	(n = 45) 22.2	Neither Parent Depressed (n = 21) 33.3	(n = 34) 20.6	(n = 9) 55.6	(n = 46) 19.6	(n = 6) 16.7	(n = 51) 25.5
Anxiety disorder	33.3	17.0	8.3	20.0	4.8	26.5	22.2	17.4	16.7	17.6
Substance use disorder	0	29.8	41.7	26.7	42.9	20.6*	66.7	21.4	33.3	29.4
					3.2*				12.4*	0.9

Note: Small numbers of offspring of families in which neither parent was depressed with factors measuring from discord. Odds ratios (OR) were adjusted for offspring's sex, age, and socioeconomic status (all psychopathology in offspring) and parents' substance use (substance use disorder in offspring).

^a Unable to estimate OR as no offspring who were exposed to poor marital adjustment developed major depressive disorder or substance use disorder in families in which neither parent was depressed.

* $p \leq .05$.

out the parental depression variable in the logistic regression model appears to be due to their association with parental depression. In contrast, in predicting substance use disorder in offspring, the coefficients for models adding parental depression were small and nonsignificant, whereas coefficients for low family cohesion ($\chi^2_1 = 6.60, p < .01$) and affectionless control ($\chi^2_1 = 6.65, p < .01$) added more compared with parental depression. Taken together, these findings suggest that parental depression is of greater importance than family discord for MDD as well as anxiety disorder in offspring, and dimensions of family discord are of greater importance than parental depression in predicting substance use disorder in offspring.

Finally, to determine whether the loss to follow up between time 2 and time 10 of 17% of the sample could affect the result, we reanalyzed Fendrich and colleagues' previous findings at time 2, restricting the sample to those offspring included in current analyses ($n = 182$). Our findings in 182 offspring were consistent with the initial findings in the sample of 220.

DISCUSSION

Our findings at the 10-year follow-up were consistent with findings at the 2-year follow-up (Fendrich et al., 1990). However, the magnitude of the association was even stronger at the 10-year follow-up. This might be due to the older age of the offspring at time 10 (mean age 28 versus 18 years) and the fact that sufficient time had elapsed to capture the full emergence of MDD and substance use disorder in offspring. These 10-year finding also suggest that the effects of both family discord and parental depression on offspring that begin in childhood and adolescence persist even into adulthood.

There also were some differences between the 2-year and 10-year findings. Conduct disorder and substance use disorder were assessed at the 2-year follow-up (time 2) and at the 10-year follow-up (time 10), respectively, as the majority of offspring were too young to have experienced substance abuse at time 2. We found that offspring with a conduct disorder at time 2 had an approximately 4-fold increased risk of having a substance use disorder by time 10 ($p < .0001$). However, not all of the offspring with a conduct disorder had substance use disorder. Among offspring with substance use disorder ($n = 125$) only 20% had substance use disorder. Although parental MDD predicted an

TABLE 3
Models Assessing the Relative Importance of Family Discord Factors and Parental Psychopathology

Diagnostic Outcome in Child/Family Risk Factor in Model	Hierarchical Model		Full Model ^c				<i>n</i>
	Parental Depression (χ^2 Change) ^a	Family Discord Factor (χ^2 Change) ^b	Parental Depression		Family Discord Factor		
			OR	SE LOR	OR	SE LOR	
Major depression							
Poor marital adjustment	15.69‡	3.42	6.04	0.454‡	0.64	0.432	145
Parent-child discord	13.90‡	0.07	4.07	0.376‡	0.90	0.388	176
Low family cohesion	11.29***	0.73	3.76	0.394***	1.34	0.375	150
Affectionless control	11.95***	0.18	3.88	0.392***	1.19	0.408	150
Divorce	11.83***	0.59	3.77	0.386***	1.33	0.372	177
Anxiety disorder							
Poor marital adjustment	10.73***	0.001	4.57	0.464***	1.01	0.426	145
Parent-child discord	14.20‡	1.64	4.73	0.412‡	0.60	0.404	176
Low family cohesion	13.29‡	1.02	4.76	0.428‡	0.68	0.388	150
Affectionless control	11.99***	0.16	4.29	0.420***	1.18	0.407	150
Divorce	14.89‡	2.06	5.18	0.426‡	0.58	0.382	177
Substance use disorder							
Poor marital adjustment	0.19	0.11	1.15	0.436	1.21	0.442	145
Parent-child discord	0.06	1.30	1.01	0.367	1.56	0.388	176
Low family cohesion	0.002	6.60**	1.01	0.401	2.79	0.399**	150
Affectionless control	0.006	6.65**	1.03	0.398	2.94	0.418**	150
Divorce	0.09	0.12	1.10	0.378	0.88	0.388	177

Note: OR = odds ratio; SE LOR = standard error of the log odds ratio.

^a Evaluates change in likelihood ratio statistic, χ^2_1 , with the addition of parental depression variable in logistic model including an individual family discord variable along with control for age, sex, and socioeconomic status (for all psychopathology) and parents' substance use problem (substance use disorder).

^b Evaluates change in likelihood ratio statistic, χ^2_1 , with the addition of family discord factor in logistic model including parental depression variable, along with controls for age, sex, and socioeconomic status (for all psychopathology) and parents' substance use problem (substance use disorder).

^c Model includes indicator of parental depression and family discord factor, along with controls for age, sex, and socioeconomic status (for all psychopathology) and parents' substance use problem (substance use disorder).

** $p < .01$; *** $p < .001$; ‡ $p < .0001$.

increased risk of conduct disorder in offspring at time 2, in spite of the strong association between conduct disorder and substance use disorder reported above, parental MDD did not predict the increased risk of substance use disorder in offspring at time 10. In this extended sample, parental substance use problems, rather than parental MDD, predicted offspring substance use disorder. Parental substance problems may provide a negative role model, that is, observing substance abuse and associated behaviors in their parents may lead to similar behavior in older offspring. It may also provide increased exposure and possible access to substances for offspring. In the 2-year follow-up, parent-child discord and parental divorce were also found to be strong risk factors for conduct disorder even after the effect of parental MDD was taken into account, whereas at the 10 year follow-up, neither parent-child discord nor parental divorce was a risk factor for substance use disorder. The difference may be because the offspring were older. Parent-child conflict or parental

divorce may have become less salient, and their impact on offspring may have been minimized.

Our finding that parental depression was more important than family discord for the prediction of MDD and anxiety disorder in offspring, whereas family discord was more important than parental depression for the prediction of substance use disorder in offspring, is consistent with a model proposed by Downey and Coyne (1990). They hypothesized that parental MDD primarily and family discord indirectly (due to its association with parental depression) elevate the risk of internalizing problems such as MDD, whereas family discord primarily and parental MDD indirectly (due to its association with family discord) elevate the risk of externalizing problems such as conduct disorder and substance use disorder.

Limitations

Since the depressed parents were selected from a depression treatment clinic, results can only be generalized to

the treated sample. It may well be that the greater importance of parental depression in relation to family discord that we found here is a function of the degree of the severity of parental depression. It is possible that in families with less severely depressed parents, other family factors may play a stronger role in offspring MDD and anxiety.

The information on family discord was collected by self-report measures. It may be possible that measures of these factors were influenced by psychopathology of the informant. The child self-report measures (low cohesion and affectionless control) might have been more influenced by the child's psychopathology and the parent self-report measure (parent-child discord) may be influenced by the parents' psychopathology. The rates of parent-child discord reported by parents were similar between high and low-risk families, suggesting that the reports of parent-child discord were not influenced by the higher rate of parents' psychopathology in high-risk families.

Because the high-risk families were initially identified through a parent who sought treatment for MDD, it is likely that the degree of severity of parental MDD in our sample is greater than would be found in a community sample. Many people from community samples who are identified as depressed from questionnaire responses do not meet the diagnostic criteria for major depression. A stronger relationship between parental depression and child adjustment has been found when depression was identified through diagnostic interviews than when it was identified through paper-and-pencil tests (Downey and Coyne, 1990; Forehand et al., 1987). Community samples include less severely ill subjects, which may explain why family adversity has been found to be a risk factor for depressive symptoms in offspring, even in the presence of parental MDD in a community sample (Fergusson et al., 1995).

The most significant limitation of this study is the small number of offspring with family discord in low-risk families. As parental depression and most measures of family discord are related, the rate of exposure to each measure of family discord in low-risk families was smaller than that in high-risk families. We were unable to estimate the impact of poor marital adjustment on MDD and substance use disorder in low-risk families, as only three offspring were exposed to poor marital adjustment, none of whom developed either disorder. Despite the small sample size, there was substantial magnitude of association between exposure to affectionless control and MDD and substance use disorder in offspring.

Finally, we cannot infer causality because we have no information regarding the timing of the risk factors, parental depression and family discord.

Clinical Implications

Our findings have implications for secondary prevention of MDD for both high- and low-risk (due to parental depression) children. It is clear that in high-risk families, offspring had higher rates of psychopathology. The results suggest that the impact of parental depression on psychopathology in offspring persists and continues into adulthood. However, even in the absence of parental depression, we cannot overlook the negative influence of family discord on offspring. Our finding must be viewed within the context of a clinical sample: the depressed patients were coming for treatment. Within this context the findings suggest that the stress of major depression in a parent outweighs more subtle stresses of family discord on the child. For a clinical sample, it suggests the importance of initially treating the parent's Axis I disorder prior to addressing the family discord. It is difficult to clinically improve family discord when one of the parents is significantly depressed and likely to be irritable. Therefore, the data suggest that clinicians should first thoroughly assess the parental depression and begin appropriate treatment, then begin to address the family discord, and continue to address both in treatment as they will most likely resolve in an interrelated manner. In offspring whose parents are not depressed, the data suggest that clinician should address the discord first, after ensuring that there are no significant Axis I disorders to treat first. Direct inquiry into the past and current psychiatric status of depressed parents presenting for treatment would be useful to determine whether their children are at higher risk of psychopathology and therefore good candidates for primary and secondary prevention. Clinicians, however, should be aware that children, especially in low-risk families, who are exposed to family discord are also at increased risk of developing MDD and substance use disorder.

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