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Parenting an Adult Child With Bipolar Disorder in Later Life

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Abstract

This study extends prior research on family caregiving in mental illness by investigating late-life parenting of adult children with bipolar disorder using a randomly selected community-based sample. The health and mental health, psychological well-being, marriage, work-life, and social resources of 145 parents of adult children with bipolar disorder were examined when parents were in their mid-60s. Stratified random sampling procedures were used to select a comparison group whose children did not have disabilities. Results indicate that parents of adult children with bipolar disorder had a more compromised profile of health and mental health, and experienced more difficulties in marriage and work-life than comparison parents. Furthermore, parents of adult children with bipolar disorder who were diagnosed with mental illness before the onset of their child's symptoms were more vulnerable on multiple dimensions of mental health, psychological well-being, and work-life than parents without a preexisting mental illness.

Keywords

Bipolar disorder; family caregiving; stratified random sampling

Bipolar disorder is a recurrent and disabling mental illness that is likely to present ongoing challenges for families. The illness typically strikes first in early adulthood, when individuals are just beginning to establish a life independent from their family-of-origin (Grant et al., 2005; Leboyer, 2005). Unlike other serious mental illnesses, such as schizophrenia, in which the severity of symptomatic episodes seems to decrease over time (Carpenter and Strauss, 1991; Drake et al., 2006; McGlashan, 1991), the manic and depressive episodes associated with bipolar disorder may become more frequent and more severe over the life course (Coryell et al., 2003; Goodwin and Jamison, 1990; Judd et al., 2002). The enduring psychosocial consequences of bipolar disorder include work loss and unemployment, increased health care use and costs, and poorer overall functioning and quality of life (Coryell et al., 2003; Judd et al., 2003).

Parents may provide decades of extended caregiving for their adult son or daughter with bipolar disorder during times when debilitating symptoms produce obstacles to social and occupational functioning and independent living (Mueser and McGurk, 2004; Judd et al., 2005). The fluctuating and unpredictable nature of bipolar disorder may be especially challenging for families over time. As Rolland (2006) explains, families of children with a relapsing or episodic illness are strained by both the frequency of transitions between acute illness periods and ongoing uncertainty about when the next episode might occur. Recent

research has documented elevated levels of burden among family members caring for a relative with bipolar disorder, which has been linked to poor physical and mental health and low levels of social support (Dore and Romans, 2001; Ogilvie et al., 2005; Perlick et al., 2005, 2007). This emerging research is consistent with the broader literature on family caregiving in mental illness, which documents the high costs associated with the informal care that families provide for a relative with serious mental illness (Clark and Drake, 1994; Saunders, 2003; Seltzer et al., 2001).

However, conclusions about the impact of parenting an adult child with bipolar disorder are far from definitive because most prior studies suffer from 2 major limitations in research design. First, many past investigators have relied on volunteer samples that may be biased in unknown ways. Many of the samples in past studies were obtained from hospitals, clinics, or support groups, which presents a variety of potential problems. It is possible that the impact of parenting a child with mental illness is overestimated in these studies, as those family members who are the most distressed may be more likely to seek professional help or attend support groups, and thus be recruited into studies.

Second, in most prior research investigators have not separated the effects of the child's mental illness from the possible effects of a preexisting mental illness in the parent. It is well documented that first-degree relatives of persons with bipolar disorder suffer from high rates of their own mental health problems, in particular anxiety and major depression (Joyce et al., 2004; Wilens et al., 2007). Thus, elevations in parental mental health symptoms might be a precursor to or a consequence of the child's mental illness (or both), depending on when the parent's mental health problems first occurred.

This study is uniquely designed to overcome these 2 limitations. Data for the present study were drawn from the Wisconsin Longitudinal Study (WLS), a study spanning 50 years in the life course of a random sample of over 10,000 Wisconsin high school seniors in 1957 and of their randomly selected siblings (Hauser et al., 1992). The design of the WLS allows us to avoid some of the major methodological limitations that have plagued prior research on family caregiving in mental illness. First, participants were selected for the WLS as teenagers, before becoming parents, and thus independent of the diagnosis of their adult child. Second, data were collected to determine whether respondents had a mental illness before the onset of their child's mental health problems. In addition, the WLS allows us to create a comparison group of parents of adult children without disabilities. With the comparison group, it is possible to benchmark the extent to which the health and psychosocial well-being of parents of adult children with bipolar disorder are distinct from a normative group drawn from the same population.

We addressed 2 research questions dealing with the long-term impact of parenting an adult child with bipolar disorder. The first concerns whether aging parents of adult children with bipolar disorder differ from aging parents of adult children without disabilities with respect to parental health and mental health status, psychological well-being, marriage, work-life, and social resources. Our second research question was whether parents of adult children with bipolar disorder who had a mental illness before the onset of their child's mental health problems have an increased vulnerability to the challenges of caregiving in later life compared with parents of adult children with bipolar disorder who did not have a preexisting mental illness.

We hypothesized that parents of adult children with bipolar disorder will show a more compromised profile of health and psychosocial well-being than comparison group parents. In addition, we hypothesized that parents of adult children with bipolar disorder who had a preexisting mental illness will demonstrate greater vulnerability across a number of domains

than parents of adult children with bipolar disorder who do not have a preexisting mental illness.

METHODS

The data are drawn from the most recent wave of the WLS, a longitudinal study of a random sample of 10,317 young men and women who graduated from Wisconsin high schools in 1957 (referred to as the “graduate respondents”) and their randomly selected brothers and sisters (Hauser and Warren, 1997). The study includes 4 waves of data collection: 1957, 1975, 1993, and 2003 to 2005 for the original respondents and 1977, 1994, and 2005 to 2007 for their siblings. Respondents averaged age 18 in 1957, and at the subsequent points of data collection they averaged ages 36, 52 to 53, and 64 to 65, respectively. We chose to focus the present analysis on the fourth wave of data collection, when the respondents were on average in their mid-60s, because a major aim of our study was to examine differences between parents of adult children with bipolar disorder and parents of children without disabilities during older age, a stage in the life course when parents become increasingly concerned about the future care of their son or daughter with mental illness (Hatfield and Lefley, 2005).

Subjects

In the 2003 to 2007 survey, an attempt was made to contact 8579 surviving graduate respondents and 5476 sibling respondents for the telephone interview. Of the combined 14,055 graduate and sibling respondents, 84 were unable to participate due to health reasons. Of the remaining eligible respondents, 2182 refused to participate and 547 could not be located. Participation included both a telephone interview and a mailed questionnaire, yielding a participation rate of 80%.

Based on a series of screening procedures in the telephone interview, we identified 1152 graduate and sibling respondents who were parents of a son or daughter with a developmental disability or a serious mental health problem. Of these parents, 155 had a child with bipolar disorder. Ten parents were excluded because of missing data on key study variables. Thus, the present analysis is based on the remaining 145 parents of adult children with bipolar disorder.

The characteristics of the adults with bipolar disorder are presented in Table 1. The adult children began having mental health problems when they were, on average, 17.7 ($SD = 8.9$) years old, and were diagnosed with bipolar disorder at an average age of 23.9 ($SD = 8.5$). This is consistent with estimates from the National Comorbidity Survey Replication study, which indicate a delay of 6 to 8 years between the onset of symptoms and diagnosis of mood disorders (Wang et al., 2005). The characteristics of this sample are similar to those found in other studies of adults with bipolar disorder (Nehra et al., 2005; Perlick et al., 2007).

We used stratified random sampling procedures to select a comparison group of parents, whose children did not have disabilities or chronic illnesses. In the first step of the process, an eligible pool of comparison group parents was stratified by gender and whether they were graduate or sibling respondents. We chose to stratify by gender because a number of prior studies have shown a significant relationship between gender and caregiver outcomes (Kim et al., 2006). We also stratified by whether the respondent was a member of the original WLS sample of 1957 high school graduates or a randomly selected sibling of the 1957 graduate. We stratified on this dimension because whereas all of the graduates were the same age, the sibling participants varied in age, although their mean age was similar to the graduates. In the next step, respondents were selected for the comparison group by randomly sampling from within each stratum in the same proportion as parents of adult children with

bipolar disorder in the stratum, which provided equal representation across strata. This selection process resulted in a comparison group of 3063 parents.

Table 2 presents the characteristics of the parents of adult children with bipolar disorder and comparison group parents. The 2 groups of parents differed in their years of education and IQ scores, with parents of adult children with bipolar disorder, on average, attaining more education and having higher IQ scores than parents of adult children without disabilities. Also, parents of adult children with bipolar disorder had significantly higher rates of preexisting mental illnesses than comparison group parents.

Measures

We compared the 2 groups of parents with respect to 6 outcomes: physical health, mental health, positive psychological well-being, marriage, employment, and social resources, all measured in the 2003 to 2007 survey. *Physical health and mental health and psychological well-being.* Measures of parental physical health included self-rated health at the present time (1 = very poor to 5 = excellent) and the number of somatic symptoms reported by the respondent (from a list of 25 symptoms, such as chest pain, headaches, and dizziness). The respondent's mental health was measured by the Center for Epidemiological Studies-Depression Scale (CES-D) (Radloff, 1977), which included an overall score (Cronbach's $\alpha = 0.85$) and scores representing the 4 CES-D subscales (depressed mood; psychomotor retardation; lack of well-being; and interpersonal difficulties). Additional measures of parental physical and mental health functioning included the SF-12, a highly reliable and valid measure of physical and mental health that produces 2 continuous summary scores, with higher scores indicating better overall physical and mental health functioning (Ware et al., 1996).

Psychological well-being was measured by an abbreviated version of the Psychological Well-Being Scale (Ryff, 1989), consisting of 31 statements that assess 6 dimensions of psychological well-being, namely, self-acceptance, positive relations with others, purpose in life, personal growth, environmental mastery, and autonomy. For each item, respondents rated their level of psychological well-being on a scale of 1 = agree strongly to 6 = disagree strongly (Cronbach's $\alpha = 0.91$). Items worded in a positive direction were reversed coded before being summed, with higher scores reflecting better well-being. In addition to 6 subscales, a total Psychological Well-being Scale was computed by summing the 31 items.

Marital Outcomes

We obtained data about respondents' current marital status (1 = currently married, 0 = otherwise). Marital satisfaction was evaluated by summing 6 items from the Marital Satisfaction for Older Adults Scale (Haynes et al., 1992). As indicated in a published factor analysis, these 6 items had the highest loadings on the general factor representing marital satisfaction. For each item (e.g., day-to-day support and encouragement from spouse) respondents rated their level of satisfaction along a 6-point scale (1 = very dissatisfied to 6 = very satisfied) (Cronbach's $\alpha = 0.94$).

Employment Outcomes

Measures of employment outcomes included employment status (1 = employed, 0 = not employed) and overall job satisfaction (1 = very dissatisfied to 4 = very satisfied). In addition, work-family role strain was assessed by summing 3 items for which the respondent indicated the extent to which he or she felt that family matters (i.e., family worries or problems, family activities, and stress at home) had a negative effect on his or her work performance (1 = strongly disagree to 5 = strongly agree) (Cronbach's $\alpha = 0.70$).

Social Resources

Three measures of social resources were used in this analysis. First, we computed the number of social organizations in which the respondent participated from a list of 16 organizations (e.g., charitable organizations, civic groups, and sports teams). In addition, we used a measure of whether the respondent had a friend and/or family member in whom he or she could confide (0 = no confidantes to 2 = both a family member and a friend). Finally, perceived family support was assessed by a count of the number of family sources (i.e., parents, siblings, and other relatives) for which the respondent indicated that he or she could ask for help or advice if faced with a personal problem (0 = no support to 3 = 3 sources of support).

Parental Background Characteristics

Measures of the respondent's background characteristics included gender, age, years of education, IQ, household income, number of children, and the presence of a preexisting mental illness. The respondent's gender was coded 1 = male and 0 = female. The respondent's age was measured in years, and education was coded in years of schooling. The respondent's IQ was measured in his or her junior year of high school by the Henmon and Nelson Test of Mental Ability (Henman and Nelson, 1937). The respondent's household income is the combined income of the respondent and his or her spouse. The number of children was a count of all children the respondent reported at the time of the interview.

Preexisting Mental Illness

For parents of adult children with bipolar disorder, 2 sets of questions were used to determine whether they had a mental illness before onset of their child's mental health problems. The first set of items was based on the Composite of International Diagnostic Interview screen for a major depressive episode (Singer et al., 1998). The second set of questions asked the respondent whether he or she had ever been diagnosed with a mental illness (1 = yes, 0 = no). If the respondent answered affirmatively, he or she was asked to identify the specific diagnosis.

We classified respondents as having a preexisting mental illness according to the following criteria: (1) the respondent answered affirmatively to having experienced a 2-week period of depression that was not due to alcohol, drugs, medication, or physical illness, with at least 4 depressive symptoms experienced during the episode (consistent with the DSM-IV criteria for a major depressive disorder); and (2) the respondent experienced the depressive episode before the onset of their child's mental health problems; or (3) the respondent reported having been diagnosed with bipolar disorder or schizophrenia, which typically have their onset in late adolescence or early adulthood.

These same criteria were used to classify comparison group parents as having a preexisting mental illness, with the exception of the second criterion, which is dependent on determining the relative order of the onset of the parent's mental illness and the onset of mental health symptoms in the son or daughter. Application of this criterion is not possible because none of the children of comparison group parents had a mental health diagnosis. Based on a strategy developed by Russo et al. (1995) in a study comparing caregivers of Alzheimer patients to a normative comparison group, we used the mean number of years since the onset of mental health problems in the adults with bipolar disorder, which was 19.2 years (Table 1), as a substitute date for the onset of the child's mental health problems for the comparison group. Thus, for comparison parents, an individual was classified as having a preexisting mental illness if the onset occurred more than 19 years before the 2003 to 2007 survey.

In addition to these respondent characteristics, we sought to identify family-of-origin background differences between the 2 groups of parents that we would want to control for in the analysis. We obtained 3 measures of the respondent's family-of-origin socioeconomic status from the 1957 survey. We used measures of the number of years of education completed by the respondent's mother and father and data about the family's income. In addition, we included a measure of the population size of the town/city in which the respondent grew up and the number of children in their family-of-origin.

RESULTS

Between-Group Differences in Parental Outcomes

Our first research question asked whether aging parents of adult children with bipolar disorder have poorer health and mental health status, psychological well-being, marriage, work-life, and social resources than parents of children without disabilities. Our primary method of data analysis was analysis of covariance for continuous dependent variables and logistic regression when the dependent variables were dichotomous. The covariates included the respondent's years of education and IQ, and whether they had a preexisting mental illness because the 2 groups of parents differed significantly on these variables (Table 2). Gender was also entered as a covariate because of well-established gender differences in depression and social resources (Hasin et al., 2005;Reevy, 2007). Before conducting the analysis, we examined whether there were family-of-origin background differences between the 2 groups of parents in 1957, which would need to be controlled for in subsequent analysis. As shown in Table 3, the 2 groups differed with respect to their father's years of education in 1957. Therefore, the respondent's father's years of education was also controlled for in the analysis.

As shown in Table 4, when the 2 groups of parents were in their mid-60s, they differed significantly across a number of measures of physical and mental health status and psychological well-being. Aging parents of adult children with bipolar disorder had lower levels of self-rated health and physical health functioning, and a higher number of somatic health symptoms than the comparison group. They also had significantly higher scores on the overall CES-D and on the CES-D subscale of psychomotor retardation than comparison parents. There was a trend for parents of adult children with bipolar disorder to report higher levels of depressed mood. In addition, parents of adult children with bipolar disorder had significantly lower levels of mental health functioning, as measured by the SF-12. Parents of adult children with bipolar disorder also reported lower levels of self-acceptance and environmental mastery than comparison parents. However, they had comparable levels of overall psychological well-being, and were similar on the other 4 subscales of psychological well-being.

Parents of adult children with bipolar disorder had significantly higher divorce rates than comparison parents. Among those parents employed, parents of adult children with bipolar disorder reported lower levels of satisfaction with their jobs but did not differ significantly from comparison group parents on their reported strain between work and family responsibilities. The 2 groups of parents had similar levels of social participation and comparable perceptions of the availability of confidantes and family support.

With respect to the covariates, there was a general pattern for those respondents with higher levels of education to have better outcomes (e.g., better health and mental health, higher levels of social participation, and lower levels of work-family strain) and those with a preexisting mental illness to report poorer outcomes (e.g., poorer health and mental health, lower levels of social participation, and higher levels of work-family strain). With respect to the gender of the respondent, the pattern was more complex. Men reported significantly

higher levels of marital satisfaction and social participation and better physical and mental health functioning and fewer symptoms of depression and somatic symptoms than women. However, men perceived their health as worse and reported lower levels of psychological well-being than women. There was no distinguishable pattern of effects of other covariates (i.e., IQ and father's education) across outcomes.

Within-Group Differences in Parental Outcomes

Our second research question asked to what extent does having a mental illness before the onset of their adult child's mental health problems increase the potential vulnerability of parents to the challenges of parenting an adult child with bipolar disorder in later life. As shown in Table 5, parents who had a preexisting mental illness had significantly lower levels of mental health functioning, and significantly higher scores on the overall CES-D scale and on 3 CESD subscales. There was also a trend for parents who had a preexisting mental illness to report higher levels of interpersonal difficulties. However, the 2 groups of parents were comparable on measures of physical health.

With respect to psychological well-being, parents of adult children with bipolar disorder who had a preexisting mental illness reported lower levels of self-acceptance and environmental mastery than parents who did not have a preexisting mental illness. There was also a trend for parents who had a preexisting mental illness to report lower levels of purpose in life. The 2 groups of parents reported comparable levels of overall psychological well-being, and were similar on 3 subscales of psychological well-being.

The 2 groups of parents had similar rates of divorce and reported comparable levels of marital satisfaction. There were no differences between the 2 groups in rates of employment. However, among those parents who were employed, parents with a preexisting mental illness reported more work-family role strain. There was a trend level effect for overall job satisfaction, with parents who had a preexisting mental illness reporting less satisfaction with their jobs as a whole. Parents who had a preexisting mental illness had levels of social participation that were similar to parents without a preexisting mental illness, and the 2 groups had comparable perceptions of the availability of confidantes and family support.

DISCUSSION

This study extends the broader literature on family caregiving, which has long documented the substantial costs associated with caring for a relative with serious mental illness. By focusing on the unique experiences of older age parents of adult children with bipolar disorder, we explore an area of research that has to date received little attention. Our findings confirm results from prior research suggesting that parents of adults with serious mental illness are at an increased risk for poorer health and mental health and marital disruption. In addition, this study suggests that parenting an adult child with bipolar disorder is associated with lower levels of work satisfaction among older age parents in the labor force.

Although we found many aspects of the lives of parents of adults with bipolar disorder that were negatively affected, our findings also speak to the resiliency of these families. Parents of adult children with bipolar disorder had levels of overall psychological well-being, purpose in life, positive relations, personal growth, and autonomy that were comparable with parents of adult children without disabilities. In addition, the 2 groups of parents were similar in terms of their social participation, number of confidantes, and perceived family support. Thus, many parents of adult children with bipolar disorder were able to maintain a reserve of psychological and social resources despite experiencing considerable distress in other life domains (i.e., health and mental health, marriage, and work-life). These findings

add to an emerging body of research, which has begun to identify strengths and resilience among families coping with a relative's mental illness (Chen and Greenberg, 2004; Greenberg et al., 2000), and raise awareness of family resources that may help buffer stressors that arise from a relative's mental illness.

To date, there have been 2 parallel lines of literature on families of individuals with mental illness: a literature on first-degree relatives of persons with mental illness (e.g., Joyce et al., 2004; Potash and DePaulo, 2000) and literature on family caregiving (Greenberg et al., 2004; Song et al., 1997). Most prior research has not taken into account the possibility that family caregivers may be suffering from their own long-standing mental health concerns while at the same time coping with stressors arising from a relative's mental illness. Although studies of family caregiving and mental illness have examined depressive symptoms as an outcome of caregiving stress (e.g., Song and Singer, 2006), few, if any, studies have examined the role of a family member's own mental illness in exacerbating caregiving stress. Our findings suggest that parents of adult children with bipolar disorder who have preexisting mental illness are among the most vulnerable and likely to have the greatest need for support and services. Investigating the relationship between a parent's preexisting mental illness and an adult child's mental illness is an important step toward advancing our understanding of the caregiving stress process.

Although the design of the WLS circumvents many limitations associated with self-selected samples, there are 2 ways in which the initial recruitment procedures of the WLS might affect the generalizability of our findings. First, the racial composition of the WLS (99.3% white) reflects the composition of the Wisconsin population in the 1950s. Second, because all of the graduate respondents and most of sibling recruits (93%) completed high school, they were better educated than the general population of Wisconsin 18-year olds in the 1950s, as 25% of 18-year olds in Wisconsin at that time did not complete high school. Another study limitation is the use of parental reports of a child's diagnosis. It is possible that parents may have underreported the incidence of mental illness in their children due to the stigma associated with a mental illness diagnosis. Our sample was limited to those who self-identified as a parent of an individual with bipolar disorder and we confirmed this through an extensive set of follow-up questions. Hence, we likely have a very low rate of false positives, but an unknown rate of false negatives.

CONCLUSIONS

In older age, parents of adult children with bipolar disorder have a more compromised profile of health and mental health, and experience more difficulties in marriage and work-life than comparison group parents. However, the 2 groups of parents had similar levels of psychological well-being and social resources in later life. Further analysis revealed that aging parents of adult children with bipolar disorder who had a diagnosis of mental illness before the onset of their child's mental health symptoms were more vulnerable on multiple dimensions of mental health, psychological well-being, and work-life than parents without a preexisting mental illness. Findings underscore the need to recognize that parenting an adult child with bipolar disorder may bring lifelong challenges, and thus, families should be supported across all stages of the life course. Furthermore, the parent's own preexisting conditions should be taken into consideration when working with families coping with serious mental illness.

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TABLE 1**Characteristics of the Adult Children With Bipolar Disorder**

Variable	
Age	36.9 (6.2)
Gender (% female)	54.7%
Marital status (% married)	23.4%
Divorce status (% divorced)	22.3%
Education	
Less than high school	6.7%
High school graduate or GED	39.6%
Some college	39.6%
Bachelors degree	5.2%
Graduate school	9%
Employment status (% employed)	58.6%
Coresidence (% living with parents)	10.1%
Age mental health problems began	17.7 (8.9) yr
Age at bipolar diagnosis	23.9 (8.5) yr
Mean duration of mental health problems	19.2 yr
No. psychiatric hospitalizations	3.1 (4.5)

TABLE 2

Parental Background Characteristics

Variable	Bipolar Parents (<i>n</i> = 145)	Comparison Parents (<i>n</i> = 3063)	Test Statistic
Age	63.9 (4.0)	64.3 (4.1)	$t = -1.13$
Gender (% female)	62.8%	63.9%	$\chi^2 = 0.08$
Yr of education	14.3 (2.5)	13.5 (2.2)	$t = 4.28^*$
IQ	105.2 (15.2)	102.6 (14.1)	$t = 2.02^{**}$
Household income	\$69,148 (68,305)	\$73,761 (105,846)	$t = -0.58$
No. children	3.4 (1.5)	3.2 (1.6)	$t = 1.59$
Preexisting mental illness	20.7%	9.9%	$\chi^2 = 17.14^*$

Means are presented with standard deviations in parentheses.

*
 $p < 0.001$.

**
 $p < 0.05$.

TABLE 3

Family-of-Origin Background Characteristics of Parents in 1957

Variable	Bipolar Parents (<i>n</i> = 145)	Comparison Parents (<i>n</i> = 3063)	Test Statistic
Family income ^a	\$5800	\$5500	<i>t</i> = 1.78
Mother's yr of education	10.9 (3.0)	10.4 (2.8)	<i>t</i> = 1.91
Father's yr of education	10.5 (3.6)	9.7 (3.3)	<i>t</i> = 2.56*
Father's occupational SES	358.6 (233.6)	343.5 (230.3)	<i>t</i> = 0.76
City/town population	41,020 (62,686)	45,473 (67,319)	<i>t</i> = -0.78
No. children	3.4 (1.5)	3.2 (1.6)	<i>t</i> = 1.59

Means are presented with standard deviations in parentheses.

^aThe median incomes are reported in the table, although the t-ratios were based on the natural log of income.

*
p < 0.05.

TABLE 4

Between-Groups Analysis of Covariance of Parental Health and Psychosocial Outcomes

Variable	Bipolar Parents (<i>n</i> = 145)	Comparison Parents (<i>n</i> = 3063)	Test Statistic
Self-rated health	3.9 (.86)	4.0 (0.66)	$F = 4.54^*$
SF-12 physical functioning	45.8 (11.7)	48.3 (9.9)	$F = 9.81^{**}$
Somatic health symptoms	10.0 (5.3)	8.5 (4.9)	$F = 10.89^{**}$
CES-D	8.5 (8.0)	6.9 (6.8)	$F = 6.24^*$
CES-D subscales			
Depressed mood	2.3 (3.2)	1.7 (2.7)	$F = 3.81^{***}$
Psychomotor retardation	4.3 (3.6)	3.4 (3.2)	$F = 7.66^{**}$
Lack of well-being	1.3 (2.1)	1.2 (2.1)	$F = 0.56$
Interpersonal difficulties	0.68 (1.0)	0.58 (0.96)	$F = 1.42$
SF-12 mental functioning	53.6 (8.6)	55.7 (6.0)	$F = 10.53^{****}$
Psychological well-being	4.8 (0.63)	4.8 (0.60)	$F = 1.59$
Psychological well-being subscales			
Self-acceptance	4.8 (0.81)	4.9 (0.72)	$F = 4.45^*$
Environmental mastery	4.8 (0.77)	4.9 (0.72)	$F = 3.89^*$
Purpose in life	4.7 (0.81)	4.7 (0.77)	$F = 0.21$
Personal growth	5.0 (0.74)	4.9 (0.71)	$F = 0.00$
Positive relations with others	4.7 (1.0)	4.8 (0.96)	$F = 0.78$
Autonomy	4.5 (0.75)	4.5 (0.73)	$F = 0.28$
Divorced	20.0%	10.2%	$\chi^2 = 9.02^{**}$
Marital satisfaction	4.7 (0.91)	4.8 (0.97)	$F = 0.57$
Employed	45.6%	44.3%	$\chi^2 = 0.02$
Satisfaction with job	3.3 (0.90)	3.5 (0.67)	$F = 7.70^{**}$
Work-family role strain	2.3 (0.83)	2.2 (0.70)	$F = 1.68$
No. social organizations	2.7 (2.4)	2.7 (2.5)	$F = 0.46$
No. confidantes	1.5 (0.66)	1.6 (0.59)	$F = 2.88$
Perceived family support	0.73 (.80)	0.68 (0.71)	$F = 0.23$

Means are presented with standard deviations in parentheses. Covariates are father's years of education, respondent's gender, IQ, years of education, and preexisting mental illness. Our primary method of data analysis was analysis of covariance (ANCOVA) for continuous dependent variables and logistic regression when the dependent variables were dichotomous.

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.07$,

**** $p < 0.001$.

TABLE 5

Within-Groups Analysis of Covariance of Parental Health and Psychosocial Outcomes

Variable	Bipolar Parents w/Preexisting MI (n = 30)	Bipolar Parents no/Preexisting MI (n = 115)	Test Statistic
Self-rated health	3.8 (0.94)	4.0 (0.84)	$F = 0.43$
SF-12 physical functioning	43.9 (12.3)	46.4 (11.6)	$F = 1.83$
Somatic health Symptoms	11.3 (5.4)	9.8 (5.4)	$F = 1.81$
CES-D	15.4 (12.9)	7.3 (6.5)	$F = 19.37^*$
CES-D subscales			
Depressed mood	5.0 (5.2)	1.8 (2.6)	$F = 16.96^*$
Psychomotor retardation	7.0 (4.9)	3.7 (3.2)	$F = 16.19^*$
Lack of well-being	2.4 (3.3)	1.2 (2.0)	$F = 6.70^{**}$
Interpersonal difficulties	1.1 (1.2)	0.58 (0.98)	$F = 3.67^{***}$
SF-12 mental functioning	49.8 (11.1)	54.1 (8.2)	$F = 4.24^{**}$
Psychological well-being	4.6 (0.71)	4.8 (0.64)	$F = 2.17$
Psychological well-being subscales			
Self-acceptance	4.4 (1.1)	4.8 (0.79)	$F = 4.65^{**}$
Environmental mastery	4.4 (0.95)	4.9 (0.73)	$F = 7.08^{****}$
Purpose in life	4.4 (0.97)	4.8 (0.79)	$F = 3.60^{***}$
Personal growth	4.9 (0.74)	5.0 (0.76)	$F = 0.36$
Positive relations with others	4.5 (0.98)	4.7 (1.0)	$F = 0.67$
Autonomy	4.7 (0.63)	4.5 (0.77)	$F = 2.40$
Divorced	22.6%	19%	$\chi^2 = 0.06$
Marital satisfaction	4.8 (0.94)	4.7 (0.91)	$F = 0.02$
Employed	51.6%	55.2%	$\chi^2 = 0.24$
Satisfaction with job	2.9 (1.0)	3.3 (0.87)	$F = 3.93^{***}$
Work-family role strain	2.7 (0.91)	2.3 (0.80)	$F = 6.02^{**}$
No. social organizations	2.9 (3.4)	2.7 (2.1)	$F = 0.61$
No. confidantes	1.5 (0.79)	1.5 (0.63)	$F = 0.04$
Perceived family support	0.71 (0.85)	0.74 (0.80)	$F = 0.01$

Means are presented with standard deviations in parentheses. Covariates are father's years of education, respondent's gender, IQ, and years of education. Our primary method of data analysis was analysis of covariance (ANCOVA) for continuous dependent variables and logistic regression when the dependent variables were dichotomous.

* $p < 0.001$,

** $p < 0.05$,

*** $p < 0.07$,

**** $p < 0.01$.