EXPRESSED EMOTION IN PARENTS OF CHILDREN WITH EARY-ONSET MOOD DISORDERS

DISSERTATION

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ABSTRACT

Expressed emotion (EE) refers to critical or overinvolved communication styles within the home, and negative ('high') EE has been linked to worse outcomes in adults and children with a variety of psychiatric disorders. The present study examined the relationship between parent factors (Axis I and Axis II psychopathology, current mood symptoms, knowledge of mood disorders) and child factors (current and worst mood severity and global functioning) and EE level in parents of children aged 8-11 with early-onset depression and bipolar disorder. Baseline data from mothers and fathers were examined separately using logistic and linear regressions.

Data initially were analyzed using a dichotomous high versus low EE rating scored from the Five Minute Speech Sample (FMSS). In the mothers, lower child current global functioning and higher parent-reported current mood severity in the child were the only significant predictors of high EE status. For the fathers, only lower child current functioning was a significant predictor of high EE status.

Next, data were analyzed using a continuous measure of critical comments obtained from the FMSS. In the mothers, lower child current functioning and higher

parent-reported current mood severity in the child were significant predictors of critical comments made. No factors significantly predicted critical comments made by the fathers.

Finally, EE was examined using a self-report Expressed Emotion Adjective Checklist, which provides a continuous scoring system of attitudes and behaviors expressed within parent-child dyads. For the mothers, all parent characteristics other than knowledge of mood disorders were significant predictors of more negative attitudes expressed by the parent toward the child. In the fathers, lower knowledge of mood disorders and higher Axis II Cluster B and Appendix B (depressive and negativistic personality disorders) symptoms were significant predictors of more negative attitudes expressed by the parent toward the child. In the mothers, the child's current functioning and mood severity (both parent- and child-reported) were significant predictors of more negative attitudes expressed by the child toward the parent. In the fathers, none of the parent or child variables were significant predictors of negative attitudes expressed by the child toward the parent.

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CHAPTER 1

INTRODUCTION

Family relationships have a powerful influence on the lives of most individuals. These relationships provide the environment in which much development occurs. Due to the influential nature of familial factors, less-than-ideal qualities of the family climate can have a deleterious impact on individual members. The conceptualization of family climate likely represents a bidirectional relationship, with the personality characteristics of each individual interacting with those of the other family members.

While even adult children are affected by their families of origin, young children likely would be affected more, as they are physically and emotionally dependent on their parents. The effects of parental psychopathology on children are well documented (McMahon & Peters, 2002), with research indicating that there are genetic and socioemotional sequelae associated with having a parent with a psychological disorder. Even parents who do not suffer from mental illness can negatively affect their children, through negative communication styles and poor parenting.

However, parenting does not occur within a vacuum, and the child's personality and behavior also must be considered. Children are born with unique temperaments that may make parenting easier or more challenging. And if the child has a psychological

disorder (e.g., mood disorder, as explored in this study), increased levels of stress will likely exist within the entire family (Hellander, Sisson, & Fristad, 2003). The stress may be due to the increased caregiving demands required of parents, and dealing with the effects of the child's illness. The symptoms of many psychological disorders are hard to live with, and are aversive to other family members. This may result in negativity expressed toward the child, which the child may reciprocate, creating an unpleasant family environment. Pertinent to this study, the families of children with affective illness are characterized by increased levels of dysfunction (Fristad & Clayton, 1991). And depressed children may be more sensitive to the effects of negative family climate because they often experience social withdrawal from peers, spending more time with parents and siblings. But even these relationships are often strained (Puig-Antich et al., 1985; Smith, Fristad, & Hellander, 2002).

The presence of a child with mental illness does not automatically doom a family to a negative existence, however. Many families of children with a psychological disorder are warm, nurturing, and understanding. If a negative family climate does exist, it is likely due a combination of parent and child personality characteristics, symptoms of the child's illness, and the added situational demands and stresses of raising a child with a mental illness. Furthermore, if the parent suffers from his or her own psychopathology, as is often the case with highly heritable disorders such as depression, this will probably contribute negatively to the family climate as well. The exact mechanism by which these parent and child characteristics interact to create family environment is unknown. Current research, and the focus of this study, centers on one aspect of family environment termed *expressed emotion*.

This study examines the family environment of children with mood disorders, and seeks to explore its relationship to personality and illness characteristics of both the parent and child. In this review I will first describe the dimensions and measurement of expressed emotion. Next, I present the research on the relationship between expressed emotion and patient outcomes. Finally, I discuss established and hypothesized factors associated with negative expressed emotion.

Expressed Emotion: Development of the Construct

The term "expressed emotion (EE)" refers to the emotional climate within a family. Specifically, "high EE" refers to critical, hostile, or overinvolved attitudes expressed by a family member toward an ill patient.

The term expressed emotion was coined by George Brown and colleagues (Brown, Carstairs, & Topping, 1958; Brown, Monck, Carstairs, & Wing, 1962; Brown, Birley, & Wing, 1972). This research group was working with adults with schizophrenia, and found that patients who returned to certain types of families had worse outcomes and greater relapse rates. Their group carried out a series of three studies; the concept of family climate evolved with each study. They determined that the dichotomous distinction of high versus low EE predicted relapse in this population of adults with schizophrenia. Subsequent researchers have broadened the scope of this initial work, studying adults with affective disorders and eating disorders, and children with behavioral and emotional difficulties. Details of the original, and more recent, studies are described subsequently.

Dimensions of Expressed Emotion

Expressed emotion is assessed by measuring a family member's emotion and attitudes when talking about the patient. The specific dimensions that constitute EE vary somewhat by measurement device, but the most common dimensions as described by Leff & Vaughn (1985) are defined below.

Critical comments are statements that constitute an unfavorable appraisal of the relative's behavior or personality. Critical comments go beyond dissatisfaction with the patient's symptoms; rather they involve blaming or rejecting the patient.

Hostility is considered present when the patient is rejected for whom he or she is, as opposed to what he or she does. Due to the similarity between criticism and hostility, some research drops hostility as a separate dimension.

Emotional overinvolvement (EOI) is designed to detect unusually marked concern by parents about patients. Reported behaviors that indicate overconcern include exaggerated emotional response, self-sacrificing and devoted behavior, and extremely overprotective behavior. Behavior displayed by the relative during the interview that indicates overconcern includes statements of attitude (statements about the impact of the illness on the relative, the relative's attitude toward the patient, the extent to which the relative is preoccupied with the patient, or the objectivity with which the relative views the patient and illness), emotional display (breaking down in tears during the interview), or dramatization (associated with overconcern about some relatively minor aspect of the patient, or extravagant praise). The dimension of emotional overinvolment was

developed in parents of adult children and may operate differently with young children, for whom a greater degree of parental involvement is normal. Studies of young patients continue to explore this issue.

Warmth may be assessed through tone of voice, spontaneity, sympathy/concern / empathy, and interest in the person.

Positive remarks refer to statements of praise, approval, or appreciation of the behavior or personality of the patient.

These five dimensions are assessed to some degree by most measures of expressed emotion (some of which are described below). Some measures assess additional dimensions, and others do not include all of the above dimensions (such as the Five Minute Speech Sample, used in the present study, which does not assess warmth). Based on scores assigned for each of the dimensions, relatives are typically described by an overall dichotomous rating of high EE or low EE. High EE is further classified as high critical or high EOI. The fact that the many facets of interpersonal/family communication are condensed to a dichotomous rating may seem simplistic. However, the dichotomous rating is still the most commonly used classification system for EE. This is due primarily to its robust power to predict illness outcome in adults and children with a variety of illnesses, based on a relative's high or low EE status (specific results are discussed subsequently).

Leff and Vaughn (1985) summarized general characteristics found to distinguish those relatives who showed high criticism or overinvolvment (rated 'high EE') from those who did not (rated 'low EE'). Low EE relatives were able to respect the patient's relationship needs for either greater reassurance and social support, or greater social

distance. High EE relatives were either intrusive or unsympathetic to the patient's relationship needs. The relative's attitude toward the legitimacy of the illness also distinguished low EE individuals (who viewed the patient as genuinely ill and saw symptoms as such) from high EE individuals (who felt the patient could control the behavior if they really wanted to). Relatives also had different levels of expectations for the patient's functioning, with low EE relatives allowing for low functioning due to an illness episode, while high EE relatives were intolerant of any deficits or unmet expectations. Finally, low EE relatives differed from high EE relatives in their calm emotional reactions and flexibility when dealing with the patient's symptoms.

While there has not been sufficient research on concurrent validity of EE, the construct has similarities with other established family interaction variables (Fristad, Gavazzi, Centolella, & Soldano, 1996). The emotional overinvolvement dimension of EE is similar to the concept of enmeshment, which has been shown to be associated with youth internalizing problems (Barber & Buehler, 1996). EOI also shares characteristics with the constructs of family differentiation and distance regulation (Cohen, Vasey, & Gavazzi, 2003). Psychoeducational and family therapy approaches attempt to create healthy levels of these family interaction variables, such that there is an appropriate balance of individuality and intimacy (e.g., less EOI).

Assessment of EE

As previously mentioned, several methods of assessing expressed emotion are currently in use. Most of them assess the dimensions of EE described above, with some variations. Assessment of EE can include structured interviews, open-ended speech

samples, and self-report questionnaires. The traditional interview and speech sample methods assign a dichotomous high/low EE rating, while the questionnaires provide more varied scoring systems.

The original measure of expressed emotion was created by Brown and Rutter (1966) for use with family members of adults with schizophrenia. The Camberwell Family Interview (CFI) is a clinical interview that assesses the EE dimensions described above, and assigns a high or low EE classification, with high EE being further specified as critical, overinolved, or both. Each of the five dimensions described above is scored independently. Therefore, a relative may theoretically be simultaneously high on both critical and warmth dimensions. However, overall EE status is a dichotomous high versus low. Due to the taxing length of the interview (4-5 hours administration), an abbreviated version (1-2 hours administration) was developed by Vaughn and Leff (1976b), and is the most common interview method used in research studies, particularly studies with adult patients.

Due to the length of the CFI and abbreviated CFI, other non interview-based measures of assessing EE have also emerged, including open-ended speech samples and self-report questionnaires (Van Humbeeck, Van Audenhove, De Hert, Pieters, & Storms, 2002). These measures, and the EE dimensions they assess, are heavily influenced by the CFI dimensions, described in detail above. While speech samples and especially self-report measures provide a less thorough examination of EE dimensions, the savings in time and resources are significant practical advantages.

The Five Minute Speech Sample (FMSS) is a brief interviewer-administered measure of expressed emotion developed by Magaña and colleagues (Magaña, Goldstein,

Karno, Miklowitz, Jenkins, & Faloon, 1986). It is often used in clinical research studies, particularly with young children, and has been shown to measure EE comparably to the CFI (Magaña et al., 1986; Leeb et al., 1991). As this is the measure utilized in the present study, details of scoring are provided here and elaborated upon in Chapter 2. Scoring is based on a content analysis of a relative's response to an open ended question ('Speak for 5 minutes about your relative'). Scores are not reflective of verbal fluency, as it is the quality of the statements that determines high or low ratings, rather than simple quantity. High EE is assigned based on either criticism or emotional overinvolvement (EOI) or both. A high criticism score includes any of the following: negative initial statement, negative relationship rating, or one or more criticisms. A high overinvolvement rating is based on: self-sacrificing overprotective behavior; emotional display during the interview; or a combination of excessive detail about the past, statements of positive attitude and/or excessive praise (5 or more positive remarks).

Self-report measures of EE have been developed as an alternative to the more cumbersome face-to-face interview assessments. Questionnaires that assess EE from the patient's perspective include: the Level of Expressed Emotion (LEE; Cole & Kazarian, 1988), which assesses the general emotional dimensions of intrusiveness, emotional response, negative attitudes towards the illness, and tolerance and expectations concerning the patient; the Influential Relationships Questionnaire (IRQ; Baker, Helmes, & Kazarian, 1984), which provides ratings on criticism, care, and protection; the Perceived Criticism Scale (PCS; Hooley & Teasdale, 1989) which consists of two questions ("How critical do you think you are of [relative]?" and "How critical do you think [relative] is of you?") each rated from 1 to 10, with a cutoff of 4 or greater

indicating high EE; and the Family Emotional Involvement and Criticism Scale (FEICS; Shields, Franks, Harp, McDaniel, & Campbell, 1992) which assesses criticism and emotional overinvolvement.

Questionnaires that assess EE from the relative's perspective include: the Patient Rejection Scale (PRS; Kreisman, Simmens, & Joy, 1979), which assesses criticism and rejection; the Questionnaire Assessment of Expressed Emotion (QAEE; Docherty, Serper, & Harvey, 1990), which consists of two scales: criticism/hostility and emotional overinvolvement; the Expressed Emotion Adjective Checklist (EEAC; Friedman & Goldstein, 1993) which consists of a positive and a negative scale, each rated twice (first to assess the relative's behavior toward the patient, second to assess the patient's behavior toward the relative); and the Family Attitude Scale (FAS; Kavanagh et al., 1997), which assesses criticism and hostility.

In summary, various measures are utilized to describe the level of unhealthy family climate variables. Measures include structured interviews, open-ended speech samples, and patient- or relative-completed questionnaires. Most methods assign a high or low EE rating, though some questionnaires provide scores on different dimensions. This description of the various methods of assessing EE is included to provide a context for the interpretation of the results described below, which represent several of the measures described above.

Studies of EE in Families of Adult Psychiatric Patients

Following the original studies done by Brown and colleagues with adult patients with schizophrenia, numerous studies have replicated the findings and expanded on the role of expressed emotion in a variety of other adult patient populations. As mentioned

above, the concept of EE was "discovered" when Brown and others noticed that the type of family environment to which a patient returned appeared related to how well the patient fared following hospitalization. This finding has been supported by studies indicating that high EE home environments do predict worse course of illness in patients. Studies using adult patients typically assess EE level in a spouse, as opposed to studies of child patients which assess EE level in parents.

The finding from the original studies by Brown and colleagues (Brown et al., 1958; Brown et al., 1962; Brown et al., 1972) was that the level of the relative's expressed emotion (i.e., hostility, criticism, and emotional overinvolvement) was the best predictor of patient relapse at a nine-month follow-up. The number of critical remarks made by the relative was the most important contributor to the relative's overall EE level, and hostility appeared to be highly related to criticism. The relapse rate in patients of high EE families was 76%, compared with 28% in low EE families (Brown et al., 1962). Similar results were subsequently found in other studies of adults patients with schizophrenia (Brown et al., 1972; Vaughn & Leff, 1976a; Vaughn, Snydere, Jones, Freeman, & Faloon, 1984).

More recent studies have expanded the original work to examine the role of expressed emotion in other disorders, including mood and eating disorders. Butzlaff & Hooley (1998) conducted a meta-analysis of 27 studies of EE. They found that relapse rates varied among the disorders, and were related to the emotional family climate of the patient. Among studies of schizophrenia, patients in high EE families had a 65% relapse rate, compared to 35% in low EE families. Patients with mood disorders had an even higher relapse rate of 70% in high EE families, compared with 31% in low EE families.

There were only two studies of eating disorders, and an effect size of .51 (large effect size) was reported. Butzlaff and Hooley (1998) concluded that the predictive power of EE may be as strong or stronger for mood disorders than for schizophrenia.

This strong association between expressed emotion and mood disorders is particularly relevant for the current study, which examines parents of young patients with mood disorders. There are far fewer studies in young children with mood disorders. They are described later in this review. The results from studies of mood disorders in adult populations are presented next.

In studies of adults with affective disorders, a significant association between EE and illness course has been demonstrated (Hooley, Orley, & Teasdale, 1986; Miklowtiz, Goldstein, Nuechterlein, Snyder, & Mintz, 1988; Vaughn & Leff, 1976a). Hooley et al. (1986) found that over a nine-month follow-up period, 59% of patients with high EE spouses relapsed, while no patients with low EE spouses relapsed. Similarly, Miklowitz et al. (1988) found that higher levels of familial EE predicted relapse at nine months, independent of medication adherence, in adults with bipolar disorder. An odds ratio indicated that the risk of relapse for patients from high EE families was 5.5 times that of patients from low EE homes.

Coiro and Gottesman (1996) summarized the seven studies published to that date which examined the relationship of expressed emotion to relapse in affective disorders. Based on a calculated odds ratio of the risk of relapse based on the relative's EE status, they determined that depressed persons with a high EE relative are 13 times more likely

to relapse than those with a low EE relative. This result adds to the findings that the EE-relapse association may be stronger for mood disorders than for schizophrenia (Hooley et al., 1986; Vaughn & Leff, 1976a).

To examine whether the specific type of mood disorder was significant, Coiro and Gottesman (1996) further estimated an odds ratio based on the type of affective disorder and concluded that the EE-relapse effect was stronger for patients with unipolar depression than for bipolar disorder. They caution however, that more studies with larger samples of each diagnostic category are required before firm conclusions can be drawn.

The studies described above replicated the original findings by Brown and colleagues that family climate was associated with course of illness in adults with schizophrenia. The studies also expanded that work to include patients with other disorders such as affective illness. Overall, the results of adult-focused studies indicate that family climate is influential, as it has a powerful association with the well-being of a psychiatrically ill patient. Specifically, high EE families were much more likely to have patients who relapsed than low EE families.

The results of the studies done with patients with mood disorders are especially relevant to the current study of children with mood disorders. Child-focused studies are fewer in number, and are described subsequently. However, the studies of adults with mood (and other) disorders may indicate the function of EE in younger patients.

Studies of EE in Families of Young Children

Following the interest in expressed emotion and adult patients, several research groups have begun to study the impact of family climate on young patients. This area of research would appear to be important, as children are almost always living at home with

their families during the onset and early course of their illness. Additionally, young children are typically more dependent on family members, thus the impact of both positive and negative family factors may be stronger.

EE studies have looked at children with a variety of diagnoses. One question that is still being examined is whether EE is a specific correlate or risk factor for particular childhood disorders (e.g., depression), or whether it is a nonspecific correlate of psychopathology in general. Hibbs et al. (1991) found higher rates of high EE among parents of children with either obsessive-compulsive disorder or disruptive behavior disorders, as compared with parents of community controls. However they found similar rates of high EE in both clinical groups. Other researchers have found comparable rates of high EE among samples of children with attention-deficit/hyperactivity disorder with and without comorbid oppositional or conduct disorders (Marshall, Longwell, Goldstein, & Swanson, 1990). Baker, Heller, and Henker (2000) studied young children with behavior problems as assessed by the Child Behavior Checklist (CBCL) and Teacher Report Form (TRF). They found that parents of high problem children scored more than five times as high on critical remarks as did parents of comparison children. Emotional overinvolvement scores were low and did not differ by group. When they examined results based on two components of EE, they found that critical remarks were significantly related to the CBCL externalizing score, but were unrelated to internalizing scores. Emotional overinvolvment was not related to either internalizing or externalizing scores. The relationship between the critical component of EE and externalizing symptoms is consistent with previous research (Stubbe, Zahner, Goldstein, & Leckman, 1993). As with other studies, EE was unrelated to socioeconomic status.

These studies suggest that at the very least, high levels of expressed emotion are related to childhood psychopathology in general. Further studies examined the specificity issue by examining differences within clinical groups.

Asarnow and colleagues (Asarnow, Goldstein, Tompson, & Guthrie, 1993; Asarnow, Tompson, Hamilton, Goldstein, & Guthrie, 1994; Asarnow, Tompson, Woo, & Cantwell, 2001) compared expressed emotion in families of children with depressive disorders, schizophrenia spectrum disorder, and community controls. They found that children with depressive disorders were significantly more likely to have families with high levels of critical EE, compared with community controls and schizophrenia spectrum disorders, who did not differ significantly from each other (Asarnow et al., 1994). Parents of depressed children did not differ significantly from parents of community controls on the emotional overinvolvement scale. The link between criticism and externalizing symptomatology was found as well. Asarnow et al. (1994) found that within the depressed group, the presence of a comorbid disruptive behavior disorder (attention-deficit/hyperactivity disorder, conduct disorder, oppositional defiant disorder) was associated with high levels of critical EE. The authors suggest that the combination of depression and disruptive behavior disorders (as opposed to pure internalizing disorders) may serve to increase the likelihood of criticism and rejection by parents and peers.

Support for the hypothesis that expressed emotion plays a role in mood disorders specifically is also found in a study examining children with major depression and dysthymic disorder which found that recovery at one-year follow-up was significantly more frequent in children who lived in homes where all parents/caregivers were rated as

low EE (Asarnow et al., 1993). This association held, even after controlling for sociodemographic variables, treatment regimen, and diagnostic factors such as comorbidity.

Further support for this hypothesis comes from a recent study by Asarnow and colleagues (Asarnow et al., 2001) that compared children with depressive disorders, attention-deficit/hyperactivity disorder, and community controls. They found that mothers of depressed children had significantly higher rates of critical EE than mothers of children with ADHD or community controls, who did not differ from each other. When both mothers' and fathers' scores were used, rates of overall EE and critical EE were significantly higher for the depressed group than the control group, but the ADHD group did not differ significantly from the other groups.

Supporting the results of studies with adult patients, research on young children has shown that level of expressed emotion in the parent is associated with course of illness in the child. These studies show a relation between EE and child psychopathology in general, and affective disorders specifically.

Factors that May Affect EE

Beyond the association between EE and course of illness, or type of disorder, researchers have begun to hypothesize which parent or child variables may be associated with EE level in parents of young patients. This line of research supports a bidirectional relationship, in that the parent and ill child reciprocally affect each other. The construct of expressed emotion may be a reflection of this interaction, or factors specific to either individual. Results for many of the following factors are inconclusive, and further research is needed, especially in families of young patients.

Patient's current functioning. One hypothesis regarding the construct of family climate is that EE is related to how the caregiver deals with characteristics of the child's disorder (e.g., irritability). Based on this hypothesis, it would seem reasonable that the more severe the child's symptoms, or the worse a child is functioning, the higher the levels of expressed emotion in the parent.

Tests of this hypothesis have mixed results. McCleary and Sanford (2002) found that high parental EE was associated with the presence of more depressive symptoms in the adolescent. Asarnow et al. (2001) found that higher levels of child impairment (as measured by the Global Assessment of Functioning) was associated with high overall and critical EE ratings in the overall sample of children with depression, ADHD, and community controls. In contrast, Coiro & Gottesman (1996), who primarily examined studies of adult patients (and one study of young children), reported that most studies have found that EE is generally unrelated to illness severity. It is possible that the relationship between EE and the child's current symptom severity or global functioning may present differently in families of young children than adult patients. However, without studies specifically examining this question, this is only speculative.

Parental psychopathology. Most studies that have examined parental psychopathology and EE have found an association between the two. Hibbs et al. (1991) found that parental psychiatric diagnosis was related to high EE in both mothers and fathers of children with disruptive behavior disorders, obsessive compulsive disorder, and community controls. Similarly, Goldstein and colleagues (Goldstein, Talovic, Neuchterlein, Fogelson, Subotnik, & Asarnow, 1992; Goldstein, Miklowitz, & Richards,

2002) found that the presence of a lifetime psychiatric disorder was significantly higher in the high EE group than the low EE group. And McCarty & Weisz (2002) found that maternal psychopathology predicted maternal critical EE specifically.

Some studies have further examined parental psychopathology by diagnosis type. Goodman, Adamson, Riniti, and Cole (1994) found that a history of maternal depression was associated with critical and overinvolved comments in a sample of children with a mixed diagnostic status. Hirshfeld and colleagues (Hirshfeld, Biedereman, Brody, Faraone, & Rosenbaum, 1997) examined the relationship between maternal anxiety disorders and expressed emotion in a sample of children with psychiatric disorders or behavioral inhibition. In mothers with anxiety disorders, maternal criticism was significantly associated with a high number of childhood disorders. Maternal lifetime history of anxiety disorders was associated with higher criticism, while a lifetime maternal history of affective disorder was associated with emotional overinvolvement.

In contrast to those findings, McCleary and Sanford (2002) found that EE was independent of parental depression. However, they noted that statistical power for that analysis was low, and the findings are inconclusive.

Beyond documenting presence/absence of parental psychopathology, longitudinal studies have not been conducted to determine if levels of EE in ill parents vary based on the severity of their own symptoms. In research that has looked at present symptomatology, both Stubbe and colleagues (1993) and Goodman and colleagues (1994) found that mothers' current level of depressive symptomatology was not related to their levels of expressed attitudes.

In summary, presence of a lifetime psychiatric diagnosis clearly appears to be associated with higher levels of EE in relatives. Two studies found that current symptomatology was not related to expressed emotion, however more research, particularly longitudinal work, is needed in this area.

Parental personality characteristics. It may be the case that the relative's own personality influences the level of criticism or overinvolvement that is expressed.

Goldstein and colleagues (2002) hypothesized that the link between EE and individual psychopathology would be more likely among relatives with Axis I disorders rather than Axis II personality disorders given that Axis I disorders are more episodic in nature, while Axis II disorders reflect chronic patterns of maladaptive behavior. However, there is not yet a research base to support or refute this hypothesis.

While research has not yet focused on Axis II diagnoses, one study has examined personality characteristics in relation to EE. Hooley & Hiller (2000) found that high EE relatives of patients with schizophrenia had lower scores on the personality traits of flexibility and tolerance than low EE relatives.

Thus, very little is currently known about the relationship between EE and parental personality characteristics or Axis II symptomatology.

Knowledge of illness / Controllability attributions. One hypothesis suggests that the level of knowledge that a family member possesses about their relative's illness could serve to alter the amount of blame they put on the patient regarding the degree of control the patient has over their behaviors. The degree to which a relative blames a patient for their symptoms may then affect the degree of negativity or criticism the relative displays.

Based on their assertion that low EE relatives viewed the patient's difficulties as a result of a legitimate illness, and altered expectations accordingly, Leff and Vaughn (1985) proposed that mental health education should be imperative for all patients and their families. These psychoeducational approaches (such as that under investigation in the larger project from which the current study data are derived) emphasize that the patient's problems are due to a mental illness, and not entirely under the patient's control. Reduction in negative EE within the family is a primary goal of many psychoeducational treatments.

Hooley (1987) posits an attributional / controllability model of EE such that high criticism among relatives is correlated with their belief that the symptoms of the illness are under the control of the patient. In this model, low EE relatives do not doubt the legitimacy of the patient's illness and perceive disruptive behavior as non-volitional. In contrast, high EE relatives hold the patient responsible for his symptoms, expressing frustration that the patient does not do more to help himself (Hooley, 1987).

Support for the attributional model comes from work by Hooley and colleagues (Hooley and Campbell, 2002; Hooley & Licht, 1997), and Bolton and colleagues (Bolton et al., 2003). Hooley and Licht (1997) examined causal attributions in spouses of depressed patients and found that high critical spouses were more likely than low critical spouses to attribute the patient's symptoms and negative behavior to factors that were controllable by the patient. High critical spouses also made more attributions that implied they held the patient responsible for their difficulties. Hooley and Campbell

(2002) studied relatives of patients with schizophrenia and unipolar depression. They found that in both clinical groups, high EE relatives attributed more control to the patient than did the low EE relatives.

Bolton and colleagues (Bolton et al., 2003) examined attributions made by parents of children with behavior problems. The researchers found that high EE mothers were more likely to make attributions that judged the cause of the child's problems to be personal and controllable, and made more 'child-blaming' attributions.

Thus, there appears to be support for the hypothesis that attributions made by a relative toward an ill family member is related to levels of expressed emotion, in both adult and child studies. While studies have not examined the role of knowledge specifically, knowledge of the illness may affect the controllability attributions made by the relative.

Summary. Researchers have begun to examine specific parent and child factors that may be associated with EE levels in the parent. Such factors include the child's current functioning, parental psychopathology, parental personality characteristics, and knowledge of the patient's illness. The results of most research, particularly with young children with mood disorders, have not yet reached a clear consensus as to the role of these factors. One exception is the presence of parental psychopathology, which has a strong documented association with high EE. One criticism of EE research is that focusing on the impact of family climate on the patient's course of illness can lead to a unidirectional 'family blaming' mindset. It is far more likely that qualities of the relative as well as the patient and his or her illness impact the family environment. The goal of this study is to begin to determine which parent or child factors may be related to EE. An

important development that has stemmed from EE research is the creation of psychoeducational treatments, which aim to reduce blame on family members by educating about the patient's illness and its impact on all family members. These treatments avoid the unidirectional mindset and instead acknowledge the interaction of parent and child factors.

Purpose of this Study

The emotional climate within a family can greatly impact individual members, especially children with a psychiatric disorder. The presence of a high EE relative is associated with worse course of illness in adults and children with a variety of diagnoses. The robust predictive power of the expressed emotion construct has been established for adults, and is still being established for children. However, little is known about the specific parent or child characteristics that may affect baseline levels of expressed emotion. Variables that are under examination include lifetime and current parental psychopathology, parental personality characteristics, child functioning, and parental knowledge of the illness. This study extends the current knowledge base and fills noted gaps in the literature in the following ways:

1) Researchers (Asarnow et al., 1993; Asarnow et al., 1994; Baker et al., 2000; Goldstein et al., 2002) have emphasized the need to continue to examine the association between expressed emotion and current and lifetime parental psychopathology, and parental personality characteristics. This study includes measures of both Axis I and Axis II symptomatology in parents, as well as severity scales of current parental mood symptoms.

2) To assess whether characteristics of the child affect parental EE, this study documents the child's global functioning and severity of mood symptoms during the past two weeks ('current') and during the worst lifetime episode. Both parent-report and child-report mood severity is obtained.

3) There is some support for an attributional model of EE (Hooley, 1987; Hooley & Licht, 1997; Hooley & Campbell, 2002), which asserts that family members who are higher in expressed emotion hold the patient responsible for their difficulties, and perceive those difficulties as controllable by the patient. However, relatives' knowledge of the causes and symptoms of the patient's illness (which could lead to fewer illness controllability attributions by the relative) has not adequately been examined in relation to EE level, particularly in young patients. To begin to document the relationship between parental EE and knowledge of their child's illness, this study includes a measure of mood disorder knowledge.

4) Finally, the current study includes data from both mothers and fathers, in contrast to many previous studies, which have been done primarily on mothers. A recent review by Schock, Gavazzi, Fristad, and Goldberg-Arnold (2002) illustrates that, like mothers, fathers with depression interact and communicate in less positive ways with their offspring than do nondepressed fathers. There is reason to believe, then, that EE should be examined in fathers as well. There may also be differences in how the factors described above operate in mothers and fathers. In keeping with the suggestion by Schock and colleagues (2002), involvement from fathers is broadly defined to include all paternal figures in the study (biological fathers, divorced fathers, stepfathers, and mothers' resident boyfriends).

Study Overview and Hypotheses

The current study examines the relationship between child and parent factors (as described above) and levels of EE. Data come from the Multi-Family Psychoeducation Group Project, a treatment-outcome study for families of children aged 8 to 11 with mood disorders. Baseline data from mothers and fathers were analyzed separately to document the relationships that exist for each group. This study attempts to add to the research base by documenting the role of expressed emotion in parents of young children with depression and bipolar disorder.

Parental expressed emotion is examined in relation to the following factors: 1) demographic variables (child's sex, parent's sex, family income level, and child's primary mood diagnosis [depressive disorder vs. bipolar disorder]); 2) parent knowledge of childhood mood disorders; 3) parental Axis I psychopathology; 4) parent current mood symptoms; 5) parent symptomatology of Axis II disorders; 6) child current and worst mood severity; 7) child current and worst global functioning.

Few published studies have examined these factors in children with depression and bipolar disorder, and there is little consensus among the available studies. Therefore, this study is somewhat exploratory in nature. Most studies have not found a relationship between demographic variables and expressed emotion, therefore they are not expected to be related to EE. Based on the attributional model described above, it is predicted that greater knowledge of mood disorders will be related to lower levels of expressed emotion. The one relationship that has been reliably found is between lifetime psychopathology and high EE. Therefore, it is hypothesized that this factor will be related to high EE. Likewise, based on the hypothesis that the parent's current state of

functioning could affect their expressed emotion, increased current depressive symptoms in the parent are expected to be related to high EE. No studies have specifically examined the role of Axis II symptomatology and expressed emotion. Therefore, that hypothesis is purely exploratory, but it is expected that parents with more symptoms of personality disorders will have higher levels of expressed emotion. Based on the hypothesis that the child's behavior could affect levels of expressed emotion elicited from parents, worse current mood severity and global functioning in the child are expected to be related to high EE.

CHAPTER 2

METHOD

Procedure

This study utilized data collected as part of the Multi-Family Psychoeducation Group (MFPG) study at the Ohio State University. Participants in the MFPG study are families of children aged 8 to 11, with a diagnosed mood disorder (depressive spectrum or bipolar spectrum), recruited from a community referral network including mental health providers, physicians, libraries, local agencies, and media coverage. Following a phone screen, families participated in an initial interview to determine study eligibility. All participants gave written informed consent/assent and each family member was interviewed separately.

The initial interview of the child assessed current and past mood symptoms, current comorbid psychopathology, and functioning at home, in school, and with peers. The child also completed self-report measures of depression, hopelessness, self-concept, social support, and treatment beliefs. If two caregivers were participating in the study, families were asked to choose one parent or caregiver to serve as the primary informant of the child's functioning. The primary informant's initial interview assessed the following information about the child: current and past mood symptomatology; current

comorbid psychopathology; treatment utilization; and lifetime course of illness. Additionally, the primary parent was assessed for his or her own history of psychopathology, current mood symptoms, family history of mental illness, and level of expressed emotion. The secondary caregiver was assessed for his or her own history of psychopathology, current mood symptoms, and level of expressed emotion. Both parents completed self-report measures of Axis II personality disorder symptomatology, expressed emotion, knowledge of mood disorders, beliefs about treatment, and scales about the child's functioning.

Following the initial assessment, families were randomly assigned to either the immediate treatment group, or a one-year waitlist. Regardless of treatment assignment, families participated in follow-up interviews at 6, 12, and 18 months after the initial assessment. Treatment consisted of eight 90-minute sessions of group psychoeducation. Each session begins with the parents and children meeting together to discuss the family project from the previous week. The children and their therapist then leave to an adjoining room for the middle part of the session, during which skills are taught. Each session ends with children and parents together, and the children report on their session's activities. Sessions are designed to provide social support, information, and skill building. Goals of the treatment include improved functioning for the child, increased knowledge of mood disorders for the parents, lower levels of expressed emotion within the family, and improved access to treatment services.

Data analyzed in the current study utilized only data collected at the initial assessment interview, as post-treatment data were not yet available.

Participants

Participants were 106 families enrolled in the MFPG study (see Table 2.1 for complete demographic data). 106 children (76 boys, 30 girls; mean age 9.9 $\pm$ 1.3), 106 primary caregivers (98 females, 8 males; mean age 39.8 $\pm$ 7.4), and 72 secondary caregivers (56 males, 16 females; mean age 43.9 $\pm$ 8.2) participated in the initial interview. Nearly half (43%; *n*=46) of the families consisted of married biological parents. A majority (74%; *n*=78) of the children were diagnosed with a bipolar spectrum mood disorder, and 25% (*n*=26) were diagnosed with a depressive spectrum mood disorder. Of the total sample of children, 94% had a comorbid behavior disorder, 49% had a comorbid anxiety disorder, and 24% had a comorbid 'other' disorder (i.e., eating disorder, enuresis, encopresis, psychosis). Of the subset (n = 78) of children with bipolar spectrum disorder, 95% had a comorbid behavior disorder, 54% had a comorbid anxiety disorder, and 24% had a comorbid 'other' disorder. Of the subset (n = 26) of children with depressive spectrum disorder, 88% had a comorbid behavior disorder, 38% had a comorbid anxiety disorder, and 23% had a comorbid 'other' disorder. Families were primarily Caucasian (88% of children, 94% of caregivers), and family income was approximately evenly distributed.

Characteristics	N	%
Child Factors (N=106)		
Race		
Caucasian	94	88.7
Black	6	5.7
Hispanic	1	0.9
Mixed Race	5	4.7
Diagnosis		
Bipolar Spectrum	78	73.6
Depressive Spectrum	26	24.5
Parent Factors (N=178)		
Race		
Caucasian	167	93.8
Black	9	5.1
Hispanic	1	0.6
Mixed Race	1	0.6
Relationship to child		
Biological Parent	119	66.9
Step-Parent	12	6.7
Adoptive Parent	24	13.5
Foster Parent	2	1.1
Grandparent	11	6.2
Aunt/Uncle	3	1.7
Respected Adult	5	2.8
Other	2	1.1
Family Factors (N=106)		
Family Structure		
Married Biological Parents	46	43.4
Married Adoptive Parents	10	9.4
Step Family	20	18.9
Single Mother	10	9.4
Single Father	2	1.9
Single Adoptive Parent	2	1.9
Foster Family	1	0.9
Annual Income		
< 20,000	12	11.3
20,000-39,000	20	18.9
40,000-59,000	21	19.8
60,000-79,000	19	17.9
80,000-99,000	14	13.2
>100,000	20	18.9

Table 2.1: Demographic child and parent characteristics of the full sample

Instruments

The initial interview consisted of multiple measures administered to both the child and parent(s), assessing areas described above. Instruments included in data analysis for the current study are described below.

The Five Minute Speech Sample (FMSS; Magaña et al., 1986; see Appendix A and Appendix B) is a brief measure of expressed emotion (EE) administered separately to both the primary and secondary informant. The parent is prompted to speak uninterrupted for five minutes about what kind of a person their child is and how the two of them get along together. Extensive description of the FMSS-EE dimensions was provided in Chapter 1. Previous studies have shown the FMSS to be reliable and valid. It has shown specificity, concurrent and predictive validity and cross-national reliability (Magaña et al., 1986; Leeb et al., 1991). The FMSS assesses the critical comments and emotional overinvolvement dimensions of EE (derived from various scales; see Appendix B for details of FMSS scoring). Audiotaped recordings and accompanying transcripts of the FMSS were sent to expert raters at UCLA (where the measure was developed) who were masked to all information about the participants other than sex and their primary or secondary informant status. The FMSS was used to assess the level of EE in both primary and secondary informants.

To date, a total of 42 of the study speech samples (7.7%) have been coded by a second rater for reliability. Examining the subscales separately, the raters agreed on 74% of the high/borderline/low critical ratings (weighted kappa = .524) and 69% of the high/borderline/low emotionally overinvolved ratings (weighted kappa = .372). These statistics reflect moderate to fair agreement between raters. For the continuous scales of

critical comments and positive remarks, raters agreed in 52% and 36% of cases, respectively. The correlation between raters on critical comments was .77, with an average disagreement of .09 comments (weighted kappa = .626). The correlation between raters on positive remarks was .63, with a mean disagreement of 1.14 remarks (weighted kappa = .372). These kappa values reflect substantial agreement for critical comments and fair agreement for positive remarks.

The Expressed Emotion Adjective Checklist (EEAC; Friedman & Goldstein, 1993; see Appendix C) is a self-report measure of EE. The informant is asked to rate the frequency of 20 behavioral adjectives (10 positive [e.g., accepting], 10 negative [e.g., hostile]). Behaviors are rated twice; first to assess the relative's behavior toward the patient, second to assess the patient's behavior toward the relative. A score for 'parent toward child' negative, positive, and total (positive minus negative) behaviors, 'child toward parent' negative, positive, and total (positive minus negative) behaviors, 'overall positive' (parent plus child) behaviors, 'overall negative' (parent plus child), and 'total family' EE (total positive minus total negative). No cutoff score is indicative of 'clinical' or 'high' EE. Higher negative scores are considered worse, while higher positive scores are considered healthy. Scale reliability analyses of the EEAC were conducted using the data set from this study, and revealed good internal consistency. For the sample of mothers, Chronbach's Alpha was 0.86 for the positive scale, and 0.84 for the negative scale. For the sample of fathers, Chronbach's Alpha was 0.89 for the positive scale and 0.88 for the negative scale. The EEAC was only administered to the parents; therefore the child behaviors scored on this measure are from the parent's perspective. The EEAC was administered to both primary and secondary informants to assess EE level.

The Children's Interview for Psychiatric Syndromes – Child and Parent Forms (ChIPS/P-ChIPS; Weller, Weller, Rooney, & Fristad, 1999a; 1999b) are structured diagnostic interviews designed to assess DSM-IV psychopathology in children and adolescents. The ChIPS was administered to the child and the P-ChIPS was administered to the primary informant. The measure assesses twenty syndromes, and documents onset and duration of the illness. Lifetime and current psychosocial stressors are also assessed. At the initial assessment, current symptoms of all disorders as well as lifetime symptoms of mood disorders were assessed. The measure has demonstrated reliability and validity in both inpatient and outpatient populations. Data from the ChIPS/P-ChIPS were used in the Consensus Conference procedure by which study diagnoses (both primary mood disorder and comorbid disorders) are determined.

The Children's Depression Rating Scale-Revised (CDRS-R; Poznanski, Grossman, Buchsbaum, Banegas, Freeman, & Gibbons, 1984; see Appendix D) is a clinician-rated severity scale for depression in children. The scale has 21 items, each rated on a 1-5 or 1-7 scale in direction of increasing severity. Total scores can range from 17 to 113. The total score on the CDRS-R has been shown to correlate with clinical global ratings of depression and to differentiate children by severity of depression. Interrater reliability is adequate, as is test-retest reliability (Poznanski et al., 1984). The CDRS-R was administered to both the child and the primary informant to assess the child's depressive symptomatology during the worst lifetime period and the current two-week period.

The Mania Rating Scale (MRS; Young, Biggs, Ziegler, & Meyer, 1978; see Appendix E) is a clinician-rated severity scale of manic symptoms. The scale has 11

items, each rated on a 0-4 or 0-8 scale in direction of increasing severity. Total scores can range from 0 to 60. Reliability and validity are acceptable for adults and children (Young et al., 1978; Fristad, Weller, & Weller, 1992). The MRS was administered to both the child and the primary informant to assess the child's manic symptomatology during the worst lifetime period and the current two-week period. The MRS was also administered to both the primary and secondary informants to assess parental manic symptomatology during the worst lifetime period and the current two-week period.

Mood Severity Index. For the children, the scores from the CDRS-R and the MRS are combined to create a mood severity index (MSI) score, using the following formula: (CDRS-R score – 17 x 11/17) + MRS score. Adjustments are made to account for the CDRS-R having a minimum score of 17 versus the MRS minimum of zero, and for the greater number of items on the CDRS-R. Also, since both scales have an irritability item, this item is downweighted by 0.5 on each scale to avoid doubling its weight. Four mood severity indices were calculated for each child at the initial interview: current and worst MSI scores based on parent-report of child's MRS and CDRS-R scores, current and worst MSI scores based on child-report of MRS and CDRS-R scores.

The Children's Global Assessment Scale (CGAS; Shaffer et al., 1983; see Appendix F) is a clinical rating scale to document children's overall functional capacity. Scores range from 1 (indicating a severely impaired child) to 100 (indicating a child with superior functioning). Reliability and validity are adequate (Shaffer et al., 1983). The CGAS rating was completed for both the current and worst period, to assess the child's global functioning. The CGAS rating was assigned by the principal investigator and another senior staff member, utilizing a consensus procedure.

The Psychiatric Diagnostic Interview (PDI; Othmer, Penick, Powell, Read, & Othmer, 1989; see Appendix G) is a structured diagnostic interview to assess psychiatric diagnoses in adults. Reliability and validity are acceptable (Othmer et al., 1989). The PDI was administered to both the primary and secondary informant to assess current and lifetime parental Axis I symptomatology.

The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin,1997; see Appendix H) is a semi-structured interview which can be used in combination with a self-report questionnaire. Reliability of the SCID-II for the DSM-IV has not been established; however, reliability of its predecessor, the DSM-III-R SCID-II was adequate (First et al., 1997). The SCID-II provides a proportion of endorsed symptoms for each of the 10 DSM-IV personality disorders, as well as Negativistic Personality Disorder and Depressive Personality Disorder, which are included in Appendix B of DSM-IV. Cluster A, B, and C proportions are also provided, as is an additional composite proportion based on the Appendix B disorders. The SCID-II self-report questionnaire was administered to both the primary and secondary informant to assess symptomatology of personality disorders.

The Hamilton Rating Scale for Depression (Ham-D; Hamilton, 1967; see Appendix I) is a severity rating scale to assess depressive symptomatology in adults. The total score is the sum of 17 items and ranges from 0 to 50. The Ham-D shows high interrater reliability and adequate validity (Hedlund & Vieweg, 1979). The Ham-D was administered to both the primary and secondary informant to assess parental depression severity in the past two weeks.

The Understanding Mood Disorders Questionnaire (UMDQ; Gavazzi, Fristad, & Law, 1997; see Appendix J) is a self-report questionnaire that assesses knowledge of mood disorders and their treatment. The measure consists of a) 20 true-false-don't know questions to assess attributions about mood disorders, knowledge of symptoms, course and treatment of the disorder, and b) a 19-item checklist to ascertain awareness of manic and depressive symptoms. Higher scores reflect greater understanding. A psychometric study of 20 mothers and 13 fathers from 24 families indicated good internal consistency ($\alpha = .73$) and sensitivity to changes in knowledge about mood disorders (Gavazzi et al., 1997). The UMDQ was administered to both the primary and secondary informant to assess current knowledge of mood disorders in children. As noted in the previous chapter, the association between EE and attribution style has been explored, while knowledge of the disorder has not. This study used knowledge of mood disorders as a rough approximation of attribution style.

Data Analysis

The full database of 178 informants was divided into two separate groups (males versus females) to examine differences in expressed emotion between parent sex. Details of these two samples are described in Chapter 3. In order to maximize the available data, all informants were included. While it is possible that relatives or other respected adults function differently than a true parent, their involvement in the child's life (and their expressed emotion) can still be influential. For the purposes of simplicity, female informants, regardless of type, will be referred to as 'mothers' and males as 'fathers' for the remainder of this study.

Data from the FMSS were first inspected to determine frequencies of the various subcategories of EE classification. To avoid analyses with very small numbers in any one cell, research questions were first examined based on a dichotomous classification of either high EE or low EE. As described in Chapter 1, the FMSS provides additional information regarding the type of high EE (high critical, high emotional overinvolvement, high critical and emotional overinvolvement), with low EE indicating an absence (or borderline rating) of both dimensions. Based on the rating distribution of the available sample size, utilization of the four-category classification was not advised, as addressed in Chapter 3. Future studies with the entire MFPG sample might allow for more detailed analysis of the EE subcategories.

The planned procedure for determining the influence of each of the following predictors was based on recommendations by Hosmer and Lemeshow (2000): following a series of single-factor regression analyses, those variables that showed a relationship with EE level are kept and entered into a multiple-factor regression analysis. Hosmer and Lemeshow suggest that within an exploratory approach, the decision of which variables to keep for the multiple-factor analysis may be more lenient, based on variables with a p-value of .25 or less in the single-factor analyses. The following analyses were conducted separately for mothers and fathers.

Research question 1: To examine the relationship between parental EE level and demographic variables (child's sex, family income, and child's primary mood diagnosis [depressive disorder vs. bipolar disorder]), single-factor logistic regressions were computed.

Research question 2: To examine the relationship between parental EE level and parental knowledge of mood disorders (as assessed by the total score on the UMDQ), a single-factor logistic regression was conducted.

Research question 3: To examine the relationship between parental EE level and parental lifetime psychiatric diagnosis (as assessed by the PDI, utilizing a composite score based on lifetime and current symptoms and diagnosis), a single-factor logistic regression was computed.

Research question 4: To examine the relationship between parental EE level and the parent's current mood symptoms (as assessed by the total score on the Ham-D, and the parent MRS current score), single-factor logistic regressions were conducted.

Research question 5: To examine the relationship between parental EE level and Axis II symptomatology (as assessed by the proportions of endorsed symptoms for each personality disorder cluster, as provided by the SCID-II), single-factor logistic regressions were conducted.

Research question 6: To examine the relationship between parental EE level and the child's mood severity (as assessed by both the parent-report and child-report current and worst MSI scores), single-factor logistic regressions were conducted.

Research question 7: To examine the relationship between parental EE level and the child's global functioning (as assessed by the current and worst CGAS scores), single-factor logistic regressions were conducted.

Research question 8: To examine the relationship between parental EE level and the significant predictor variables above, a multiple-factor logistic regression was conducted.

CHAPTER 3

RESULTS

Participants

The total sample of 178 informants was first divided into two groups based on informant sex. This was done to examine the role of expressed emotion in mothers and fathers separately, as well as to maximize comparisons with previously published EE studies, most of which have used primarily maternal data. Also, because a majority of children had two informants participating in the study, analyses were conducted separately for mothers and fathers to avoid the dependence of data resulting from two informants discussing the same child.

Dividing the sample based on sex resulted in 114 female informants and 64 male informants. Of the 106 children whose baseline data are included in this study, 60 had a male and a female informant, 30 had a single female informant, 12 had two female informants, and 4 had a single male informant. To avoid two informants reporting on the same child, the twelve female secondary informants who also had a female primary informant were deleted from analyses of child factors (i.e., child mood severity and global functioning). Because the FMSS data are the primary dependent variable, individuals for whom a valid FMSS scoring was not available at the baseline assessment

were deleted from this study. This resulted in 22 informants (12 female, 10 male) dropped due to missing FMSS data. Thus, data from a total of 102 females (88 primary informants, 14 secondary informants; mean age 40.5 ± 8.2) and 54 males (7 primary informants, 47 secondary informants; mean age 43.2 ± 7.9) were available for this study. Table 3.1 includes detailed demographic data of the two samples. Compared to the fathers, the mothers in this sample had a lower annual income and were younger.

	Females (N=102)		Males (N=54)	
	n	%	n	%
Informant Type				
Primary	88	86.3	7	13.0
Secondary	14	13.7	47	87.0
Child's sex				
Male	68	66.7	40	74.1
Female	34	33.3	14	25.9
Race				
Caucasian	94	92.2	51	94.4
Black	6	5.9	3	5.6
Hispanic	1	1.0	-	-
Mixed Race	1	1.0	-	-
Relationship to child				
Biological Parent	72	70.6	30	55.6
Step-Parent	1	1.0	11	20.4
Adoptive Parent	13	12.7	9	16.7
Foster Parent	1	1.0	1	1.9
Grandparent	9	8.8	2	3.7
Aunt	3	2.9	-	-
Respected Adult	1	1.0	1	1.9
Other	2	2.0	-	-
Family Structure				
Married Biological Parents	39	38.2	28	51.9
Married Adoptive Parents	10	9.8	8	14.8
Step Family	21	20.6	11	20.4
Single Mother	12	11.8	2	3.7
Single Adoptive Parent	1	1.0	-	-
Foster Family	1	1.0	1	1.9
Other	18	17.6	4	7.4

Continued

Table 3.1: Demographic data of the female and male samples

Table 3.1 continued

Annual Income				
< 20,000	13	12.7	2	3.7
20,000-39,000	24	23.5	9	16.7
40,000-59,000	20	19.6	9	16.7
60,000-79,000	18	17.6	11	20.4
80,000-99,000	11	10.8	10	18.5
>100,000	16	15.7	13	24.1

Variable Selection

Expressed emotion. As described previously, the FMSS provides several scores of expressed emotion (see Appendix B). The traditional method of analyzing these data is to utilize a dichotomous high-low distinction. A high classification is based on either high critical, high emotional overinvolvement (EOI), or high on both. The current study utilized the dichotomous distinction of high versus low, rather than examining the specific categories of EE because the number of informants who were rated high only on EOI (11 informants; 5 males, 6 females), or high on both EOI and critical (8 informants; 5 males, 3 females) was quite small. Of the informants who were rated 'high EE,' 75% of them were high critical only. Therefore, categorical analyses of the subcategories would not be indicated.

However, given that the vast majority of the high EE parents in this study rated high critical, it is worth examining this dimension in more detail. Some previous research has analyzed the frequency count of critical comments provided by the FMSS scoring system. This subscale provides a continuous-scale measurement of the number of critical comments expressed by the parent, allowing for comparisons within the large

group of parents who rate high critical. The FMSS requires a minimum of 1 critical comment for a rating of 'high critical EE', however no distinction is made between parents who make 1 critical comment and those who make many more than 1. To examine possible differences in criticism when viewed as a continuous rather than categorical variable, this study examined the critical comments subscale (a frequency count) of the FMSS as well as the high-low distinction. For the mothers, the mean number of critical comments was 1.51 (S.D. $\pm$ 1.7), with a range of 0 to 7. The modal number of critical comments was 0. For the fathers, the mean number of critical comments was 0.85 (S.D. + 1.2), with a range of 0 to 5. The modal number of critical comments was 0. Tables 3.2 and 3.3 provide descriptive statistics of the FMSS data for the mothers and fathers.

	Mothers (n=102)		
EE status	High: 72.5% (N=74)	Low: 27.5% (N=28)	
	Present	Absent	
High-Critical EE*	67.6 % (N=69)	32.4% (N=33)	
High-EOI EE*	8.8 % (N=9)	91.2% (N=93)	
Borderline-Critical EE	18.6% (N=19)	81.4 (N=83)	
Borderline-EOI EE	48.0 % (N=49)	52.0 (N=53)	
Subscales			
	Negative	Neutral	Positive
Initial Statement	8.8% (N=9)	62.7% (N=64)	28.4% (N=29)
Relationship	8.8% (N=9)	79.4% (N=81)	11.8% (N=12)
	Present	Absent	
Dissatisfaction	76.5% (N=78)	23.5% (N=24)	
Emotional Display	2.0% (N=2)	98.0% (N=100)	
Excessive Detail	21.6% (N=22)	78.4% (N=80)	

Continued

Table 3.2:FMSS-EE status and subscale ratings for the sample of mothers

Table 3.2 continued

	Present	Absent	Borderline
Self-Sacrificing	1.0% (N=1)	92.2% (N=94)	6.9% (N=7)
Overprotective	1.0% (N=1)	95.1% (N=97)	3.9% (N=4)
Lack of Objectivity	1.0% (N=1)	91.2% (N=93)	7.8% (N=8)
	Mean	Median	Range
Statement of Attitude	0.22 (+ 0.54)	0.00	0-2
Positive Remarks	1.53 (+ 1.83)	1.00	0-8
Critical Comments	1.51 (+ 1.50)	1.00	0-7

*Note: 3 mothers were rated high on both critical and EOI subscales

	Fathers (n=54)		
EE status	High: 50.0% (N=27)	Low: 50.0% (N=27)	
	Present	Absent	
High-Critical EE*	42.6 % (N=23)	57.4% (N=31)	
High-EOI EE*	18.5 % (N=10)	81.5% (N=44)	
Borderline-Critical EE	31.5% (N=17)	68.5% (N=37)	
Borderline-EOI EE	40.7 % (N=22)	59.3% (N=32)	
Subscales			
	Negative	Neutral	Positive
Initial Statement	3.7% (N=2)	51.9% (N=28)	44.4% (N=24)
Relationship	0.0% (N=0)	66.7% (N=36)	33.3% (N=18)
	Present	Absent	
Dissatisfaction	74.1% (N=40)	25.9% (N=14)	
Emotional Display	1.9% (N=1)	98.1% (N=53)	
Excessive Detail	24.1% (N=13)	75.9% (N=41)	
	Present	Absent	Borderline
Self-Sacrificing	5.6% (N=3)	94.4% (N=51)	0.0% (N=0)
Overprotective	3.7% (N=2)	94.4% (N=51)	1.9% (N=1)
Lack of Objectivity	0.0% (N=0)	87.0% (N=47)	13.0% (N=7)
	Mean	Median	Range
Statement of Attitude	0.33(+ 0.64)	0.00	0-3
Positive Remarks	1.83 (+ 1.97)	1.00	0-8
Critical Comments	0.85 (+ 1.20)	0.00	0-5

*5 fathers were rated high on both critical and EOI subscales

Table 3.3: FMSS-EE status and subscale ratings for the sample of fathers

Parental psychopathology. To examine parental psychopathology, the Psychiatric Diagnostic Interview (PDI) was used. The PDI assesses 18 diagnoses, and a parent can receive a 'no diagnosis or symptoms ('0'),' 'symptoms ('1'),' or 'diagnosis ('2')' score for each disorder for the current two weeks and during the lifetime. The lifetime rating assesses the presence of a diagnosis or symptoms at any time in the informant's life, or currently. An informant may have a lower rating currently than lifetime (due to full or partial remission of symptoms), but they cannot be rated higher currently than lifetime. The frequency of endorsements for each disorder is listed below in Table 3.4.

Because many of the disorders had no or few endorsements, not all diagnoses were examined individually. Rather, a 'PDI score' was created for each informant by summing their ratings at both time periods, and then summing across all disorders. This score provided a global index of level of general psychopathology in the lifetime. For each disorder, a score of '0' was assigned if the informant had 'no diagnosis/symptoms' at both current and lifetime ratings. A score of '1' was assigned if the informant had 'no diagnosis/symptoms' at current rating, and 'symptoms' at lifetime rating. A score of '2' was assigned if the informant had 'no diagnosis/symptoms' at current rating, and 'diagnosis' at lifetime rating, or if the informant had 'symptoms' currently and at lifetime. A score of '3' was assigned if the informant had 'symptoms' at current rating, and 'diagnosis' at lifetime rating. A score of '4' was assigned if the informant had 'diagnosis' currently (and therefore, lifetime as well). Then the scores for each disorder were summed. For the mothers, the total PDI scores ranged from 0 to 24, with a mean score of 7.3 ($\pm$ 5.9). For the fathers, the total PDI scores ranged from 0 to 19, with a mean score of 5.3 ($\pm$ 5.0).

	Mothers (n=102)		Fathers (n=54)	
	% Symptoms (n)	% Diagnosis (n)	% Symptoms (n)	% Diagnosis (n)
Current				
Organic Brain Disorder	0.0 (0)	0.0 (0)	1.9 (1)	0.0 (0)
Alcoholism	0.0 (0)	1.0 (1)	**5.6 (3)**	1.9 (1)
Drug Abuse	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Depression	**36.3 (37)**	**18.6 (19)**	**25.9 (14)**	**14.8 (8)**
Mania	**12.7 (13)**	3.9 (4)	**11.1 (6)**	1.9 (1)
Schizophrenia	2.0 (2)	0.0 (0)	1.9 (1)	0.0 (0)
Antisocial Personality Disorder	0.0 (0)	0.0 (0)	1.9 (1)	0.0 (0)
Somatization	1.0 (1)	0.0 (0)	1.9 (1)	0.0 (0)
Anorexia	2.0 (2)	0.0 (0)	0.0 (0)	0.0 (0)
Bulimia	2.0 (2)	2.0 (2)	1.9 (1)	0.0 (0)
PTSD	4.9 (5)	3.9 (4)	3.7 (2)	1.9 (1)
Obsessive-Compulsive Disorder	4.9 (5)	**5.9 (6)**	3.7 (2)	1.9 (1)
Phobia	2.9 (3)	**6.9 (7)**	**7.4 (4)**	**7.4 (4)**
Panic Disorder	**5.9 (6)**	**5.9 (6)**	**7.4 (4)**	**5.6 (3)**
Generalized Anxiety Disorder	**9.8 (10)**	**28.4 (29)**	**14.8 (8)**	3.7 (2)
Mental Retardation	2.9 (3)	0.0 (0)	1.9 (1)	0.0 (0)
Adjustment Disorder	2.9 (3)	2.0 (2)	3.7 (2)	0.0 (0)
Undiagnosed Psych	2.9 (3)	2.9 (3)	0.0 (0)	3.7 (2)
Lifetime				
Organic Brain Disorder	0.0 (0)	0.0 (0)	1.9 (1)	0.0 (0)
Alcoholism	4.9 (5)	**8.8 (9)**	1.9 (1)	**27.8 (15)**
Drug Abuse	**5.9 (6)**	**6.9 (7)**	**11.1 (6)**	**9.3 (5)**
Depression	**21.6 (22)**	**65.7 (67)**	**24.1 (13)**	**37.0 (20)**
Mania	**9.8(10)**	**13.7 (14)**	**16.7 (9)**	1.9 (1)
Schizophrenia	2.0 (2)	0.0 (0)	1.9 (1)	0.0 (0)
Antisocial Personality Disorder	2.9 (3)	0.0 (0)	**13.0 (7)**	1.9 (1)
Somatization	2.0 (2)	0.0 (0)	1.9 (1)	0.0 (0)
Anorexia	4.9 (5)	1.0 (1)	1.9 (1)	0.0 (0)
Bulimia	**5.9 (6)**	4.9 (5)	1.9 (1)	0.0 (0)
PTSD	**10.8 (11)**	**11.8 (12)**	**5.6 (3)**	3.7 (2)
Obsessive-Compulsive Disorder	**5.9 (6)**	**7.8 (8)**	3.7 (2)	1.9 (1)
Phobia	4.9 (5)	**7.8 (8)**	**7.4 (4)**	**11.1 (6)**
Panic Disorder	**18.6 (19)**	**13.7 (14)**	**9.3 (5)**	**7.4 (4)**
Generalized Anxiety Disorder	**15.7 (16)**	**30.4 (31)**	**20.4 (11)**	1.9 (1)
Mental Retardation	3.9 (4)	0.0 (0)	3.7 (2)	0.0 (0)
Adjustment Disorder	0.0 (0)	1.0 (1)	1.9 (1)	0.0 (0)
Undiagnosed Psych	4.9 (5)	2.9 (3)	0.0 (0)	**5.6 (3)**

*Note: percentages greater than 5% are bolded

Table 3.4: Lifetime and current psychopathology in the mothers and fathers

Parental mood symptoms. Given that this study focuses on mood disorders, depressive and manic symptoms were assessed more specifically in the parents. In addition to the classification on the PDI, each informant was administered the Hamilton Rating Scale for Depression (Ham-D) and the Mania Rating Scale (MRS). The total score on each of these instruments was utilized in analyses. Only the current MRS score was used, to parallel the current depressive measure.

Scores on the Ham-D can range from 0 (no depressive symptoms present) to 72 (all depressive symptoms at highest severity). For the mothers, the mean score on the Ham-D was 8.9 (S.D. $\pm$ 7.9), and the range was 0 to 38. For the fathers, the mean Ham-D score was 5.1 (S.D. $\pm$ 5.9), and the range was 0 to 28.

Total scores on the MRS can range from 0 to 60, with higher scores indicating greater impairment. In the sample of mothers, the mean MRS-current score was 4.2 (S.D. $\pm$ 6.3), and the range was 0 to 31. For the sample of fathers, the mean MRS-current score was 2.8 (S.D. $\pm$ 3.6), and the range was 0 to 14.

Parental knowledge of mood disorders. The Understanding Mood Disorders Questionnaire (UMDQ) was utilized to assess each informant's knowledge of mood symptoms, and treatment. The UMDQ score can range from 0 to 39, with higher scores indicating greater knowledge. The mean UMDQ score for the mothers was 32.7 (S.D. $\pm$ 6.2), with a range of 12 to 39. The mean UMDQ score for the fathers was 30.7 (S.D. $\pm$ 6.2) with a range of 10 to 39.

Parental Axis II symptomatology. The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) Questionnaire was completed by parents to assess for symptoms of the 10 DSM-IV personality disorders as well as Negativistic

Personality Disorder and Depressive Personality Disorder, which are included in Appendix B of DSM-IV. As the questionnaire was utilized as a screening device, and further interviewer inquiry was not done, no attempt was made to determine diagnostic status of the parent. Thus, only a broad index of current Axis II symptomatology was obtained. Scoring of the self-report questionnaire consists of a computed proportion of the symptoms answered 'yes' for each disorder, as well as an overall proportion of endorsements for each cluster. The mean proportions for each disorder and the clusters are presented in Table 3.5. The disorders comprising each cluster and Appendix B were correlated with each other to determine if the use of the overall cluster proportions was justified in the remaining analyses. That is, Paranoid, Schizotypal, and Schizoid personality disorders (cluster A) were correlated with each other; Histrionic, Narcissistic, Borderline, and Conduct (Antisocial) personality disorders (cluster B) were correlated with each other; Avoidant, Dependent, and Obsessive-Compulsive personality disorders (cluster C) were correlated with each other; and Negativistic and Depressive personality disorders (Appendix B) were correlated with each other. For both mothers and fathers, the correlations of each disorder within all clusters and Appendix B were significant (correlations ranged from 0.32 to 0.70). Therefore, remaining analyses utilized only the overall proportion of endorsed symptoms for clusters A, B, and C, and Appendix B.

Disorder	Mean (+S.D.) for Mothers	Mean (+ S.D.) for Fathers (n=52)
Paranoid	0.17 (0.22)*	0.12 (0.20)
Schizotypal	0.17 (0.15)*	0.11 (0.12)
Schizoid	0.28 (0.20)*	0.25 (0.22)
Histrionic	0.14 (0.17)*	0.16 (0.19)
Narcissistic	0.11 (0.13)*	0.13 (0.15)
Borderline	0.21 (0.24)*	0.12 (0.15)
Conduct	0.05 (0.10)*	0.08 (0.12)
Avoidant	0.34 (0.29)*	0.22 (0.24)
Dependent	0.17 (0.18)*	0.13 (0.14)
Obsessive-Compulsive	0.41 (0.21)**	0.42 (0.21)
Negativistic	0.21 (0.21)**	0.20 (0.23)
Depressive	0.26 (0.24)**	0.19 (0.23)
Cluster A	0.20 (0.15)*	0.15 (0.14)
Cluster B	0.12 (0.13)*	0.12 (0.12)
Cluster C	0.39 (0.22)**	0.33 (0.18)
Appendix B	0.23 (0.20)**	0.20 (0.20)

* n=102
** n=101

Table 3.5: Mean proportions of endorsed symptoms for Axis II disorders and clusters for the mothers and the fathers

Child mood severity. The severity of the child's current and worst depressive and manic symptoms was assessed by combining the scores from the Child Depression Rating Scale – Revised (CDRS-R) and the Mania Rating Scale (MRS). This mood severity index (MSI) is computed for both parent-report CDRS-R and MRS as well as child-report CDRS-R and MRS, with higher scores indicating more impairment. The secondary informant is not administered these two rating scales. The mean current MSI based on parent-report was 31.9 (S.D. $\pm$ 15.1) with a range of 5.4 to 82.5. The mean current MSI based on child-report was 26.7 (S.D. $\pm$ 15.1) with a range of 0 to 77.1. The mean MSI for the worst lifetime period, based on parent-report was 52.3 (S.D. $\pm$ 13.8)

with a range of 20.1 to 92.8. The mean worst MSI based on child-report was 34.4 (S.D. $\pm$ 14.2) with a range of 6.4 to 77.1.

Child overall level of functioning. The Children's Global Assessment Scale (CGAS) was used to determine the child's overall current and worst level of functioning. The CGAS rating was assigned through a consensus procedure by two senior study personnel, using data obtained from both the child and parent(s). Lower CGAS scores indicate greater impairment. The mean CGAS rating for the child's current two weeks was 45.8 (S.D. $\pm$ 7.7), with a range of 17 to 60. The mean CGAS for the child's worst period was 36.9 (S.D. $\pm$ 9.6), with a range of 14 to 55.

Research Question 1 – Demographic Characteristics

Single-factor logistic regression analyses were run with FMSS-EE status (high versus low) as the dependent variable and child sex, income, and child's mood diagnosis (depression versus bipolar disorder) as the predictor variables, in separate analyses.

Mothers. None of the demographic characteristics were significant predictors of FMSS-EE status. With EE status as the dependent variable, and child sex entered as the only predictor variable, the model was not significantly reliable (χ^2 = .40, df = 1, p =.527). The model accounted for approximately none of the variance in EE status. When child mood diagnosis was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .084, df = 1, p =.773). The model accounted for approximately none of the variance in EE status. When annual income was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .222 df = 1, p =.638). The model accounted for approximately none of the variance in EE status. The

coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.6.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Child Sex	-.303	.484	.392	.531	.738
Child Mood Diagnosis	.154	.537	.082	.774	1.17
Income	.065	.138	.220	.639	1.07

Table 3.6: Results of separate logistic regressions with demographic characteristics as predictors and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. None of the demographic characteristics were significant predictors of FMSS-EE status. With EE status as the dependent variable, and child sex entered as the only predictor variable, the model was not significantly reliable (χ^2 = .387, df = 1, p =.534). The model accounted for 0.7 to 1.0 percent of the variance in EE status. When child mood diagnosis was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .00, df = 1, p = 1.0). The model accounted for approximately none of the variance in EE status. When annual income was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 2.35 df = 1, p =.126). The model accounted for 4 to 5 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.7.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Child Sex	.388	.626	.384	.536	1.47
Child Mood Diagnosis	.000	.655	.000	1.00	1.00
Income	-.280	.187	2.25	.133	.756

Table 3.7: Results of separate logistic regressions with demographic characteristics as predictors and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 2 – Knowledge of Mood Disorders

A single-factor logistic regression analysis was computed to determine if parental knowledge of mood disorders predicted FMSS-EE status. EE status (high versus low) was the dependent variable with the total score on the UMDQ as the only predictor variable.

Mothers. The model was not significantly reliable (χ^2 = .042, df = 1, p = .838), and accounted for approximately none of the variance in FMSS-EE status. The coefficients, standard error, Wald statistic, and probability values are provided in Table 3.8.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
UMDQ	-.007	.036	.042	.838	.993

Table 3.8: Results of logistic regression with UMDQ as the predictor and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. The model was not significantly reliable (χ^2 = .479, df = 1, p = .489). The model accounted for 0.9 to 1.2 percent of the variance in FMSS-EE status. The coefficients, standard error, Wald statistic, and probability values are provided in Table 3.9.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
UMDQ	-.031	.045	.470	.493	.969

Table 3.9: Results of logistic regression with UMDQ as the predictor and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 3 – Parental Psychopathology

A single-factor logistic regression was performed to determine if parental psychopathology predicted FMSS-EE status. The PDI score (computed based on a combination of current and lifetime symptoms or diagnosis of disorders) was the only predictor variable, with EE status (high versus low) as the dependent variable.

Mothers. The model was not significantly reliable (χ^2 = .155, df = 1, p = .639), and accounted for approximately none of the variance in FMSS-EE status. The coefficients, standard error, Wald statistic, and probability values are provided in Table 3.10.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
PDI score	.015	.039	.153	.696	1.02

Table 3.10: Results of logistic regression with PDI score as the predictor and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. The model was not significantly reliable (χ^2 = 2.45, df = 1, p = .117), and accounted for 4 to 6 percent of the variance in FMSS-EE status. The coefficients, standard error, Wald statistic, and probability values are provided in Table 3.11.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
PDI score	.090	.059	2.29	.130	1.09

Table 3.11: Results of logistic regression with PDI score as the predictor and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 4 – Parental Current Mood Symptoms

Single-factor logistic regressions were computed to determine if parental current depressive or manic symptoms predicted FMSS-EE status. In separate analyses, EE status was the dependent variable, with Ham-D total score and MRS-current total score as the predictor variables.

Mothers. Current parental mood symptoms were not significant predictors of FMSS-EE status. When the Ham-D was entered as the only predictor variable, the model

was not significantly reliable (χ^2 = 2.1, df = 1, p = .147). The model accounted for 2 to 3 percent of the variance in EE status. When the MRS-current score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .947, df = 1, p = .331). The model accounted for approximately 1 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.12.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Ham-D	.044	.032	1.90	.168	1.05
MRS current	-.032	.033	.978	.323	.968

Table 3.12: Results of separate logistic regressions with Ham-D and MRS current scores as the predictors and FMSS-EE status as dependent variable, in the sample of mothers

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Fathers. Current parental mood symptoms were not significant predictors of FMSS-EE status. When the Ham-D was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .199, df = 1, p = .655). The model accounted for approximately none of the variance in EE status. When the MRS-current score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 1.4, df = 1, p = .237). The model accounted for 2 to 4 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.13.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Ham-D	.021	.047	.197	.657	1.02
MRS current	.093	.081	1.32	.251	1.10

Table 3.13: Results of separate logistic regressions with Ham-D and MRS current score as the predictor and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 5 – Parental Personality Characteristics

Single-factor logistic regressions were performed to determine if parental symptoms of Axis II personality disorders predicted FMSS-EE status. Four separate regressions were run, using the SCID scores for each cluster and Appendix B (as described above) as the predictor variables, and EE status (high versus low) as the dependent variable.

Mothers. Parental personality characteristics were not significant predictors of FMSS-EE status. When the cluster A score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 2.7, df = 1, p = .098). The model accounted for 2 to 4 percent of the variance in EE status. When the cluster B score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .135, df = 1, p = .714). The model accounted for approximately none of the variance in EE status. When the cluster C score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .453, df = 1, p = .501). The model accounted for approximately none of the variance in EE status. When the Appendix B score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .089,

df = 1, p = .766). The model accounted for approximately none of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.14.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
SCID cluster A	2.74	1.75	2.45	.117	15.4
SCID cluster B	.656	1.81	.131	.717	1.93
SCID cluster C	.708	1.06	.443	.506	2.03
SCID Appendix B	.337	1.14	.088	.767	1.40

Table 3.14: Results of separate logistic regressions with SCID cluster A,B,C, and Appendix B scores as the predictors and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. Parental personality characteristics were not significant predictors of FMSS-EE status. When the cluster A score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .960, df = 1, p = .327). The model accounted for 1 to 2 percent of the variance in EE status. When the cluster B score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 0.0, df = 1, p = .983). The model accounted for none of the variance in EE status. When the cluster C score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .442, df = 1, p = .506). The model accounted for approximately 1 percent of the variance in EE status. When the Appendix B score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .995, df = 1, p = .319).

The model accounted for 1 to 2 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.15.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
SCID cluster A	2.03	2.11	.919	.338	7.58
SCID cluster B	-.050	2.31	0.00	.983	.952
SCID cluster C	1.05	.159	.437	.509	2.86
SCID Appendix B	1.41	1.44	.950	.330	4.08

Table 3.15: Results of separate logistic regressions with SCID cluster A,B,C, and Appendix B scores as the predictors and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 6 – Child Mood Severity

A series of single-factor logistic regressions were computed to determine if the severity of the child's current or worst depressive and manic symptoms, as determined by a composite MSI score, was associated with parental FMSS-EE status. In four separate analyses, the parent-report MSI current and MSI worst, and the child-report MSI current and MSI worst were entered as predictor variables, with EE status (high versus low) as the dependent variable.

Mothers. For these analyses, the eleven female secondary informants with valid FMSS data were removed from the data set to avoid dependency of data resulting from two participants reporting about the same child. When parent-report MSI current score was entered as the only predictor variable, the model was significantly reliable ($\chi^2 = 8.01$, df = 1, p = .005). The model accounted for 8 to 12 percent of the variance in FMSS-EE

status. The other measures of mood severity were not significant predictors of EE status. When the child-report MSI current score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .321, df = 1, p = .571). The model accounted for approximately none of the variance in EE status. When the parent-report MSI worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .258, df = 1, p = .612). The model accounted for approximately none of the variance in EE status. When the child-report MSI worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 1.49, df = 1, p = .223). The model accounted for 1 to 2 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.16.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Parent-report MSI current	.049	.019	6.83	.009	1.05
Child-report MSI current	-.009	.015	.323	.570	.992
Parent-report MSI worst	-.009	.017	.259	.611	.991
Child-report MSI worst	-.019	.016	1.48	.224	.981

Table 3.16: Results of separate logistic regressions with parent- and child-report current and worst MSI scores as the predictors and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. None of the measures of child mood severity were significant predictors of FMSS-EE status. When parent-report MSI current score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .494, df = 1, p = .482).

The model accounted for approximately 1 percent of the variance in EE status. When the child-report MSI current score was entered as the only predictor variable, the model was not significantly reliable, though there was a trend toward significance (χ^2 = 3.66, df = 1, p = .056). The model accounted for 6 to 9 percent of the variance in EE status. When the parent-report MSI worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .001, df = 1, p = .978). The model accounted for none of the variance in EE status. When the child-report MSI worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 1.04, df = 1, p = .308). The model accounted for approximately 2 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in the Table 3.17.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
Parent-report MSI current	.013	.018	.485	.486	1.01
Child-report MSI current	.035	.019	3.26	.071	1.04
Parent-report MSI worst	.001	.022	.001	.978	1.00
Child-report MSI worst	.020	.020	1.00	.316	1.02

Table 3.17: Results of separate logistic regressions with parent- and child-report current and worst MSI scores as the predictors and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 7 – Child Global Functioning

Single-factor logistic regression analyses were computed to determine if the child's overall level of current or worst functioning was associated with parental FMSS-EE status. In separate analyses, EE status (high versus low) was the dependent variable and CGAS current and worst were entered as predictor variables.

Mothers. For these analyses, the eleven female secondary informants with valid FMSS data were removed from the data set to avoid dependency of data resulting from two participants reporting about the same child. When the current CGAS score was entered as the only predictor variable, the model was significantly reliable (χ^2 = 3.88, df = 1, p = .049). The model accounted for 4 to 6 percent of the variance in FMSS-EE status. When the CGAS worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = .092, df = 1, p = .762). The model accounted for none of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.18.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
CGAS current	-.068	.037	3.45	.063	.934
CGAS worst	-.008	.026	.091	.763	.992

Table 3.18: Results of separate logistic regressions with current and worst CGAS scores as predictors and FMSS-EE status as dependent variable, in the sample of mothers

Fathers. When the current CGAS score was entered as the only predictor variable, the model was significantly reliable (χ^2 = 4.81, df = 1, p = .028). The model accounted for 8 to 12 percent of the variance in FMSS-EE status. When the CGAS worst score was entered as the only predictor variable, the model was not significantly reliable (χ^2 = 1.55, df = 1, p = .213). The model accounted for between 2 to 4 percent of the variance in EE status. The coefficients, standard errors, Wald statistics, and probability values are provided in Table 3.19.

Predictor Variable	B	S.E.	Wald	Sig.	Exp(B)
CGAS current	-.082	.040	4.24	.039	.921
CGAS worst	-.034	.028	1.49	.223	3.69

Table 3.19: Results of separate logistic regressions with current and worst CGAS scores as predictors and FMSS-EE status as dependent variable, in the sample of fathers

Research Question 8 – Multiple-Factor Logistic Regression

The original data analytic strategy called for a multiple-factor regression to be performed with the variables that were significant in the single-factor regressions. This approach was based on the recommendations of Hosmer and Lemeshow (2000) who also allow for a more relaxed p-value (p<.25) to be used to determine which factors to include in the multiple-factor regression when an exploratory study is being conducted. However, this approach to the multiple-factor regressions was not taken, to maintain a

more conservative approach. Therefore, the more stringent .05 p-value was used to determine which variables to enter into the multiple-factor regressions.

For the fathers, this meant that no multiple-factor regression was conducted, as only one variable (CGAS current) was significant in the single-factor regressions. For the mothers a multiple-factor regression was conducted with the two variables (CGAS current and parent-report MSI current) that produced significantly reliable models in the single-factor regressions. With both of these variables entered simultaneously, the overall model was significant (χ^2 = 8.48, df = 2, p = .014). Only the parent-report MSI current was significant (B = .041, S.E. = .020, Wald = 4.11, df = 1, p = .042, Exp(B) = 1.04) when examining the contribution of the individual factors.

Additional Analyses with the FMSS

Utilizing the dichotomous high versus low EE distinction may provide measurement challenges. There may be differences even within each group that will not be evident using a binary variable. For example, there is no distinction between a parent who makes one critical comment and a parent who makes seven: they are both rated 'high EE'. Therefore, to further examine the ability of child or parent variables to predict EE, a continuous measurement obtained from the FMSS was utilized. The number of critical comments is a frequency count obtained through FMSS scoring, and may provide a more sensitive measure of the variability of the construct of EE than the high versus low distinction. This critical comments score was utilized as the dependent variable in a series of single-factor linear regressions to address the parent and child characteristics described above. Many of the results were the same as the hypothesis testing described above. The significant findings are highlighted below.

Mothers. For the analyses of child factors, the eleven female secondary informants with valid FMSS data were removed from the data set to avoid dependency of data resulting from two participants reporting about the same child. The parent-report MSI current score, and the CGAS current score were each significant predictors of the number of critical comments made. When the parent-report MSI current score was entered as the only predictor variable, the model was significantly reliable ($F_{1,89} = 7.84$, $p = .006$), accounting for 7% of the variance in critical comments made. When the CGAS current score was entered as the only predictor variable, the model was significantly reliable ($F_{1,88} = 9.86$, $p = .002$), accounting for 9% of the variance in critical comments made. The coefficients, standard errors, t statistics, and probabilities are presented for the two significant predictor variables in Table 3.20.

Predictor Variable	B	S.E.	Beta	t	Sig.
Parent-report MSI current	.032	.011	.285	2.8	.006
CGAS current	-.071	.023	-.317	-3.14	.002

Table 3.20: Significant predictors of mothers' critical comments in separate single-factor linear regressions

The following predictor variables did not significantly predict the number of critical comments made by the mothers, utilizing single-factor linear regressions: CGAS worst, parent-report MSI worst, child-report MSI current and worst, UMDQ, Ham-D, parent MRS current, SCID clusters A, B, and C and Appendix B, and PDI score.

Next, a multiple-factor linear regression was run with number of critical comments as the dependent variable and the two factors (current parent-report MSI and current CGAS) that were significant in the single-factor regressions above. With both factors entered simultaneously, the overall model was significantly reliable in predicting number of critical comments, ($F_{2,87} = 6.29$, $p = .019$), accounting for 10% of the variance. Examining the individual contribution of each factor, only the current CGAS was a significant predictor (B = -.054, S.E. = .025, Beta = -.239, t = -2.15, p = .035). When a stepwise regression was run with the two factors to determine the most parsimonious model, only the current CGAS score entered, with the same parameter estimates as the single-factor regression described above.

Fathers. Analyses were repeated for fathers. None of the parent or child variables were significant predictors (at a $p<.05$ level) of the number of critical comments made.

Post-hoc Analyses with an Alternative Measure of EE

Due to the few significant findings predicting FMSS EE scores from parent and child variables, further inquiry was made into the issue of EE measurement. A disadvantage of the FMSS is the overall dichotomous classification of parents as high or low EE. While this binary classification has been shown to be a fairly robust predictor of course of illness in children and adults with a variety of disorders, it may be too broad a distinction for the purposes of the present study.

A self-report measure of EE, the Expressed Emotion Adjective Checklist (EEAC; see Appendix C) was also included in the larger MFPG study, from which the current study is derived. The EEAC provides a continuous scoring system based on the

informants' responses to the frequency of negative and positive behavior exhibited by both the parent and child. Therefore, select data from the EEAC were utilized in the current study to determine if the findings described above were specific to the FMSS, or if they would be replicated in an alternate measure of EE.

The EEAC provides a score for 'parent toward child' negative, positive, and total (positive minus negative) behaviors, 'child toward parent' negative, positive, and total (positive minus negative) behaviors, 'overall positive' (parent plus child) behaviors, 'overall negative' (parent plus child), and 'total family' EE (total positive minus total negative). No cutoff score is indicative of 'clinical' or 'high' EE. Higher negative scores are considered worse, while higher positive scores are considered healthy. The EEAC was only administered to the parents; therefore the child behaviors scored on this measure are from the parent's perspective. Descriptive statistics of the EEAC data are provided in table 3.21. There were no significant differences when examining mothers' or fathers' ratings towards daughters versus sons. Parents rated children similarly, regardless of sex.

	Mothers		Fathers	
	Mean	S.D.	Mean	S.D.
EEAC Child Positive	45.6	9.6	50.4	9.2
EEAC Child Negative	48.8	10.6	44.4	10.8
EEAC Parent Positive	60.3	8.2	62.2	8.4
EEAC Parent Negative	26.4	8.3	26.8	7.8

Table 3.21: Means and standard deviations for the EEAC subscales for the sample of mothers and fathers

Since the EEAC was used as an alternative measure of EE, correlations were computed to determine the relationship between the EEAC negative subscales (parent toward child and child toward parent) and the FMSS. First, the FMSS critical comments scale was examined due to its approximation of the EEAC negative scales. For both the mothers and fathers, there was not a significant correlation between the two measures. The correlations ranged from 0.06 to 0.21, all with p values greater than 0.1. The *eta* statistic was also computed, which provides a degree of association (ranging from 0 to 1) between continuous and categorical data. This analysis compared the EEAC negative scales and the FMSS high/low EE classification. For both the mothers and fathers, there was a weak association between the two measures, with eta values ranging from 0.131 to 0.345. Thus it appears that the EEAC may not be measuring the same specific behaviors as the FMSS, however it does provide another method of assessing the broader construct of EE.

Parent toward child negative behaviors. To approximate the EE construct assessed by the FMSS (e.g., only parental attitudes are measured, with high EE representing excessive negative attitudes or overinvolvement), the EEAC 'parent toward child' negative behaviors were first examined. This score was utilized as the dependent variable in a series of single-factor linear regressions to address the parent and child factors described above. The significant results are highlighted below.

Mothers. For the sample of mothers, the PDI score, SCID clusters A, B, and C, and Appendix B, Parent MRS current, and Ham-D were each significant predictors of the EEAC 'parent toward child' negative behaviors. When the PDI score was entered as the only predictor, the model was significantly reliable ($F_{1,99} = 9.08$, $p = .003$), accounting for

7% of the variance in negative parental EEAC-EE. When the SCID cluster A score was entered as the only predictor variable, the model was significantly reliable ($F_{1,99} = 8.72$, $p = .004$), accounting for 7% of the variance. When the SCID cluster B score was entered as the only predictor variable, the model was significantly reliable ($F_{1,99} = 11.28$, $p = .001$), accounting for 9% of the variance. When the SCID cluster C score was entered as the only predictor variable, the model was significantly reliable ($F_{1,98} = 5.77$, $p = .018$), accounting for 4.6% of the variance. When the SCID Appendix B score was entered as the only predictor variable, the model was significantly reliable ($F_{1,98} = 13.15$, $p = .000$), accounting for 11% of the variance. When the parent MRS current score was entered as the only predictor variable, the model was significantly reliable ($F_{1,99} = 7.67$, $p = .007$), accounting for 6% of the variance. When the Ham-D score was entered as the only predictor variable, the model was significantly reliable ($F_{1,99} = 9.65$, $p = .002$), accounting for 8% of the variance. The coefficients, standard errors, t statistics, and probabilities are presented for the significant predictor variables in Table 3.22.

Predictor Variable	B	S.E.	Beta	t	Sig.
PDI Score	.407	.135	.290	3.01	.003
SCID Cluster A	15.93	5.40	.285	2.95	.004
SCID Cluster B	20.69	6.16	.320	3.36	.001
SCID Cluster C	8.45	3.52	.236	2.40	.018
SCID Appendix B	13.49	3.72	.344	3.63	.000
Parent MRS-Current	.350	.126	.268	2.77	.007
Ham-D	.311	.100	.298	3.11	.002

Table 3.22: Significant predictors of mother toward child negative behaviors in separate single-factor linear regressions

The following predictor variables did not significantly predict the EEAC 'parent toward child' negative behaviors in the mothers, utilizing single-factor linear regressions: UMDQ, child-report MSI current or worst, parent-report MSI current or worst, or CGAS current or worst.

Next, a multiple-factor linear regression was performed, simultaneously entering the factors that were significant in single-factor regressions. With the PDI, all SCID scores, parent MRS, and Ham-D entered as predictor variables, the overall model was significantly reliable in predicting parent negative EEAC-EE ($F_{7,92} = 2.56$, $p = .019$), accounting for 10% of the variance. However, none of the individual predictors made a significant contribution to the model. Therefore, a stepwise regression was performed using the same predictor variables, to determine the most parsimonious combination of the variables to predict EE. In the stepwise analysis, the only factor retained was the SCID Appendix B score, with the same model parameters as the single-factor model described above.

Fathers. For the sample of fathers, SCID cluster B and Appendix B, and the UMDQ were each significant predictors of the EEAC 'parent toward child' negative behaviors, in single-factor regressions. When the SCID Appendix B score was entered as the only predictor variable, the model was significantly reliable ($F_{1,50} = 4.59$, $p = .037$), accounting for 6.6% of the variance in negative parental EEAC-EE. When the SCID cluster B score was entered as the only predictor variable, the model was significantly reliable ($F_{1,50} = 10.55$, $p = .002$), accounting for 16% of the variance. When the UMDQ score was entered as the only predictor variable, the model was significantly reliable ($F_{1,52} = 5.38$, $p = .024$), accounting for 7.6% of the variance. The coefficients, standard

errors, t statistics, and probabilities are presented for the significant predictor variables in Table 3.23.

Predictor Variable	B	S.E.	Beta	t	Sig.
SCID Cluster B	27.53	8.48	.417	3.25	.002
SCID Appendix B	11.38	1.49	.290	2.14	.000
UMDQ	-.389	.167	-.306	-2.32	.024

Table 3.23: Significant predictors of father toward child negative behaviors in separate single-factor linear regressions

The following predictor variables did not significantly predict the EEAC 'parent toward child' negative behaviors in the fathers, utilizing single-factor linear regressions: PDI score, SCID Clusters A or C, Parent MRS current, Ham-D, child-report MSI current or worst, parent-report MSI current or worst, or CGAS current or worst.

Next, a multiple-factor linear regression was conducted, simultaneously entering the factors that were significant in the single-factor regressions. With the SCID cluster B and Appendix B scores, and the UMDQ score entered as predictor variables, the overall model was significantly reliable ($F_{3,48} = 5.77$, $p = .002$), accounting for 22% of the variance. Examining the individual contribution of each predictor, only the UMDQ score was significant (B = -.387, S.E. = .16, Beta = -.304, t = -2.40, p = .02). The SCID cluster B score approached significance, with a p value of .052. When a stepwise regression was conducted to determine the most parsimonious model, the SCID cluster B score and the UMDQ score were both retained, in a model accounting for 23.5% of the variance ($F_{2,49}$

= 8.82, p = .001). Both the SCID cluster B (B = 27.21, S.E. = 8.08, Beta = .413, t = 3.37, p = .001) and the UMDQ (B = -.383, S.E. = .16, Beta = -.301, t = -2.46, p = .018) were significant contributors to the model.

Child toward parent negative behaviors. In further exploratory analyses, the negative behaviors and attitudes expressed by the child toward the parent as assessed by the EEAC were examined next. It is likely that both the parent and child influence each other, and the EEAC provides some information regarding the behaviors of the child. It is important to note that the EEAC is only completed by the parent; therefore the child behaviors are rated from the parent's perspective. The EEAC 'child toward parent' negative behavior score was utilized as the dependent variable in a series of single-factor linear regressions, analyzing the same parent and child characteristics as described above. The significant results are highlighted below.

Mothers. In the sample of mothers, the child-report and parent-report MSI current, and CGAS current were significant predictors in single-factor linear regressions. When child-report MSI current was entered as the only predictor variable, the model was significantly reliable ($F_{1,84} = 4.56$, p = .036), accounting for 4% of the variance in negative child behaviors. When parent-report MSI current was entered as the only predictor variable, the model was significantly reliable ($F_{1,86} = 7.24$, p = .009), accounting for 6.7% of the variance in negative child behaviors. When CGAS current was entered as the only predictor variable, the model was significantly reliable ($F_{1,85} = 3.97$, p = .050), accounting for 3% of the variance in negative child behaviors. Table 3.24 presents the parameters of the models.

Predictor Variable	B	S.E.	Beta	t	Sig.
Child-report MSI current	-.150	.070	-.227	-2.14	.036
Parent-report MSI current	.188	.070	.279	2.69	.009
CGAS current	-.288	.145	-.211	-1.99	.050

Table 3.24: Significant predictors of child toward mother negative behaviors in separate single-factor linear regressions

In the sample of mothers, the following variables were not significant predictors of negative child behavior directed toward the parent, in single-factor regressions: PDI, SCID clusters A, B, C, and Appendix B, Ham-D, Parent MRS Current, UMDQ, child- and parent-report MSI worst, and CGAS worst.

Next, a multiple-factor linear regression was conducted, simultaneously entering the factors that were significant in the single-factor regressions. With the child-report MSI current, parent-report MSI current, and CGAS current entered as predictor variables, the overall model was significantly reliable ($F_{3,81} = 6.82$, $p = .000$), accounting for 17% of the variance. Examining the individual contribution of each of the variables, the child-report MSI current (B = -.242, S.E. = .071, Beta = -.364, t = -3.39, p = .001), parent-report MSI current, (B = .159, S.E. = .074, Beta = .236, t = 2.14, p = .035) and CGAS current (B = -.337, S.E. = .162, Beta = -.245, t = -2.09, p = .04) were all significant. In a stepwise regression, all three variables entered to form the most parsimonious model predicting child toward parent negative behaviors.

Fathers. In the sample of fathers, none of the parent or child factors significantly predicted the level of child negative behaviors directed toward the parent.

CHAPTER 4

DISCUSSION

Family relationships and communication styles within a home can affect the well-being of individual members. The direction of influence is likely bidirectional, with factors within and between family members affecting communication styles. The construct of expressed emotion (EE) captures the negative, critical, or overinvolved attitudes expressed by a caregiver toward an ill relative. This study examined which parent or child factors predict the parental EE levels at a baseline assessment of families with a child diagnosed with depressive or bipolar spectrum disorders. The goal of the study was to explore relationships between individual factors and EE, prior to intervention aimed to reduce negative EE.

Characteristics of the parent that were assessed include knowledge of mood disorders, lifetime psychopathology, current mood symptoms, and Axis II personality disorder symptoms. Characteristics of the child that were assessed include current and worst mood severity, and current and worst global functioning. Demographic characteristics of the family (i.e., income, sex, type of mood disorder in the child) were also assessed. All analyses were conducted separately for the mothers and fathers. Chapter 3 presented results of the planned hypotheses tested for this study, as well as

additional analyses that were conducted to explore other possible relationships. The results are discussed below, as well as limitations to the study and directions for future research.

Before discussing results, several limitations should be noted. Ratings on continuous measures were not normally distributed, thus interpretation may be limited. This scoring system may not necessarily capture the construct it is intended to capture. Additionally, as these analyses represent a cross-sectional exploration, results should not be interpreted as causal or directional. The goals of this study were to explore pre-existing relationships between variables, rather than to determine causation.

Hypothesis Testing Using the FMSS

High versus Low EE classification. The analyses initially planned for this study involved using the standard high-low EE classification of parents. As recommended by Hosmer and Lemeshow (2000), a series of single-factor logistic regressions were first conducted, followed by a multiple-factor logistic regression where appropriate, to determine which characteristics predicted FMSS-EE status.

For both the samples of mothers and fathers, none of the demographic characteristics produced significantly reliable models to predict FMSS-EE status. This finding is generally consistent with previous literature which has found EE to be unrelated to income or child sex.

In this sample, type of mood disorder (depression versus bipolar) was not a significant predictor of FMSS-EE status. Few studies have included both depressed and bipolar patients in their sample. Coiro and Cottesman (1996) reviewed adult studies and concluded that the relationship between EE and relapse was stronger for patients with

unipolar depression than for bipolar disorder. However, they caution that more studies with larger samples of each disorder were needed for firm conclusions to be drawn. The studies reviewed examined adult patients, so the findings may not generalize to the current sample of children. A likely explanation for the lack of differences in the current study between the families with children with MDD and bipolar disorder is that the current overall functioning and mood severity of the two groups are very similar. The mean current CGAS was 46.7 for the MDD sample and 45.7 for the bipolar sample, which was not a significant difference. The mean MSI rating was 29.5 for the MDD sample and 32.5 for the bipolar sample, which was not a significant difference. Thus, despite different mood spectrum diagnoses, the impairment of the children is very similar, which may account for the lack of differences in FMSS-EE scores in their parents.

Parental knowledge of mood disorders did not successfully predict FMSS-EE status in either the mothers or the fathers at baseline. This finding may not be surprising, given that the parents in this sample at fairly high knowledge scores, as measured by the UMDQ. The mean scores were 32.7 and 30.7 for mothers and fathers, respectively, out of a possible 39. Another possibility for the lack of significant associations is that the basis for the hypothesis in this study was not entirely consistent with any previous research. The UMDQ data were selected for this current study as a rough proxy for attributional style, on the assumption that individuals with higher knowledge of the causes of mood disorders would be less likely to blame the patient or attribute the illness to the patient's control. Previous research by Bolton and colleagues (Bolton et al., 2003)

found that high-EE mothers made more 'child-blaming' attributions than did low-EE mothers. If future studies with this population include a direct measure of attributional style, this hypothesis may be revisited.

Regarding parental characteristics, none of the measures of symptomatology of Axis I (presence of psychopathology or current mood symptoms) or Axis II (personality disorder symptomatology) diagnoses were significant predictors of FMSS-EE status in either the mothers or the fathers.

The lack of association between the degree of lifetime psychopathology (as measured by a composite score using data from the PDI) is surprising, and contrary to most previous research. Multiple studies have found that the presence of a psychiatric diagnosis is associated with high levels of EE (Hibbs et al., 1991; Goldstein et al., 1992; Goldstein et al., 2002, Goodman et al., 1994). In contrast, McCleary and Sanford (2002) found that EE status was independent of depression in the parents, but noted that statistical power for that analysis was low. One reason why the current study produced different results than most previous research may be due to differences in measurement. Previous studies have used a dichotomous presence/absence distinction, while the current study attempted to create a continuous measure of Axis I symptomatology, to more broadly capture parent impairment.

Regarding the lack of association between current mood symptoms and FMSS-EE status, this finding is consistent with the few studies (Stubbe et al., 1993; Goodman et al., 1994) that have examined this issue. Thus it appears that the child's current functioning (as discussed above) is more noteworthy than the parent's current functioning in predicting parental EE.

Only one published study has looked at personality characteristics and EE. In that study, Hooley and Hiller (2000) found that high EE relatives were less flexible and tolerant than low EE relatives. As their measurement of Axis II traits is not comparable to the current study, the current finding of a lack of association between SCID symptoms and EE is neither consistent with, nor contradictory to, previous research.

Regarding child illness factors (mood severity and global functioning), the child's current symptomatology appears to be more associated with the parental FMSS-EE level than does the child's worst period of symptomatology. For the mothers, the current parent-report mood severity index (MSI) and current child global assessment scale (CGAS) both produced significantly reliable models to predict EE status. That is, children with either higher mood severity, or lower global functioning predicted parents classified as high EE.

For fathers, the results were somewhat similar. The current CGAS rating again produced a significantly reliable model. However, the MSI results differed for fathers. While none of the parent-report MSI regressions produced significantly reliable models, the child-report current MSI approached significance ($p = .056$). As with the mothers' results, the worst time period did not predict EE status. Unlike the mothers' results, however, the child-report rather than the parent-report, was associated with determination of fathers' EE status. One reason for this may be that the primary informants (92% of whom were female) provided the parent-report MSI data. Thus, the fathers' EE status appears to be more related to their child's mood symptoms description, rather than the other parent's version of the symptoms.

Results of these hypotheses regarding child characteristics are consistent with research by McCleary and Sanford (2002) and Asarnow et al. (2001), who found that high parental EE was associated with the presence of more depressive symptoms, and greater global impairment, respectively, in young patients. The fact that child characteristics are predictive of parental EE status is also consistent with a recent report by Birmaher et al. (2004), who found that family dysfunctional patterns were mainly dependent on the child's depressive symptoms.

Number of critical comments. In addition to the high-low classification, one FMSS subscale (a frequency count of the number of critical comments) was also utilized as the dependent variable in a series of linear regressions, examining the same child and parent factors described above. The addition of analyses using this subscale was to further explore whether use of a continuous as opposed to dichotomous scoring system would produce similar results, within the same EE measure.

In the sample of mothers, findings were the same as those using the high-low classification, suggesting that the results are specific to the FMSS, rather to the scoring system. The child's current global functioning and current mood severity (as rated by the primary informant) were the only significant predictors of the number of critical comments made by the mothers. In the sample of fathers, no variables were significant predictors of the number of critical comments made. One possible explanation for the sex difference may be the number of critical comments made by each group. The mean number of critical comments made by the mothers was 1.5, and for the fathers it was 0.9. However, the modal number of critical comments made by both groups was 0, and the

median for both groups was 1. So the fact that the continuous critical comments measurement of FMSS-EE did not produce more significant findings may be due to the lack of variability in the scores on that scale.

In summary, no parent characteristics were predictive of EE as measured by the FMSS at baseline interview. There are several possible explanations for this. First, it may be that parent factors truly are not associated with expressed emotion at a cross-sectional examination. These factors may become significant using longitudinal, post-treatment data, as some characteristics may predict improvement in EE, even if they are not associated with pre-treatment EE status. Second, perhaps the primary measure used to assess EE, the FMSS, is not associated with parent characteristics, while another measure would be. This question prompted the inclusion of another measure of EE, the results of which are described below. Third, a lack of significant relationships may be due to aspects of the sample such as low variability in scores, or basal or ceiling effects (e.g., high UMDQ scores, few critical comments). Low power does not appear to have contributed to the lack of significant findings, as the single-factor regressions had between 50 and 100 participants to one factor; and the sample size included in this study is quite large compared to previously published research.

Additional Analyses Using the EEAC

To further explore the issue of what parent and child variables might contribute to baseline EE in families of mood disordered children, an alternate measure of EE, the EEAC, was used in additional analyses. This was done to determine if the lack of significant findings with the FMSS was specific to that instrument, or if the findings would generalize to another measure of EE. As described in Chapter 3, the EEAC

scoring system produces nine continuous scores (rating positive and negative interactions of parent to child, child to parent, and total positive and negative expressed emotion and behaviors) rather than one dichotomous score.

Parent toward child negative EE. To approximate the FMSS, the first EEAC score examined was the parent toward child negative behaviors. Results looked very different than those using the FMSS. Specifically, for the mothers, no child variables (mood severity or global functioning at current or worst periods) significantly predicted EEAC-EE level, in contrast to the FMSS data. However, also in contrast to the FMSS data, all maternal characteristics other than knowledge of mood disorders significantly predicted level of parental negative behavior in a series of single-factor regression analyses. Higher levels of parental Axis I and Axis II symptomatology, and more severe current parent mood symptoms all predicted higher levels of parent toward child negative behavior. Thus, using the EEAC, parent factors had a stronger relationship with the level of negative expressed emotion and behaviors reported by the parents, than did child factors. When all significant parent factors were entered in a stepwise regression, only the SCID Appendix B score was a significant predictor. This may not be surprising, given that the SCID Appendix B scale assesses symptoms of depressive and negativistic personality disorders, which would likely be associated with negative parent toward child behaviors and communication.

For fathers, the SCID Cluster B and Appendix B and the UMDQ scores were significant predictors using single-factor regressions. Higher levels of Axis II symptomatology, and lower levels of knowledge of mood disorders predicted higher levels of parent toward child negative behaviors. As with the mothers, none of the child

factors were significant. When all significant variables were entered in a simultaneous regression, the UMDQ was significant. In a stepwise regression, both the UMDQ and the SCID Cluster B were retained. These analyses were the only ones to provide significant contribution of the UMDQ in predicting EE status, using either the FMSS or the EEAC. It appears that the UMDQ has limited predictive power in the sample of fathers, while it had no predictive power in the sample of mothers. The baseline score of the fathers on the UMDQ was significantly lower than that of the mothers, which may have contributed to the differential significance of the results.

Child toward parent negative EE. Next, the child negative behavior directed toward the parent was examined. In the mothers, current child characteristics (child- and parent-report mood severity, and global functioning) significantly predicted level of child behavior. Lower current functioning and higher parent-report mood severity both predicted higher levels of negative child behavior. However, child-report mood severity was in the opposite direction. Lower levels of child-report mood severity predicted higher levels of negative child behavior, as reported by the mothers. This finding may be due to the difficulty children have accurately reporting on their own mood symptoms. In the sample of fathers, none of the parent or child characteristics predicted level of negative child behavior.

An overall pattern emerged with the EEAC, characteristics that significantly predicted EE level were those associated with the member of the dyad whose behavior was being described. That is, when negative behavior from the parent directed toward the child was the dependent variable, only parental characteristics were significant predictors. When negative behavior from the child directed toward the parent was the

dependent variable, only the child characteristics were significant predictors. These EEAC findings are in contrast to those using the FMSS data, in which only child factors were significant predictors of EE. Thus it appears that EE can be predicted by different pre-treatment variables depending on the measure of EE being used.

Limitations

Because there is not a clear consensus in the research field regarding which, if any, parent or child characteristics are associated with parental EE levels, this study was exploratory in nature. It is also important to note that much of the research that has been done on EE has utilized the Camberwell Family Interview (CFI), which was developed for use with adults with schizophrenia. The CFI was the basis for other EE measures, including the FMSS. Recent studies (many focusing on childhood mood disorders) have used the FMSS, but research with this measure is still in the early stages. The data used in this study were gathered at the initial, pre-treatment, interview. As such, the study sought to determine which factors inherent in the parent, child, or illness might predict the parent's level of expressed emotion prior to treatment. Future studies, as described below, will then explore whether EE changes as a result of treatment, and which factors are associated with a change in EE level.

The fact that data were only obtained from the initial interview, using a cross-sectional design, limits the ability to determine any causal relationships, or to predict how the factors assessed may change over time. Without longitudinal data, it is not possible to know the direction of influence of the characteristics that were predictive of EE status, or whether different characteristics will have different predictive power at another point in time.

Also, as mentioned, the current study does not examine the malleability, through treatment, of EE, or the ability of parental EE level to predict course of illness in their child. These two foci of study are the predominant significant findings in the research literature: EE is related to course of illness, and EE is changeable. The larger MFPG study will provide opportunity to explore these two hypotheses with this sample. However, this current study is a narrow look at baseline data only, adding to the rather sparse research focusing on this issue.

In general, there were few significant findings, especially in light of the large number of analyses that were done. One factor in this may be the restricted variance of scores on several of the measures (e.g., UMDQ, number of critical comments).

A limitation to EE research in general is that there has not been sufficient research, such as dismantling studies, to determine exactly how the dimensions of EE are operationalized. The construct of EE was developed by observing families and labeling clusters of behaviors, rather than based on an underlying theory. It is not clear exactly how these behaviors (e.g, crying) are related to the dimensions of EE (e.g, EOI). The field of EE research would benefit from examining mediators and establishing a nomological network of the various relationships. However, despite these limitations, the goals of this study were best met by following pre-established methodology of measurement and data analyses.

The scoring system of the primary measure of EE used in this study, the FMSS, may also limit its ability to answer the questions asked in this study. The most often used conceptualization of the EE construct is the dichotomous high-low EE classification. While this dichotomy has been successful in predicting relapse and recovery in adults and

children, it may provide too broad a distinction for the purposes of this study. There were few significant relationships between parent and child factors and the high versus low EE level using the FMSS. This may be due to the fact that a dichotomous classification of expressed emotion loses some finer details that may be associated with the factors under investigation. This possibility was the motivation for conducting post-hoc analyses using a continuous scoring system, rather than a categorical one. Another concern with the FMSS data in this study is the relatively low interrater reliability between the two raters. It is possible that rater drift occurred with only one of the two raters, contributing to the lower kappa values. Ratings from a third rater will need to be obtained to more accurately determine whether speech samples can be reliably coded in this sample.

Another measurement limitation is that the EEAC, while providing a continuous scoring system, is a self-report questionnaire, administered only to the parents in this study. A limitation to the study in general is that multiple perspectives of EE were not obtained. All EE data were gathered from the parent's perspective. No measure of the child's perspective of family environment was obtained. And the self-report of the parents via the EEAC was likely affected, as are all self-report measures, by the parents' own biases and expectations. In this sense, the FMSS may have an advantage (e.g., an objective EE rating) over the EEAC.

This study focused on families with a child affected by a mood disorder. There were no comparisons of parents of children with other disorders, or a control group of children without a disorder. Therefore, it is impossible to determine if the EE picture presented in this sample would generalize to other parents. The relationship of parent or child characteristics and levels of EE may be different in different disorders.

Additionally, the rate of parental depression was quite high in this sample, and the findings may be different in a sample of parents not affected by their own psychopathology.

Future Directions

When complete post-treatment data are available, future studies will examine whether EE changes as a result of psychoeducation. The rate of high EE in this sample is substantial. It is hoped that treatment will reduce negative communication styles within the family. Future studies will also examine the pattern of EE levels over time. Families in the MFPG study are assessed every six months for 18 months. Thus, a broader scope of examination will be possible than in the current study. While a specific assessment of relapse and recovery is not a component of the MFPG study, data are available regarding the child's course of illness more broadly. Therefore, future studies can add to the research literature examining the role of EE in predicting patient course of illness.

The issue of EE measurement will also be specifically addressed in future studies. Because the MFPG study collects EE data via the FMSS and the EEAC, analyses are planned comparing the two measures directly. The two instruments differ greatly in style (open-ended interview versus self-report questionnaire) and resources necessary for administration. The EEAC is quick and easy to administer and score. The FMSS requires tape recorders, microphones, transcription equipment, audiotapes to record the speech sample, staff and time to transcribe each sample, and a trained scorer (either an in-house staff member who has been formally trained, or a paid third-party scorer as was used in this study). The FMSS is quicker and easier to administer and score than the CFI, which is the other most commonly used measure of EE. However, it may be that for a

study not focusing on EE as the primary outcome variable, a resource-taxing measure of EE, such as the FMSS, may not be preferred, and future analyses will examine this issue.

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APPENDIX A

FMSS PROMPT

"I'd like to hear your thoughts and feelings about (patient's name) in your own words and without my interrupting you with any questions or comments. When I ask you to begin, I'd like you to speak for 5 minutes, telling me what kind of a person (patient's name) is, and how the two of you get along together. After you have begun to speak, I prefer not to answer any questions. Are there any questions you would like to ask me before we begin?"

APPENDIX B

FMSS SCORING SYSTEM

High-Critical EE:

Negative Initial Statement

Negative Relationship Rating

1+ Critical Comments

High-Emotional Overinvolvement (EOI) EE:

Self-Sacrificing Overprotective Behavior

Emotional Display (e.g., Crying) During the Interview

2 of the Following:

- Excessive Detail About the Past
- Statements of Positive Attitude
- Excessive Praise (5+ Positive Remarks)

APPENDIX C

THE EXPRESSED EMOTION ADJECTIVE CHECKLIST
(EEAC)

Please use the following adjectives to describe **YOUR SON/DAUGHTER'S BEHAVIOR OVER THE LAST THREE MONTHS** as it was **DIRECTED TOWARD YOU**.

	NEVER							**ALWAYS**
1. **Accepting**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2. Active	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
3. Angry	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
4. Bored	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
5. Clear	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
6. Considerate	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
7. Contrary	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
8. Cooperative	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
9. Deceitful	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
10. Devoted	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
11. Easy to get along with	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
12. Friendly	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

13. Good-natured	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
14. Hostile	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
15. Irresponsible	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
16. Irritable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
17. Lazy	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
18. Loving	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
19. Mean	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
20. Rude	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

Now please use the same adjectives to describe **YOUR OWN BEHAVIOR OVER THE LAST THREE MONTHS** as it was **DIRECTED TOWARD YOUR SON/DAUGHTER**.

	NEVER							**ALWAYS**
21. **Accepting**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
22. Active	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
23. Angry	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
24. Bored	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
25. Clear	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
26. Considerate	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
27. Contrary	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
28. Cooperative	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
29. Deceitful	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
30. Devoted	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
31. Easy to get along with	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
32. Friendly	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

33. Good-natured	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
34. Hostile	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
35. Irresponsible	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
36. Irritable	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
37. Lazy	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
38. Loving	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
39. Mean	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
40. Rude	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

APPENDIX D

THE CHILD DEPRESSION RATING SCALE – REVISED
(CDRS-R)

Depressed Feelings

How have you been feeling? Do you ever feel unhappy? (if no- say most kids do once in awhile) What things make you feel unhappy? What you feel unhappy how long does it last? -An hour? Few hours? A whole day? How often do you feel like this? -Every week? Two weeks? Do other people know when you are sad? Do you feel sad just at certain times? -E.g. when your mom is away When you feel unhappy how miserable do you feel? -Do you ever feel so bad it hurts? -How often does it feel that bad?	0 Unable to rate. 1 Occasional feelings of unhappiness which quickly disappear. 2 3 Describes sustained periods of unhappiness that last 1 or more hours. May report shorter periods that occur several times a week. Unhappiness may be ascribed to everyday reality events but not to major life events. 4 5 Feels unhappy an entire day without a major precipitating cause. 6 7 Feels unhappy most of the time. Accompanied by psychic pain, e.g., "can't stand it".

Depressed Affect

	0 Unable to rate. 1 Definitely not depressed. Facial expression and voice animated during interview. 2 Mild suppression of affect. Some loss of spontaneity. 3 Overall loss of spontaneity. Looks distinctly unhappy during parts of interview. May still be able to smile when discussing non-threatening areas. 4 5 Moderate restriction of affect throughout most of interview. Has longer and more frequent periods of looking distinctly unhappy. 6 7 Severe. Looks sad, withdrawn. Minimal verbal interaction throughout interview. Cries or may appear tearful.

Weeping

Do you cry very much? Do you sometimes feel like crying even if you don't cry? -What sort of things make you feel this way? -How often do these things occur? Do you think you feel like crying more than your friends? Do you ever feel like crying for no reason?	0 No information, unable to rate. 1 Normal for age. 2 Suggestive statements that child cries, or feels like crying, more frequently than peers. 3 Child cries slightly more than peers . 4 5 Child cries or feels like crying frequently (several times a week). Admits to crying without knowing reasons why. 6 7 Cries nearly every day.

Irritability

What things make you get ticked off or mad? -How mad do you get? Do you ever feel in a mood where everything bothers you? -How long do these last? -How often do they occur?	0 Unable to rate. 1 Rare. 2 Occasional. 3 Several times a week for short period. 4 5 Several times a week for longer periods. 6 7 Constant.

Capacity to have fun

What do you like to do for fun? (Not interest, involvement, enthusiasm). -Discuss individual activities named. How often do you have fun? (Note whether activities available daily, weekly, seasonally or very infrequently.) Are you ever bored? How often? If very inactive: What do you like to watch on TV. Discuss favorite TV shows. (Determine if active of passive viewer.)	0 Unable to rate. 1 Interest and activities realistically appropriate for age, personality, and social environment. Shows no appreciable changes with present illness. Any feelings of boredom transient. 2 3 Describe some activities realistically available several times a week but not on a daily basis. Show interest but not enthusiasm. May express some episodes of boredom more than once a week. 4 5 Is easily bored. Complains of "nothing to do". Participates in structured activities with a "going through the motions" attitude. 6 Shows no enthusiasm or real interest. Has difficulty naming activities. May express interest primarily in activities that are (realistically) unavailable on a daily or weekly basis. 7 Has no initiative to become involved in any activities. Primarily passive. Watches others play or watches television but shows little interest in program. Requires coaxing and/or pushing to get involved in activity.

Social Withdrawal

Do you have friends to play with? -Are they at school or home? -What games or things do you do? -How often do you play with them? Have you ever had a really close friend? -Do you have one now? Do your friends ever call for you and you just don't feel like going out to play? -How often? Have you ever lost friends? -What happened? Do children ever pick on your? -How? -What do they do? -Is there anyone who will stick up for you?	0 Unable to rate. 1 Enjoys friendships with peers at school and at home. 2 3 May not actively seek out friendships but waits for others to initiate a relationship or may occasionally reject opportunities to play without a desirable alternative. 4 5 Frequently rejects opportunities for desirable interactions with others and/or sets up situations where rejection is inevitable. 6 7 Does not currently relate to other children. States he or she has "no friends" or actively rejects new or former friends.

Appetite or Eating Patterns

Do you like to eat? At meals are you hungry for some meals, most meals, all meals, not hungry? -If not hungry: When and How often not hungry? Does your mother complain about your eating? Have you gained or lost weight? (If Yes – how can you tell?)	0 Unable to rate. 1 No problem or change in eating pattern. 2 3 Mild change from usual eating habits with onset of current behavioral problems. 4 5 Definitely anorexic (?). Is not hungry most of the time or has excessive food intake since onset of current behavioral problems or marked increase in appetite. Circle – (1) decrease appetite (2) increase appetite

Sleep

Do you have trouble sleeping? Do you take a long time to go to sleep? (Differentiate from resisting going to bed.) -How long? -How often? Do you wake up in the middle of the night? -Do you go right back to sleep or stay awake? -How often does this happen? Do you ever wake up before you need to in the morning? -How early? -Do you go back to sleep or stay awake? -What do you do? -How often (or when) does this happen?	0 Unable to rate 1 No (or occasional) difficulty (Goes to sleep within ½ hour or less) 2 3 Frequently has mild difficulty with sleep 4 5 Moderate difficulty with sleep nearly every night (*If applicable, <u>circle</u> number indicating time of difficulty)* 1. Initial 2. Middle 3. Early Morning Awakening

Hypoactivity

	0 Unable to rate. 1 None. 2 3 Mild. Slow body movement 4 5 Moderate. Definite motor retardation. 6 7 Severe. Sits of lies in bed most of the time.

Tempo of Language

	0 Unable to rate. 1 Normal. 2 Slow. 3 Slow; delays interview 4 5 Severe. Low; marked interference with interview.

Excessive Fatigue (consider age and activities of child)

Do you feel tired during the day? -Even when you have had enough sleep? (During school doesn't count). -After school? How often do you feel tired after school? Do you ever feel so tired you go and take a nap even if you don't have to? -How often does this happen	0 Unable to rate. 1 No unusual complaints of "feeling tired" during the day. 2 3 Complaints of fatigue which seem somewhat excessive and not related to boredom 4 5 Daily complaints of feeling tired 6 7 Complaints of feeling tired most of the day. May voluntarily take long naps without feeling refreshed. Interfere with play activities.

Guilt

Do you ever feel bad or sorry about certain things you have done or wished you have done? -What are they? (Note act and whether guilt proportional to deed). Do you ever feel bad or sorry about certain things you can't change? Describe. Do you know what the word guilty means? -Do certain things make you feel guilty?	0 Unable to rate. 1 Does not express any undue feelings of guilt appears appropriate to precipitating event. 2 3 Exaggerates guilt and/or shame out of proportion to event described. 4 5 Feels guilty over things not under his or her control. Guilt is definitely pathological. 6 7 Severe delusions of guilt.

Schoolwork (consider change in performance and change in concentration)

Do you like school or dislike school? -What parts do you like? -What parts do you dislike? (Note if teacher, peers, activities, e.g. recess, etc.) What kinds of grades do you get in school? What are your best-worst subjects? -What grades do you get in those subjects? (Note if having trouble in 1-2 subjects or in all subjects, also note how much difficulty if the above information is not sufficient and you suspect difficulty) Do your parents or your teacher think you ought to be doing better? -What do they say? -Do you agree or disagree with them? Do you have trouble paying attention? -Why? Do you daydream? Do other children bother you? -Does the teacher often ask you to list to what he/she is saying?	0 Unable to rate. 1 Performance consistent with ability. 2 Minor interference with some subjects. 3 Decrease in school performance. 4 5 Major interference in most subjects. 6 7 No motivation to perform.

Physical Complaints (Complaints on a non-organic basis)

Do you ever get stomachaches, headaches, or leg pains? Do you get other aches and pains? -What are they like? -How often do they occur? When you get _____ aches, how long do they last? -Does anything make them go away? -Do they keep you from playing? -How often to they do this?	0 Unable to rate. 1 Occasional complaints. 2 3 Complaints appear mildly excessive. 4 5 Complains daily or some interference with the ability of the child to function. 6 7 Preoccupied with aches and pains; interferes with play activities several times a week.

Self Esteem

Do you like the way you look? -Can you describe yourself (for young child, ask about hair, eyes, face, clothes, etc). - Would you want to change the way you look? What way? Do you think you're smart or stupid? Do you think you're better or worse than other kids? Do most kids like you? Do any not like you?Why? Do you get called names, what are they? -Do they make you sad? What things are you good at? Not so good at? Do you ever feel badly about yourself? Would you like to change anything about yourself? What?	0 Unable to rate. 1 Describes self in primarily positive terms. 2 3 Describes self with one important area where child feels deficit. 4 5 Describes self in preponderance of negative terms or gives bland answers to questions. 6 7 Refers to self in derogatory terms. Reports that other children refer to him/her frequently by using derogatory nicknames and child puts him/her self down.

Morbid Ideation

Have you ever had a pet die? A friend? -Do you think about it now? How often? Do you ever think about someone dying in your family? -Who? Describe. How often do you think about it? -Do you ever worry about other people? Who? Do you ever think you might die? Tell me about it. How often do you have these kinds of thoughts?	0 Unable to rate. 1 None. 2 3 Has some morbid thoughts, all of which relate to a real event but seem excessive 4 5 Preoccupied with morbid thoughts several times a week. Morbid thoughts extend beyond external reality 6 7 Preoccupied with death themes or morbid thoughts that are elaborate, extensive, bizarre and occur on a daily basis.

Suicidal Ideation

Do you know what the word suicide means? Have you ever thought of suicide? When? -If Yes: How have you thought of doing it? Have you ever said you would like to kill yourself even if you didn't mean it? -Describe? If appropriate: Have you ever tried to kill yourself?	0 Unable to rate. 1 Understands the word "suicide" but does not apply the term to self. 2 Sharp denial of suicidal thoughts 3 Has thoughts about suicide, usually when angry. 4 5 Has recurrent thoughts of suicide. If moderately depressed, strongly denies thinking about suicide. 6 7 Has made suicide attempt within the last month or is actively suicidal.

APPENDIX E

MANIA RATING SCALE
(MRS)

Elevated Mood (0-4)

In the past two weeks, how has your mood been? Have you been feeling very happy? Was there a reason you felt that way? Did you feel especially good about yourself? Were there times you felt too good or even a little euphoric – very happy? If yes, were the good days really too good or just better than the bad days? Were there times when you laughed about things you ordinarily wouldn't find funny? Or, did you laugh or joke about things that your parents or friends did not find funny or thought in poor taste?	0 Absent. 1 Mildly or possibly increased. 2 Definite subjective elevation; optimistic, self-confident; cheerful; appropriate to content. 3 Elevated, inappropriate to content; humorous. 4 Euphoric; inappropriate laughter; singing.

Irritability (0-8)

In the past 2 weeks have you felt more crabby/grumpy/cranky than usual? Were you annoyed about things that happened or how other kids treated you? Did you notice these things bothered you more than they usually do? Were you often more cranky or irritable? What do you do when you're angry?	0 Absent. 2 Subjectively increased. 4 Irritable at times during interview; recent episodes of anger or annoyance. 6 Frequently irritable during interview; short, curt, throughout. 8 Hostile, uncooperative; interview impossible.

Content (0-8)

Did you make any new plans or get new projects started? Accomplish anything special? Did you find you could understand things more clearly than usual? Did you have any religious thoughts? Did you find special meaning in things that happened or the way thing were arranged around you? Did you notice things that other kids missed or have the sense that others were talking about your, or even trying to hurt you? Did you have thoughts that didn't make sense to other people? Did you have any hallucinations? (e.g., did you see or hear things that other people did not?) Have you been doing a lot of new projects lately?	0 Normal. 2 Questionable plans, new interest. 4 Special project (s); hyperreligious. 6 Grandiose or paranoid ideas; ideas of reference. 8 Delusions; hallucinations

Sleep (0-4)

How many hours of sleep are you getting? Did you need less sleep than usual (and still feel rested)? What time do you go to bed on school nights? What time do you fall asleep?	0 Reports no decrease in sleep. 1 Sleeping less than normal by up to one hour. 2 Sleeping less than normal by more than one hour 3 Reports decreased need for sleep. 4 Denies need for sleep.

Language-Thought Disorder (0-4)

In the past two weeks, do you find that thoughts go hopping through your head and you easily lose your train of thought? Have you had more ideas than usual or any particularly good ideas? Was your thinking especially keen or clear this week? Did you often get distracted? Has your brain seemed to be going very fast? Did you sometimes have so many ideas in your head that you lost track of what you were saying?	0 Absent. 1 Circumstantial; mild distractibility; quick thoughts . 2 Distractible; loses goal of thought; changes topics frequently; racing thoughts. 3 Flight of ideas; tangentiality; difficult to follow; rhyming; echolalia. 4 Incoherent; communication impossible.

Speech (Rate and Amount) (0-8)

Has anyone (teacher, friends, parents) said you talked too loud, too fast, or too much in the past two weeks? Did they complain that they couldn't get a word in? Did you find it hard to stop talking once you started? Were there times that you spoke so fast that people had trouble understanding you?	0 No increase. 2 Feels talkative. 4 Increased rate or amount at times, verbose at times. 6 Push; consistently increased rate and amount; difficult to interrupt. 8 Pressured; uninterruptible, continuous speech.

Increased Motor Activity (0-4)

In the past two weeks, what's your energy level been like? Were there times that you felt particularly full of energy? If yes, was it hard to calm down? Did you feel real hyper or have trouble sitting still? Have you been more active than usual? Did you get a lot more done than usual? Has anyone commented on it? What did they say?	0 Absent. 1 Subjectively increased. 2 Animated; gestures increased 3. Excessive energy; hyperactive at times; restless (can't be calmed). 4 Motor excitement; continuous hyperactivity.

Sexual Interest (0-4)

Have you been more interested in things related to sex? In magazines, on the internet, or other places? Were you talking or joking about sex more than you normally do? Were you getting into trouble for saying things that were inappropriate to members of the opposite sex?	0 Absent. 1 Mildly or possibly increased. 2 Definite subjective increase. 3 Spontaneous sexual content; elaborates on sexual matters; hypersexual by self-report. 4 Overt sexual acts (towards interviewer).

Disruptive-Aggressive Behavior (0-8)

How have you gotten along with other people – your parents, teachers, friends (Have you been uncooperative?) Were there times that you were loud, demanding, or rude? Have you had any fights with your teacher, parents, or friends? (What happened?) Did you find yourself shouting, throwing things, or doing anything destructive?	0 Absent, cooperative. 2 Sarcastic, loud at times, guarded. 4 Demanding, threatening. 6 Threatens interviewer; shouting; interview difficult. 8 Assaultive; destructive; interview impossible.

Appearance (0-4)

How well did you keep up your clothes and hair? Was it hard to do? Were there occasions when people thought you were over-dressed or under-dressed? Did you choose to wear different colors than usual? What about wearing more jewelry or make-up than usual? Were there times you neglected your grooming?	0 Appropriate dress and grooming. 1 Minimally unkempt. 2 Poorly groomed; moderately disheveled; overdressed. 3 Disheveled; partly clothed; garish make-up. 4 Completely unkempt; decorated; bizarre garb.

Insight (0-4)

As you look back on the past two weeks, were there things you did that stand out as usual behavior for you? If yes, was that because your mood was high? Do you think moods and actions are causing your problems? Do you think you need treatment?	0 Present; admits illness; agrees with need for treatment. 1 Possibly ill. 2 Admits behavior change but denies illness. 3 Admits possible behavior change. 4 Denies any behavior change.

APPENDIX F

CHILDREN'S GLOBAL ASSESSMENT SCALE
(CGAS)

C-GAS Ratings

100-91 Superior functioning in all areas (at home, at school, and with peers); involved in a wide range of activities and has many interests (eg, has hobbies or participates in extracurricular activities or belongs to an organized group such as Scouts, etc); likeable, confident; "everyday" worries never get out of hand; doing well in school; no symptoms

90-81 Good functioning in all areas; secure in family, school, and with peers; there may be transient difficulties and everyday worries that occasionally get out of hand (eg, mild anxiety associated with an important examination, occasionally "blowups" with siblings, parents, or peers)

80-71 No more than slight impairment in functioning at home, at school, or with peers; some disturbance of behavior or emotional distress may be present in response to life stresses (eg, parental separations, deaths, birth of a sibling), but these are brief, and interference with functioning is transient; such children are only minimally disturbing to others and are not considered deviant by those who know them

70-61 Some difficulty in a single area, but generally functioning pretty well (eg, sporadic or isolated antisocial acts, such as occasional hooky or petty theft; consistent minor difficulties with school work; mood changes or brief duration; fears and anxieties that do not lead to gross avoidance behavior; self-doubts); has some meaningful interpersonal relationships; most people who do not know the child well would not consider him or her deviant, but those who do know him or her well might express concern

60-51 Variable functioning with sporadic difficulties or symptoms in several but not all social areas; disturbance would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings

50-41 Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area, such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor or inappropriate social skills, frequent episodes of aggressive or other antisocial behavior, with some preservation of meaningful social relationships

40-31 Major impairment in functioning in several areas and unable to function in one of these areas, ie, disturbed at home, at school, with peers, or in society at large, eg, persistent aggression without clear instigation; markedly withdrawn and isolated behavior due to either mood or thought disturbance, suicidal attempts with clear lethal intent; such children are likely to require special schooling and/or hospitalization or withdrawal from school but this is not a sufficient criterion for inclusion in this category)

30-21 Unable to function in almost all areas; eg, stays at home, in ward, or in bed all day without taking part in social activities or severe impairment in reality testing or serious impairment in communication (eg, sometimes incoherent or inappropriate)

20-11 Needs considerable supervision to prevent hurting others or self (eg, frequently violent, repeated suicide attempts) or to maintain personal hygiene or gross impairment in all forms of communication, eg, severe abnormalities in verbal and gestural communication, marked social aloofness, stupor

10-1 Needs constant supervision (24-h care) due to severely aggressive or self-destructive behavior or gross impairment in reality testing, communication, cognition, affect, or personal hygiene

Shaffer, D, Gould MS, Brasic J, Ambrosini P, Fisher P, Bird H, Aluwahlia S (1983). A Children's Global Assessment Scale (CGAS). *Archives of General Psychiatry, 40,* 1228-1231.

APPENDIX G

PSYCHIATRIC DIAGNOSTIC INTERVIEW SUMMARY SHEET
(PDI)

0 = No disorder
1 = symptoms of the disorder, but not enough to meet criteria
2 = disorder present

	Current			**Past** (in Lifetime)		
1. ORGANIC BRAIN	0	1	2	0	1	2
2. ALCOHOLISM	0	1	2	0	1	2
3. DRUG ABUSE	0	1	2	0	1	2
4. DEPRESSION	0	1	2	0	1	2
5. MANIA	0	1	2	0	1	2
6. SCHIZOPHRENIA	0	1	2	0	1	2
7. ANTI-SOCIAL PERSONALITY	0	1	2	0	1	2
8. SOMATIZATION	0	1	2	0	1	2
9. ANOREXIA	0	1	2	0	1	2
10. BULIMIA	0	1	2	0	1	2
11. PTSD	0	1	2	0	1	2
12. OBESSIVE-COMP.	0	1	2	0	1	2
13. PHOBIA	0	1	2	0	1	2
14. PANIC	0	1	2	0	1	2
15. GENERALIZED ANXIETY	0	1	2	0	1	2
16. MENTAL RETARDATION	0	1	2	0	1	2
17. ADJUSTMENT	0	1	2	0	1	2
18. UNDIAGNOSED PSYCH	0	1	2	0	1	2

APPENDIX H

STRUCTURED CLINICAL INTERVIEW FOR DSM-IV
AXIS II PERSONALITY DISORDERS – QUESTIONNAIRE
(SCID-II)

Instructions:
These questions are about the kind of person you generally are – that is, how you have usually felt or behaved over the past several years. Fill in the bubble for "YES" if the question completely or mostly applies to you, or fill in the bubble for "NO" if it does not apply to you. If you do not understand a question or are not sure of your answer, leave it blank.

		Yes	No
1.	Have you avoided jobs or tasks that involved having to deal with a lot of people?	O	O
2.	Do you avoid getting involved with people unless you are certain they will like you?	O	O
3.	Do you find it hard to be "open" even with people you are close to?	O	O
4.	Do you often worry about being criticized or rejected in social situations?	O	O
5.	Are you usually quiet when you meet new people?	O	O
6.	Do you believe that you're not as good, as smart, or as attractive as most other people?	O	O
7.	Are you afraid to try new things?	O	O
8.	Do you need a lot of advice or reassurance from others before you can make everyday decisions – like what to wear or what to order in a restaurant?	O	O
9.	Do you depend on other people to handle important areas in your life such as finances, childcare, or living arrangements?	O	O
10.	Do you find it hard to disagree with people even when you think they are wrong?	O	O
11.	Do you find it hard to start or work on tasks when there is no one to help you?	O	O
12.	Have you often volunteered to do things that are unpleasant?	O	O
13.	Do you usually feel uncomfortable when you are by yourself?	O	O
14.	When a close relationship ends, do you feel you immediately have to find someone else to take care of you?	O	O
15.	Do you worry a lot about being left alone to take care of yourself?	O	O
16.	Are you the kind of person who focuses on details, order, and organization or likes to make lists and schedules?	O	O
17.	Do you have trouble finishing jobs because you spend so much time trying to get things exactly right?	O	O

18.	Do you or other people feel that you are so devoted to work (or school) that you have no time left for anyone else or for just having fun?	O	O
19.	Do you have very high standards about what is right and what is wrong?	O	O
20.	Do you have trouble throwing things out because they might come in handy some day?	O	O
21.	Is it hard for you to let other people help you unless they agree to do things exactly the way you want?	O	O
22.	Is it hard for you to spend money on yourself and other people even when you have enough?	O	O
23.	Are you often so sure you are right that it doesn't matter what other people say?	O	O
24.	Have other people told you that you are stubborn or rigid?	O	O
25.	When someone asks you to do something that you don't want to do, do you say "yes" but then work slowly or do a bad job?	O	O
26.	If you don't want to do something, do you often just "forget" to do it?	O	O
27.	Do you often feel that other people don't understand you, or don't appreciate how much you do?	O	O
28.	Are you often grumpy and likely to get into arguments?	O	O
29.	Have you found that most of your bosses, teachers, supervisors, doctors, and others who are supposed to know what they are doing really don't?	O	O
30.	Do you often think that it's not fair that other people have more than you do?	O	O
31.	Do you often complain that more than your share of bad things have happened to you?	O	O
32.	Do you often angrily refuse to do what others want and then later feel bad and apologize?	O	O
33.	Do you usually feel unhappy or that life is no fun?	O	O
34.	Do you believe that you are basically an inadequate person and often don't feel good about yourself?	O	O
35.	Do you often put yourself down?	O	O
36.	Do you keep thinking about bad things that have happened in the past or worry about bad things that might happen in the future?	O	O
37.	Do you often judge others harshly and easily find fault in them?	O	O
38.	Do you think that most people are basically no good?	O	O
39.	Do you almost always expect things to turn out badly?	O	O
40.	Do you often feel guilty about things you have or haven't done?	O	O
41.	Do you often have to keep an eye out to stop people from using you or hurting you?	O	O
42.	Do you spend a lot of time wondering if you can trust your friends or the people you work with?	O	O
43.	Do you find that it is best not to let other people know much about you because they will use it against you?	O	O
44.	Do you often detect hidden threats or insults in things people say or do?	O	O
45.	Are you the kind of person who holds grudges or takes a long time to forgive people who have insulted or slighted you?	O	O
46.	Are there many people you can't forgive because they did or said something to you a long time ago?	O	O
47.	Do you often get angry or lash out when someone criticizes or insults you in some way?	O	O
48.	Have you often suspected that your spouse or partner has been unfaithful?	O	O
49.	When you are out in public and see people talking, do you often feel that they are talking about you?	O	O

50.	Do you often get the feeling that things that have no special meaning to most people are really meant to give you a message?	O	O
51.	When you are around people, do you often get the feeling that you are being watched or stared at?	O	O
52.	Have you ever felt that you could make things happen just by making a wish or thinking about them?	O	O
53.	Have you had personal experience with the supernatural?	O	O
54.	Do you believe that you have a "sixth sense" that allows you to know and predict things that others can't?	O	O
55.	Does it often seem that objects or shadows are really people or animals or that noises are actually people's voices?	O	O
56.	Have you had the sense that some person or force is around you, even though you cannot see anyone?	O	O
57.	Do you often see auras or energy fields around people?	O	O
58.	Are there very few people that you're really close to outside of you immediate family?	O	O
59.	Do you often feel nervous when you are with other people?	O	O
60.	Is it NOT important to you whether you have any close relationships?	O	O
61.	Would you almost always rather do things alone than with other people?	O	O
62.	Could you be content without ever being sexually involved with anyone?	O	O
63.	Are there really very few things that give you pleasure?	O	O
64.	Does it NOT matter to you what people think of you?	O	O
65.	Do you find that nothing makes you very happy or very sad?	O	O
66.	Do you like to be the center of attention?	O	O
67.	Do you flirt a lot?	O	O
68.	Do you often find yourself "coming on" to people?	O	O
69.	Do you try to draw attention to yourself by the way you dress or look?	O	O
70.	Do you often make a point of being dramatic and colorful?	O	O
71.	Do you often change your mind about things depending on the people you're with or what you have just read or seen on TV?	O	O
72.	Do you have lots of friends that you are very close to?	O	O
73.	Do people often fail to appreciate your very special talents or accomplishments?	O	O
74.	Have people told you that you have too high an opinion of your self?	O	O
75.	Do you think a lot about the power, fame, or recognition that will be yours someday?	O	O
76.	Do you think a lot about the perfect romance that will be yours someday?	O	O
77.	When you have a problem, do you almost always insist on seeing the top person?	O	O
78.	Do you feel it is important to spend time with people who are special or influential?	O	O
79.	Is it very important to you that people pay attention to you or admire you in some way?	O	O
80.	Do you think that it's not necessary to follow certain rules or social conventions when they get in your way?	O	O
81.	Do you feel that you are the kind of person who deserves special treatment?	O	O
82.	Do you often find it necessary to step on a few toes to get what you want?	O	O
83.	Do you often have to put your needs above other people's?	O	O
84.	Do you often expect other people to do what you ask without question because of who you are?	O	O
85.	Are you NOT really interested in other people's problems or feelings?	O	O
86.	Have people complained to you that you don't listen to them or care about their feelings?	O	O

87.	Are you often envious of others?	O	O
88.	Do you feel that others are often envious of you?	O	O
89.	Do you find that there are very few people that are worth your time and attention?	O	O
90.	Have you often become frantic when you thought that someone you really cared about was going to leave you?	O	O
91.	Do your relationships with people you really care about have lots of extreme ups and downs?	O	O
92.	Have you all of a sudden changed your sense of who you are and where you are headed?	O	O
93.	Does your sense of who you are often change dramatically?	O	O
94.	Are you different with different people or in different situations, so that you sometimes don't know who you really are?	O	O
95.	Have there been lots of sudden changes in your goals, career plans, religious beliefs, and so on?	O	O
96.	Have you often done things impulsively?	O	O
97.	Have you tried to hurt or kill yourself or threatened to do so?	O	O
98.	Have you ever cut, burned, or scratched yourself on purpose?	O	O
99.	Do you have a lot of sudden mood changes?	O	O
100.	Do you often feel empty inside?	O	O
101.	Do you often have temper outbursts or get so angry that you lose control?	O	O
102.	Do you hit people or throw things when you get angry?	O	O
103.	Do even little things get you very angry?	O	O
104.	When you are under a lot of stress, do you get suspicious of other people or feel especially spaced out?	O	O
105.	Before you were 15, would you bully or threaten other kids?	O	O
106.	Before you were 15, would you start fights?	O	O
107.	Before you were 15, did you hurt or threaten someone with a weapon, like a bat, brick, broken bottle, knife, or gun?	O	O
108.	Before you were 15, did you deliberately torture someone or cause someone physical pain and suffering?	O	O
109.	Before you were 15, did you torture or hurt animals on purpose?	O	O
110.	Before you were 15, did you rob, mug, or forcibly take something from someone by threatening him or her?	O	O
111.	Before you were 15, did you force someone to have sex with you, to get undressed in front of you, or to touch you sexually?	O	O
112.	Before you were 15, did you set fires?	O	O
113.	Before you were 15, did you deliberately destroy things that weren't yours?	O	O
114.	Before you were 15, did you break into houses, other buildings, or cars?	O	O
115.	Before you were 15, did you lie a lot or "con" other people?	O	O
116.	Before you were 15, did you sometimes steal or shoplift things or forge someone's signature?	O	O
117.	Before you were 15, did you run away from home and stay away overnight?	O	O
118.	Before you were 13, did you often stay out very late, long after the time you were supposed to be home?	O	O
119.	Before you were 13, did you often skip school?	O	O

APPENDIX I

HAMILTON RATING SCALE FOR DEPRESSION (HAM-D)

Modified from the Structured Interview Guide for the Hamilton Depression Rating Scale (SIGH-D)-Janet B.W. Williams, DSW Biometrics Research Department, New York State Psychiatric Institute, 722 West 168th Street, NY, NY 10032.

NOTE: Ratings are for the past **TWO WEEKS**.

1. DEPRESSED MOOD (Sadness, Hopeless, Helpless, Worthless)
   -**What's your mood been like in the past two weeks?**
   -Have you been feeling down or depressed?
   -Sad? Hopeless?
   -In the past two weeks, how often have you felt_____?
   Every day? All day?
   -Have you been crying at all?
   0 Absent
   1 These feeling states indicated only on questioning
   2 These feeling states spontaneously reported verbally
   3 Communicates feeling states nonverbally - i.e., through expressions, posture, voice and tendency to weep
   4 Reports VIRTUALLY ONLY these feeling states in his/her spontaneous verbal and nonverbal communication

2. FEELINGS OF GUILT
   -**Have you been especially critical of yourself in the past two weeks? Feeling you have done things wrong or let others down? IF YES: What have your thoughts been?**
   -Have you been feeling guilty about anything you have done or not done?
   -Have you thought that you have brought (this depression) on yourself in some way?
   -Do you feel you are being punished (by a family member's depression, etc.)?
   0 Absent
   1 Self-reproach, feels he/she has let people down
   2 Ideas of guilt or rumination over past errors or sinful deeds
   3 Present illness is a punishment. Delusions of guilt
   4 Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations

3. SUICIDE

-Have you had any thoughts that life is not worth living or that you would be better off dead? What about having thoughts about hurting or killing yourself?

-IF YES: What have you thought about? Have you actually done anything to hurt yourself?

0 Absent
1 Feels life is not worth living
2 Wishes he/she were dead or any thoughts of possible harm to self
3 Suicidal ideas or gestures
4 Attempts at suicide (any serious attempt rates 4)

4. INSOMNIA (EARLY)

-How have you been sleeping over the past two weeks?

-Have you had any trouble falling asleep at the beginning of the night? (Right after you go to bed, how long has it been taking you to fall asleep?)

-How many nights in the past two weeks have you had trouble falling asleep?

0 No difficulty falling asleep
1 Complains of occasional difficulty falling asleep - i.e., more than one half hour
2 Complains of nightly difficulty falling asleep

5. INSOMNIA (MIDDLE)

-During the past two weeks, have you been waking in the middle of the night?

IF YES: Do you get out of bed? What do you do? (Only go to the bathroom?)

-When you get back in bed are you able to fall right back to sleep?

-Have you felt your sleep has been restless or disturbed some nights?

0 No difficulty
1 Complains of being restless and disturbed during the night
2 Waking during the night - any getting out of bed rates 2 (except for purposes of voiding)

6. INSOMNIA (LATE)

-What time have you been waking up in the morning for the past two weeks?

-IF EARLY: Is that with an alarm clock or do your just wake up yourself? What time did you usually wake up? (That is, before before this depressive episode?)

0 No difficulty
1 Waking in the early hours of the morning but goes back to sleep
2 Unable to fall asleep again if gets out of bed

6.a HYPERSOMNIA ***THIS ITEM NOT FIGURED IN TOTAL SCORE**

-In the past two weeks have you been sleeping more than usual during the day or night?

-Have you been sleeping a couple hours more or only a little extra (eg. 1/2 hour)?

-Do you have a very difficult time getting out of bed if you do not get the extra sleep?

0 None
1 Occasionally or sometimes sleeps a couple extra hours per day or night
2 Requires extra sleep almost on a daily basis, or has extreme difficulty getting out of bed

7. WORK ACTIVITIES

-How have you been spending your time in the past two weeks?

-Have you felt interested in doing (THOSE THINGS), or do you feel you have to push yourself to do them?

-Have you stopped doing anything you used to do? IF YES: What and Why?

-Is there anything you look forward to?

0 No difficulty

1 Thoughts and feelings of incapacity, fatigue, or weakness related to activities, work, or hobbies

2 Loss of interest in activities, work, or hobbies – either directly reported by patient, or indirect in listlessness, indecision, and vacillation (feels he/she has to push self to do work or activities)

3 Decrease in actual time spent in activities or decrease in productivity

4 Stopped working because of present illness

8. RETARDATION (Slowness of thought and speech, Impaired ability to concentrate, Decreased motor activity)

-Rate based on observation during interview.

0 Normal speech and thought

1 Slight retardation at interview

2 Interview difficult

3 Complete stupor

9. AGITATION

-Rating based on observation during the interview.

0 None

1 Playing with hands, hair, etc.

2 Hand-wringing, nail biting, hair pulling, biting of lips

10. ANXIETY PSYCHIC:

-Have you been feeling especially tense or irritable in the past two weeks?

-Have you been worrying a lot about little unimportant things you would not ordinarily worry about?

IF YES: Like what for example?

0 No difficulty

1 Subjective tension and irritability

2 Worrying about minor matters

3 Apprehensive attitude apparent in face or speech

11. ANXIETY SOMATIC

-In the past two weeks have you had any of these physical symptoms? (Read list, pausing after each symptom for reply).

Dry mouth, gas, cramps, indigestion, diarrhea, belching, heart palpitations, headaches, hyperventilating, sighing, frequent urinating, or sweating?

0 Absent

1 Mild

2 Moderate

3 Severe

4 Incapacitating

12. SOMATIC SYMPTOMS (GASTROINTESTINAL)

-How has your appetite been in the past two weeks? (What about compared to your usual appetite?)

-Have you had to force yourself to eat? Have other people had to urge you to eat?

0 None
1 Loss of appetite, but eating. Heavy feeling in abdomen
2 Difficulty eating, uses laxatives or medication for bowels, or medication for g.i. symptoms

13. SOMATIC SYMPTOMS (GENERAL)

-How has your energy been in the past two weeks?

-Have you been tired all the time?

-In the past two weeks have you had any backaches, headaches, or muscle aches?

-In the past two weeks have you felt any heaviness in your limbs, back, or head?

0 None
1 Heaviness in limbs, back, or head. Backaches, headaches, muscle aches, loss of energy, and fatigability
2 Any clear-cut symptom rates a 2

14. GENITAL SYMPTOMS (Such as loss of libido or Menstrual disturbance)

NOTE: Interviewers be very sensitive with this question. Take your cues from the subject to lead in appropriately.

-In the past two weeks has there been any change in your interest in sex? Have you thought much about wanting to have sex in the past two weeks?

0 Absent, not ascertained (circle which)
1 Mild
2 Severe

15. HYPOCHONDRIASIS

-In the past two weeks how much have your thoughts been focused on you physical health or how your body is working?

-Do you complain much about how you feel physically?

-Have you found yourself asking for help with things you could really do by yourself? IF YES: Like what, for example? How often has that happened?

-Have you not been able to (work/take care of family) as well as usual because you aren't feeling well? IF YES: Give example.

0 Not present
1 Self-absorption (bodily)
2 Preoccupation with health
3 Frequent complaints, requests for help, etc
4 Hypochondriacal delusions

16. LOSS OF WEIGHT

-Have you lost any weight? IF YES: How much?

-IF NOT SURE: Do you think your clothes are any looser on you?

0 No weight loss
1 Probable weight loss associated with present illness
2 Definite weight loss according to patient

16.a. HYPERPHAGIA ***THIS ITEM NOT FIGURED IN TOTAL SCORE**

-Have you felt hungry all the time in the past two weeks?

-Have you been eating more than usual?

-Have you gained any weight?

0 None

1 Increased appetite but no significant change in eating habits

2 Increased appetite with weight gain

17. INSIGHT

-Rating based on observation during the interview.

0 Acknowledges being depressed and ill

1 Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.

2 Denies being ill at all

18. DIURNAL VARIATION

-During the past two weeks have you been feeling better or worse at any particular time of the day, morning, or evening?

-IF VARIATION: How much worse do you feel in the _____?

-IF UNSURE: A little bit worse or a lot worse?

Rate level of variation (absent, mild, severe)

A.M.	P.M.		
0	0	Absent	(circle code under column - A.M./P.M.
1	1	Mild	for when symptoms are worse)
2	2	Severe	

19. DEPERSONALIZATION OR DEREALIZATION

(Such as feelings of unreality and nihilistic ideas)

-In the past two weeks have you ever suddenly had the feeling that everything is unreal, or you're in a dream, or cut off from other people in some strange way? Any spacey feelings?

<u>IF YES</u>: How bad has that been? How often in the past two weeks has that happened?

0 Absent

1 Mild

2 Moderate

3 Severe

4 Incapacitating

20. PARANOID SYMPTOMS

-In the past two weeks have you felt that anyone was trying to give you a hard time or hurt you?

-IF NO: What about talking about you behind your back?

-IF YES: Tell me about that.

0 None

1 Suspicious

2

3 Ideas of reference

4 Delusions of reference and persecution

21. OBSESSIONAL AND COMPULSIVE SYMPTOMS

-In the past two weeks have there been things you had to do over and over again, like checking the locks on the doors several times? IF YES: Can you give me an example?
-Have you had any thoughts that don't make sense to you but that keep running over and over in your mind? IF YES: Can you give me an example?

0 Absent
1 Mild
2 Severe

22. HELPLESSNESS

-In the past two weeks have you felt that you are unable to manage things by yourself?
-Have you needed reassurance or encouragement from friends/family to even try to get things done?
-Have you felt dependent on others to assist you in tasks you could normally do on your own?

0 Not present
1 Subjective feelings which are elicited only by inquiry
2 Volunteers his/her helpless feelings
3 Requires urging, guidance, and reassurance to accomplish tasks or personal hygiene
4 Requires physical assistance for dress, grooming, eating, bedside tasks, or personal hygiene

23. HOPELESSNESS

-In the past two weeks have you felt like there is no hope for you and your future is bleak? That the problems in your life will not get better?

0 Not present
1 Intermittently doubts that "things will improve" but can be reassured
2 Consistently feels "hopeless" but accepts reassurance
3 Expresses feelings of discouragement, despair, pessimism about future, which cannot be dispelled
4 Spontaneously and inappropriately perseverates, I'll never "get well" or its equivalent

24. WORTHLESSNESS

-In the past two weeks have you felt worthless?
-Have you felt that you are no good or that you don't deserve help and support from others?
-Ranges from mild loss of esteem, feelings of inferiority, self- depreciation, to delusions of worthlessness

0 Not present
1 Indicates feeling of worthlessness (loss of self-esteem) only on questioning
2 Spontaneously indicates feelings of worthlessness (loss of self-esteem)
3 Different from #2 by degree: Volunteers that he/she is "no good","inferior", etc.
4 Delusional notions of worthlessness - i.e., "I am a heap of garbage" or its equivalent

25. SEASONAL VARIATION ***THIS ITEM NOT FIGURED IN TOTAL SCORE**

IF ANY DEPRESSIVE SYMPTOMS WERE ENDORSED, ASK:

-Do you notice that you do better in the spring and summer and then the (list symptoms endorsed) get worse during the fall or winter? Or is there any particular season of the year when you typically feel worse?

0 None
1 Mild seasonal change in mood
2 Moderate seasonal change in mood
3 Severe seasonal change in mood

25A. If seasonal changes occur, note whether they occur in the fall/winter (code=1) or spring/summer (code=2). If no seasonal changes, code=0.

APPENDIX J

THE UNDERSTANDING MOOD DISORDERS QUESTIONNAIRE (UMDQ)

True (T) or False (F) or Don't Know (DK):	**T**	**F**	**DK**
1. Depression is one of the most common forms of mental disorder.	O	O	O
2. There is usually no need to seek treatment for depression. People who are clinically depressed can often wait a short while and the symptoms will disappear.	O	O	O
3. People who seek treatment for depression are weak and lazy.	O	O	O
4. People who talk about suicide are just trying to bring attention to themselves.	O	O	O
5. It is easy to predict who will get depressed and when that person will have their next depressive episode.	O	O	O
6. All people who hear voices and see things no one else does have schizophrenia.	O	O	O
7. There is no treatment for people who are always down in the dumps and feeling hopeless and/or low in energy.	O	O	O
8. Without treatment, clinical depression rarely lasts more than one month.	O	O	O
9. Over half of all children and teenagers who experience a major depressive disorder can expect to experience another episode within 5 years.	O	O	O
10. In early stages of mania, someone might seem extra sociable, self-confident, creative, and feeling good.	O	O	O
11. Manic depression is another name for bipolar disorder.	O	O	O
12. Partial responses to prescribed medication are common.	O	O	O

13. The nice thing about taking mood stabilizing medicine is that as soon as the symptoms go away, you can stop the medicine.	O	O	O
14. Mood stabilizing medications are addictive.	O	O	O
15. If you don't like a mood stabilizing medication, you should just stop taking it "cold turkey" to get it out of your system.	O	O	O
16. If a mood stabilizing medication is going to work, you'll know it within 1 – 2 days.	O	O	O
17. If you forget to take a dose of your mood stabilizing medication, you should immediately take the dosage whenever you remember, no matter how long it has been.	O	O	O
18. If your body has adjusted to your mood stabilizing medication after 1 – 2 weeks, drinking alcohol, using other drugs, or smoking cigarettes should not affect how your medication works.	O	O	O
19. Side effects are side effects – there is not much you can do to make them feel better.	O	O	O
20. Family problems are separate from mood disorders, and so they shouldn't affect mood disorders in a family member.	O	O	O

21. Fill in which of the following **YOU KNOW** can be a symptom of a **major depressive episode**:

- O Sad, anxious, irritable, and/or angry mood
- O Complaints of boredom
- O Previously fun activities aren't fun anymore
- O Sleeping too much or too little
- O Eating too much or too little
- O Difficulty with concentrating or making decisions
- O Tired/ fatigued/ no energy
- O Restlessness
- O Feelings of worthlessness and/or guilt
- O Preoccupation with death-related issues
- O Thoughts about suicide

22. Fill in which of the following **YOU KNOW** can be symptom of **mania**:

- O A "high" mood for no good reason
- O Too self-confident
- O Sleeping less
- O Too much talking/talking too fast
- O Thoughts racing through your head (too) quickly
- O Very difficult time concentrating
- O Doing many more things than usual
- O Doing reckless and/or foolish things