In a community sample of mothers (N = 763), each with a focal child aged 4.5 years, anxiety levels were high. Only 54% of mothers had anxiety scores within the “normal” Hospital Anxiety and Depression Scale (HADS) range, compared with 85% for depression. A subsample (N = 116) was selected for two-parent families, one to three children, and mothers spread over low, medium, and high anxiety levels. Mothers’ anxiety was not significantly related to age, education, or work status, but rather to mothers’ and fathers’ independent ratings of marital satisfaction and family functioning, and to fathers’ own anxiety and depression. Fathers’ anxiety was related not to their own views of marital satisfaction and family functioning, but rather to mothers’ views and to maternal anxiety. Assessments 8 years later—of anxiety, depression, and family functioning—showed high consistency over time, particularly maternal anxiety (r = .70) and paternal depression (r = .81). Although means did not change significantly over time for fathers, mothers’ anxiety, depression, and perceptions of family functioning all improved (p < .001). For parents who were later to separate (compared with the others), initial family functioning, dyadic adjustment, and maternal anxiety were significantly “worse.” The strongest predictor of later break-up was fathers’ dyadic adjustment.

INTRODUCTION

“Anxiety is one of the most prominent and pervasive emotions, and large numbers of people are distressed by inappropriate or excessive anxiety” (Rachman, 1998, p.1). Furthermore, compared with men, “women consistently have about twice the rates of each anxiety disorder” (Leon, Portera, & Weissman, 1995, p. 19). This carries implications for children, especially because maternal anxiety, but not paternal anxi-
Anxiety, has been found to predict childhood anxiety disorders (e.g., McClure, Brennan, Hammen, & LeBrocque, 2001). With anxiety assessed along a continuum, Barnett, Schaalma, Guzman, and Parker (1991) “demonstrated the ongoing deleterious effects of high-anxiety in mothers” (p. 436) of children studied from birth to 5.5 years. For research purposes, a dimensional system is preferable to a classificatory system because anxiety “is a process rather than a categorical event that occurs or does not occur” (Rachman, p. 27). In addition, subclinical symptomatology is not devoid of substantial clinical interest (Fava, 1999). Thus, subclinical anxiety assessed dimensionally is our focus, although we acknowledge the evidence for familial aggregation of anxiety disorder (e.g., Bernstein & Borchart, 1991; Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991; Mufson, Aidala, & Warner, 1994).

As with studies of depression (e.g., Keitner & Miller, 1990; Tamplin, Goodyer, & Herbert, 1998), the dynamics of family relationships should not be overlooked. With an attachment theory perspective, the quality of family relationships is fundamental for security, whereas anxiety is a correlate of insecurity, throughout life (Bowlby, 1969/1982; Byng-Hall, 1995; Parkes, Stevenson-Hinde, & Marris, 1991). Consistent with the hypothesis that “family functioning is likely to play a major role in the etiology of anxiety disorders, both in childhood and indeed in continuation into adulthood” (Bolton, 1994, p. 403), family cognitive behavior therapy is proving highly effective with clinically anxious children and their families (Bögels & Siqueland, 2006). Here, our focus is on maternal anxiety in a community sample, with the prediction that it should influence and be influenced by relationships within the family.

**METHOD**

**Unselected Sample**

Mothers living in the Cambridge, England, area with a focal child aged 50–52 months were mailed a letter with questionnaires, including the Hospital Anxiety and Depression Scale (HADS; described in the Measures section), to complete and return. With approval of the local district ethical committee, their names and addresses had been provided by the Lifespan Healthcare Information Service in Cambridge. Mailings occurred over 10 months to 1,304 mothers, with 763 returns (59%). Of those who returned questionnaires, 86% were willing to be contacted further. These mothers’ HADS scores for anxiety ($M = 7.5$) and depression ($M = 4.5$, $N = 656$) did not differ from the scores of those unwilling to be contacted further ($M$ anxiety = 7.0; $M$ depression = 4.4, $N = 107$).

**Selected Sample**

Of the 656 mothers, selection criteria were: (1) two-parent families; (2) one to three children (92% of the returns had this number of children); and (3) anxiety scores spread over the different levels of anxiety within the HADS: 41 mothers within the normal (0–7) range (16 with focal-age daughters, and 25 with sons); 37 mothers within the mild (8–10) range (18 with daughters, and 19 with sons); and 33 mothers within the moderate (11–14) range (14 with daughters and 19 with sons). In the severe (15–21) range, only 5 mothers (3 with daughters and 2 with sons) satisfied selection criteria. The selected mothers ($N = 116$) were visited at home 1–2 months after the initial mailing. Following an interview, mothers completed questionnaires. Another set was left for fathers to complete independently and return by mail.
Follow-Up Sample

The mothers who visited the laboratory when their children were 4.5 years old (N = 98 due to logistical reasons) were followed by mail 8 years later, with a cover letter plus a preaddressed envelope to mother, to father, and to the focal child, each to be returned independently. In addition to “background” information over the past 8 years, parents were asked to complete the HADS, and all three were asked to complete the General Family Functioning scale.

Of the original 98 families, four addresses were untraceable, and tragically, one mother had been murdered while pursuing her job as debt collector. Thus, 93 letters were sent out, with a return of 63 mothers (68%) and 50 fathers (54%). Comparing respondents with nonrespondents, no significant differences occurred (p values from .22 to .93) in the Time 1 measures listed in Table 1.

Measures

HADS

The Hospital Anxiety and Depression Scale (Snaith & Zigmond, 1994) lists seven statements relating to generalized anxiety (e.g., I feel tense or “wound up”) and seven to depression (e.g., “I feel cheerful”). Beneath each statement is a choice of qualifiers relating to the past week: not at all; sometimes; very often; nearly all the time, scored from 0 to 3. Thus, the total score may range from 0 to 21 for each scale.

The HADS was chosen because (1) it was designed for use on nonpsychiatric groups, with questions appropriate for a community sample; (2) it takes only minutes to complete, thereby increasing the likelihood of replies in a postal screening; (3) the emphasis on state “within the past week” permits readministration over time; (4) the content of each question concerns either anxiety or depression but not both, unlike
some scales for anxiety (Spinhoven et al., 1997); (5) the continuous scales lend themselves to statistical tests that cannot be carried out on categories; and (6) the HADS has proven reliability and validity (reviewed in Herrmann, 1997).

The Dyadic Adjustment Scale
The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32-item questionnaire with five subscales: consensus, affectional expression, satisfaction, cohesion, and total (the sum of the previous four). Total scores may range from 0 to 151, with scores below 100 indicating marital distress in volunteer couples (Eddy, Heyman, & Weiss, 1991).

The Family Assessment Device
The Family Assessment Device (FAD) is a 60-item questionnaire covering the seven dimensions of family functioning described in the McMaster Model (Epstein, Baldwin, & Bishop, 1983). Each item is marked strongly agree, agree, disagree, or strongly disagree. The higher the average rating (1–4) for each dimension, the less “healthy” the functioning. The dimension used here is “general functioning,” which is recommended as a global assessment of family functioning (Byles, Byrne, Boyle, & Offord, 1988). General functioning consists of six positive and six negative items (e.g., in times of crisis we can turn to each other for support; we don’t get along well together), and the cut-off between “healthy” and “unhealthy” functioning, derived from clinical interviews, is 2.0 (Miller, Epstein, Bishop, & Keitner, 1985).

RESULTS
Anxiety and Depression in the Unselected Sample (N = 763, Time 1)

Of the 763 mothers who returned the initial questionnaires, the mean age was 34 years (range 21–53 years), the mean number of children was 2.2 (range 1–8), and 87% were living with a partner.

The HADS scores, which range from 0 to 21, reflect different levels of anxiety or depression: 0–7 = normal; 8–10 = mild; 11–14 = moderate; and 15–21 = severe (Snaith & Zigmond, 1994). Mothers’ mean anxiety was 7.4, significantly higher than mean depression, which was only 4.4 (t, matched pairs = 25.7(762), p < .0001, two tailed). Whereas depression scores were within the normal range for 85% of mothers (with 11% mild, 4% moderate, and 0.4% severe), only 54% of mothers’ anxiety scores were normal (with 26% mild, 17% moderate, and 3% severe). Nevertheless, the correlation between anxiety and depression was high: \( r = .56 \) (N = 763, p < .0001, two tailed).

Neither mothers’ age nor number of children correlated with anxiety (\( r = -.03 \) and -.02, respectively) or depression (\( r = -.03 \) and .04). However, the 102 mothers who were living without a partner reported significantly higher anxiety (\( M = 8.6 \)) than did those with a partner (\( M = 7.2 \); \( t(761) = 3.62, p = .0003 \), two tailed). Mothers living without a partner reported insignificantly higher depression (\( M = 4.9 \)) than those with a partner (\( M = 4.4 \)).

The Selected Mothers (N = 116) Compared With Fathers at Time 1

Fathers were significantly older than mothers (\( M = 36 \) y vs. 34 y, \( p < .0001 \), two tailed). Although the mean educational level of mothers and fathers was the same (i.e., a qualification after 16 years, but not school A-level examinations), their job
classifications differed (Standard Occupational Classifications ranging from 1 [professional] to 5 [unskilled]; Office of Population Censuses, 1991). Mothers’ job classification before having any children (M = 2.8) was not as favorable as fathers’ current classification (M = 2.5, p < .0001). Of the 77 mothers who currently worked, their job classification (M = 3.2) was not only significantly lower (p < .0001) than fathers’, but also significantly lower (p < .001) than it had been before having children.

Descriptive statistics for the main measures are provided in Table 1. (Consistency in mothers’ HADS scores between the initial mailing and the home visit 1–2 months later, N = 116, was high: r = .78 for anxiety and r = .73 for depression. Thus, mothers’ HADS scores were averaged over the initial mailing and the home visit to give a more robust assessment.) Mothers’ mean anxiety was above the normal range (M = 8.7) and significantly higher than the mean for fathers (M = 6.2), as might be expected from the selection criteria. However, fathers’ mean anxiety score for this “selected” sample was lower than mothers’ mean for the “unselected” sample (M = 7.4). With depression scores, a similar pattern held, although differences were not as marked as with anxiety.

Mothers’ and fathers’ ratings on either the DAS or the General Family Functioning scale of the FAD did not differ, and both had means in the healthy range.

**Intercorrelations at Time 1**

Of the 12 correlations involving mothers’ anxiety or depression and fathers’ anxiety or depression against the three background variables (age, education, and job classification), only one was significant (maternal depression vs. age; r = .28, p < .01, N = 116). In addition, t tests showed that anxiety and depression scores did not differ significantly according to whether mothers were currently working (N = 77) or not (N = 39), or whether they stayed at home (N = 48) or went out to work (N = 68).

Correlations between mothers’ and fathers’ age (r = .56), education (r = .77), and job classification (r = .65) were highly significant (p < .0001, N = 93). Equally high were correlations involving marital adjustment and family functioning (Table 2, row 1). Mother/father correlations for anxiety and depression scores were not as high but nevertheless significant.

Within subjects, anxiety and depression were significantly correlated, particularly for mothers (r = .67, Table 2). Maternal anxiety was significantly correlated with paternal reports of marital adjustment (r = −.29) and poor family functioning (r = .26), as well as with self-reports of marital adjustment (r = −.42) and poor family functioning (r = .40). Maternal depression followed a similar pattern of significant correlations.

Fathers’ anxiety (or depression) was not significantly correlated with his own reports of dyadic adjustment or family functioning. However, paternal anxiety was significantly correlated with *maternal* reports of marital adjustment (r = −.26) and poor family functioning (r = .35). This did not hold for fathers’ depression, which was significantly correlated only with the other HADS scores. As indicated, marital adjustment and family functioning were highly intercorrelated (r = .77 for mothers and .76 for fathers, Table 2).

The pattern of significant correlations between anxiety and depression and the relational variables for mothers and fathers may be best seen in a diagram. Figure 1 shows clearly that although maternal anxiety and depression were each significantly
correlated with marital and family functioning as viewed by fathers and the mothers themselves, this was not the case for fathers. Instead, fathers’ anxiety was significantly related to mothers’ views of the marriage and family, and fathers’ depression was related to mothers’ state and not to marital or family functioning.

**Table 2**

Pearson Correlations Between Measures, as Rated by Mothers or by Fathers at Time 1

<table>
<thead>
<tr>
<th></th>
<th>HADS Anxiety</th>
<th>HADS Depression</th>
<th>Poor Family Functioning</th>
<th>Dyadic Adjustment</th>
</tr>
</thead>
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<tr>
<td><strong>Mother vs. Father</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M anxiety vs. F</td>
<td>.31**</td>
<td>.24*</td>
<td>.64*****</td>
<td>.68****</td>
</tr>
<tr>
<td>M depression vs. F</td>
<td>(.31**)</td>
<td>(.24*)</td>
<td>.33***</td>
<td>-.29**</td>
</tr>
<tr>
<td>F anxiety vs. M</td>
<td>(.31***)</td>
<td>(.21*)</td>
<td>.35***</td>
<td>-.26**</td>
</tr>
<tr>
<td>F depression vs. M</td>
<td>(.22*)</td>
<td>(.24*)</td>
<td>.15</td>
<td>-.16</td>
</tr>
<tr>
<td><strong>Mother vs. Mother</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M depression vs. M</td>
<td>.67*****</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M family functioning vs. M (high = poor functioning)</td>
<td>.40****</td>
<td>.43****</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M dyadic adjust vs. M</td>
<td>-.42*****</td>
<td>-.51*****</td>
<td>-.77*****</td>
<td></td>
</tr>
<tr>
<td><strong>Father vs. Father</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F depression vs. F</td>
<td>.36***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F family functioning vs. F (high = poor functioning)</td>
<td>.15</td>
<td>.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F dyadic adjust vs. F</td>
<td>-.15</td>
<td>-.17</td>
<td>-.76****</td>
<td></td>
</tr>
</tbody>
</table>


(·): duplicate entries

***p ≤ .0001. **p ≤ .001. *p ≤ .01. p ≤ .05. two-tailed.

Not indicated are the significant correlations between depression and anxiety or between dyadic adjustment and family functioning, which are shown in Table 2.

**Figure 1** A Summary Diagram of Significant Pearson Correlations and Significant Steps in Regression Analyses at Time 1.

Bold lines with arrows indicate the significant steps in four regression analyses—Onto Mothers’ Anxiety, Fathers’ Anxiety, Mothers’ Depression, and Fathers’ Depression (see Table 3). *p < .05. **p < .01. ***p < .001. ****p < .0001 two-tailed.
Regression Analyses at Time 1

To examine the unique contributions of the above variables to anxiety or depression, four stepwise regression analyses were performed, with mothers’ anxiety and depression and fathers’ anxiety and depression as respective “outcome” variables. For each analysis, the six “input” variables were the anxiety and depression scores of the other partner, and the dyadic adjustment score and family functioning score of each partner (Table 3).

Considering contributions to anxiety, fathers’ anxiety contributed significantly to mothers’ anxiety, as did mothers’ anxiety to fathers’ anxiety (Step 2 in each case). However, whereas mothers’ own view of the marriage (dyadic adjustment) contributed to her own anxiety, this was not the case for fathers. Here, the Step 1 contribution was made by mothers’ view of family functioning.

Regarding contributions to depression, whereas mothers’ depression made a significant contribution to fathers’ depression, the significant input variable for mothers’ depression was again her own view of the marriage. This explained a considerable proportion of the variance ($R^2 = .24$), with no significant contributions from the other five variables, including fathers’ depression.

Anxiety, Depression, and Family Functioning at Time 2: Concordance

For the postal follow-up at Time 2, the DAS was thought inappropriate to post to parents who may have split up. Mother/father concordance on the HADS anxiety scale dropped from $r = .31$ at Time 1 to .12 at Time 2 (ns, $N = 49$), whereas the other two correlations remained significant, with concordance for depression at .32 ($p < .05$, $N = 49$) and mother/father family functioning at .59 ($p < .01$, $N = 46$). The focal children, now aged 12.5 years, provided family functioning scores significantly correlated with mother’s scores ($r = .34$, $p < .01$, $N = 59$), although the correlation was not nearly as high as the .59 agreement between mothers and fathers. The family functioning correlation between children and their fathers was only .24 (ns, $N = 47$). Mean family functioning scores were very similar: 1.7 for children ($N = 61$), 1.6 for mothers ($N = 63$), and 1.7 for fathers ($N = 47$).

Consistency and Change from Time 1 to Time 2

Table 4 presents means and correlations for those parents who completed the HADS and Family Functioning scale at both Time 1 and Time 2. Of note is the extremely high consistency across 8 years, particularly for maternal anxiety ($r = .70$) and paternal depression ($r = .81$). Mean levels of anxiety, depression, or family functioning did not change over time for fathers. However, for mothers, the high consistency over time was accompanied by highly significant change on all three scales, in the direction of less anxiety and depression and improved family functioning. Of the 63 mothers who returned questionnaires, 10 (16%) reported no longer living with the fathers. Looked at separately, these 10 mothers reflected the above positive change on all three scales, particularly for anxiety ($M = 11.8$ vs. 8.7; $p = .002$).

Prediction of Separation

Of the main measures (anxiety, depression, family functioning, and dyadic adjustment) completed by each parent at Time 1, $t$ tests showed significant differences.
<table>
<thead>
<tr>
<th></th>
<th>Partial Correlation</th>
<th>F value</th>
<th>p value</th>
<th></th>
<th>Partial Correlation</th>
<th>F value</th>
<th>p value</th>
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<tbody>
<tr>
<td><strong>Mothers’ Anxiety</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>Fathers’ Anxiety</strong></td>
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<tr>
<td>Step 1, $R^2 = .13$</td>
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<td>Step 1, $R^2 = .12$</td>
<td></td>
<td></td>
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<tr>
<td>M Dyadic Adjustment</td>
<td>-.36</td>
<td>13.55</td>
<td>.0004</td>
<td>M Family Functioning</td>
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<td>12.28</td>
<td>.0007</td>
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<td>Step 2, $R^2 = .18$</td>
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<td>Step 2, $R^2 = .16$</td>
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<tr>
<td>F Anxiety</td>
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<td>.0001</td>
<td>Variables not in model</td>
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<td></td>
<td></td>
<td></td>
<td>Variables not in model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Depression</td>
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<td></td>
<td></td>
<td>M Depression</td>
<td>-.06</td>
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<td></td>
</tr>
<tr>
<td>F Dyadic Adjustment</td>
<td>-.05</td>
<td></td>
<td></td>
<td>M Dyadic Adjustment</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>.06</td>
<td></td>
<td></td>
<td>F Dyadic Adjustment</td>
<td>.07</td>
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<td>F Family Functioning</td>
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</tr>
<tr>
<td><strong>Mothers’ Depression</strong></td>
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<td></td>
<td><strong>Fathers’ Depression</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1, $R^2 = .24$</td>
<td></td>
<td></td>
<td></td>
<td>Step 1, $R^2 = .06$</td>
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</tr>
<tr>
<td>M Dyadic Adjustment</td>
<td>-.49</td>
<td>27.89</td>
<td>&lt;.0001</td>
<td>M Depression</td>
<td>.24</td>
<td>5.42</td>
<td>.02</td>
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<td></td>
</tr>
<tr>
<td>F Anxiety</td>
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<td>M Anxiety</td>
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<td>F Depression</td>
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<td>F Dyadic Adjustment</td>
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<td>F Dyadic Adjustment</td>
<td>-.10</td>
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<tr>
<td>M Family Functioning</td>
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<td>M Family Functioning</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>F Family Functioning</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
between the group who were to remain together \((n = 53)\) and the group who did not \((n = 10)\). Couples who were later to split up had significantly higher maternal anxiety scores than those who remained together \((M = 11.2 \text{ vs. } 8.5; p < .05)\); poorer family functioning reported by mothers \((M = 2.2 \text{ vs. } 1.8; p < .01)\) and fathers \((M = 2.3 \text{ vs. } 1.7; p < .001)\); and lower dyadic adjustment reported by mothers \((M = 93 \text{ vs. } 111; p < .001)\) and fathers \((M = 92 \text{ vs. } 113; p < .0001)\). On a regression analysis, the dyadic adjustment of fathers was the significant predictor of later breakup \((R^2 = .23, F = 16.69, p < .0001)\), with maternal anxiety and then maternal dyadic adjustment next but not significant.

**DISCUSSION**

Anxiety and Depression in the Initial, Unselected Sample

Anxiety and depression were assessed with the HADS in a community sample of mothers, each with a child aged 50–52 months and with 2.2 children on average. Of 763 mothers, the mean anxiety score was 7.4. Only 54% of the scores fell within the normal range (0–7) of the HADS, 26% within the mild range (8–10), 17% within the moderate range (11–14), and 3% within the severe range (15–21). These scores were higher than those from a sample of cancer patients (92.5% experiencing a first episode), in which mean anxiety was only 5.5 \((N = 575, 73\% \text{ within the normal range}; \text{Moorey et al., 1991})\).

Unlike maternal anxiety scores, 85% of depression scores fell within the normal range. Because the return rate was 59%, it is possible that high depression scores were underrepresented. This could occur if depressed mothers in particular were not inclined to return a questionnaire because of lethargy and apathy—common symptoms of depression. However, this is not borne out by those mothers replying to the initial mailing. Of 763 mothers, the 16.3% who did not wish to continue further did not have higher scores than those who were willing to continue. Another possibility for the relatively low depression scores is that the present mothers, although covering the whole range of socioeconomic status, were not living in an urban area with poor housing, factors associated with maternal depression (e.g., Richman, 1974; Williams & Carmichael, 1985). The highly significant correlation between mothers’ anxiety and

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**Table 4**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Time 1 Mean</th>
<th>Time 2 Mean</th>
<th>Time 1 vs. 2 t value</th>
<th>Time 1 vs. 2 Pearson r</th>
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<tbody>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mothers</td>
<td>9.0</td>
<td>7.2</td>
<td>-4.74***</td>
<td>.70****</td>
</tr>
<tr>
<td>Fathers</td>
<td>6.0</td>
<td>5.5</td>
<td>-0.81 ns</td>
<td>.44**</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers</td>
<td>5.1</td>
<td>3.8</td>
<td>-3.40***</td>
<td>.50****</td>
</tr>
<tr>
<td>Fathers</td>
<td>3.6</td>
<td>3.3</td>
<td>-1.22 ns</td>
<td>.81****</td>
</tr>
</tbody>
</table>

Mothers’ \(N = 63\); Fathers’ \(N = 46, 46, 45\), respectively.  
***\(p < .0001\). **\(p < .001\). *\(p < .01\). Paired \(t\) tests, two tailed.
depression scores \((r = .56, N = 763, p < .0001)\) is supported by other studies using the HADS (e.g., Spinhoven et al., 1997) and by clinical studies that have found comorbidity between certain anxiety disorders and depression (e.g. Angst, 1996; Wittchen & Vossen, 1995).

**Correlates of Mothers’ Anxiety and Depression in the Selected Sample**

Maternal anxiety was linked to relational variables rather than background variables such as age, educational level achieved, job classification before having children, and whether currently working. Regression analyses (Table 3 and Figure 1) highlighted the importance of marital satisfaction for mothers’ state. That is, maternal anxiety was best predicted by low marital satisfaction of mothers, followed by fathers’ self-rated anxiety. Furthermore, the only significant predictor of maternal depression in a regression analysis was low maternal marital satisfaction. Such a relation between depression in women and marital distress is in keeping with studies involving clinical samples (e.g., Weissman & Paykel, 1974). In reviewing effects of family therapy on various types of psychopathology, Lange, Schaap, and van Widenfelt (1993) suggested “that marital distress increases the chance of agoraphobia in persons who are vulnerable in that respect” (p. 124) and “that the behaviour of family members is a controlling factor in social phobia,” particularly “in a family situation where the self-confidence of the patient is undermined” (p. 125).

**Correlates of Fathers’ Anxiety and Depression in the Selected Sample**

Mothers’ perceptions of marriage and family functioning appear to be central not only to their own anxiety but also to fathers’. As with mothers, fathers’ state was not related to the background variables of age, educational level achieved, or job classification. With regression analyses, fathers’ anxiety was best predicted by mothers’ ratings of poor family functioning, followed by mothers’ anxiety; fathers’ depression was best predicted by mothers’ depression. Fathers’ anxiety was not significantly correlated with his ratings of dyadic adjustment \((r = -.15)\) or poor family functioning \((r = .15)\). Such low correlations are similar to those of undergraduates, between anxiety on the Beck Anxiety Inventory and general family functioning on the FAD \((r = .19, N = 364;\) Ballash, Pemble, Usui, Buckley, & Woodruff-Borden, 2006).

That the state of fathers is particularly related to mothers’ ratings rather than to their own ratings may reflect at least two not incompatible possibilities. One is that fathers’ ratings of the marriage and family functioning may be less reliable or valid than mothers’. However, there was high parental agreement on both of these measures. Furthermore, it is difficult to argue that fathers’ own self-reported marital satisfaction could be less valid for fathers than mothers’ marital satisfaction.

The other possibility is that unlike mothers, fathers’ own views of the marriage and family functioning do not bear on their own internal state. This is borne out by the nonsignificant correlations between paternal anxiety or depression, and dyadic adjustment and family functioning for fathers, compared with the highly significant correlations for mothers. On the other hand, in recently wed couples, husbands’ and wives’ depression was related to marital satisfaction (Fincham, Beach, Harold, & Osborne, 1997). Taken together, the results suggest that a husband’s depression may become relatively independent of his own marital satisfaction and perceptions of family functioning over time.
This was indeed the case in families with an adolescent diagnosed with major depressive disorder (Tamplin et al., 1998). Whereas mothers’ mental health was significantly correlated with her perceptions of family functioning—for example, GHQ scores (Goldberg, 1978) vs. general functioning scores on the FAD ($r = .37, N = 74$)—fathers’ mental health was not correlated with his perceptions ($r = .15, N = 59$). Thus, “it is possible that mothers generally have a closer emotional involvement in childrearing and other family processes than fathers” (Tamplin et al., p. 9), particularly in families with some distress.

Mothers Compared With Fathers in the Selected Sample

Regression analyses highlighted the specificity of relations between the states of mothers and fathers. In the three regression analyses, which included a significant contribution from the state of one partner to the other, it was always the same state. That is, fathers’ anxiety, but not depression, contributed significantly to mothers’ anxiety; mothers’ anxiety, but not depression, contributed to fathers’ anxiety; and mothers’ depression, but not anxiety, contributed to fathers’ depression (Table 3).

Nevertheless, the four possible pairwise correlations between mothers’ and fathers’ depression and anxiety were all significant (Table 2), ranging from .21 to .31. This supports previous results with a sample of 845 couples, showing significant spouse similarity for psychological distress and well-being, possibly due to becoming more alike through living together. That such similarity was also found in couples who had been married for less than 2 years was taken to indicate assortative mating (Galbaud du Fort, Kovess, & Boivin, 1994).

For each of the other variables, mothers’ and fathers’ scores were also significantly intercorrelated ($p < .0001$), indicating similarity not only in the background variables of age, educational level, and job classification, but also of marital adjustment and family functioning. Mother/father agreement on the DAS was $r = .68$, and on the general functioning scale of the FAD, $r = .64$ ($N = 94, p < .0001, \text{two tailed}$). Significant agreement between parents was found in another sample of family composition similar to the present selected sample, including a focal child aged 4.5 years, but selected to have a relatively high number of children assessed as behaviorally inhibited or “shy.” In that sample, mother/father agreement on the general functioning scale was $r = .52$ ($N = 100, p < .001$). However, mothers’ views of general functioning ($M = 1.6$) were significantly better (i.e., lower) than fathers’ ($M = 1.7$, Stevenson-Hinde & Akister, 1995). In the present sample, mothers’ means were equal to fathers’, possibly reflecting the fact that mothers but not fathers had been selected for anxiety, and this may have pulled down mothers’ views of family functioning. Furthermore, the mean of 1.8 for both mothers and fathers reflected less healthy functioning than for the sample with no selection for parental state. In a sample containing adolescents with major depressive disorder (Tamplin et al., 1998), mother/father agreement on general functioning was also high ($r = .74, N = 61$), and higher than for a control group ($r = .48, N = 34$). As predicted, family functioning was significantly poorer in the MDD group than in the control group.

Consistency and Change OverTime

Anxiety, depression, and family functioning all showed high consistency over 8 years (Table 4), especially maternal anxiety ($r = .70$) and paternal depression ($r = .81$).
Although the means of the three measures did not change significantly over time for fathers, ratings of mothers’ anxiety, depression, and family functioning all improved significantly ($p < .001$). This could reflect growing children becoming less burdensome for mothers, who are normally more involved in child-rearing than fathers. The simple passage of time or changing status may be ruled out by considering the low and nonsignificant correlations of anxiety with age, education, or job status at Time 1.

Finally, 10 couples (16%) had separated. For them at Time 1, maternal anxiety and both parents’ perceptions of family functioning and dyadic adjustment were significantly worse than for couples who were to remain together. The strongest predictor of later break-up was fathers’ dyadic adjustment.

**CONCLUSION**

The present study indicates high levels of anxiety in an unselected community sample of mothers with young children. Furthermore, maternal anxiety was related not to background variables of age, educational level, or work status, but rather to each of the state and relational variables, whether reported by mothers or fathers. These significant correlations, both within and between parents, may be viewed within a family systems model (e.g., Minuchin, 1985) involving a cycle of influences between anxiety, depression, marital adjustment, and family functioning. This indicates a key role that couple or family intervention could play in decreasing maternal anxiety and in turn reducing well-documented effects of anxiety on child outcome (reviewed in Bögels & Brechman-Toussaint, 2006).

**REFERENCES**


*Fam. Proc., Vol. 46, December, 2007*


