

THE IMPACT OF ANXIETY AND HOSTILITY ON THE
PARENTING PRACTICES OF DEPRESSED MOTHERS
AND ON THEIR CHILDREN'S BEHAVIOR
OUTCOMES

By

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Bachelor of Science

Oklahoma State University

Stillwater, Oklahoma

1996

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF SCIENCE
July, 1999

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ACKNOWLEDGMENTS

I would like to thank my committee, Dr. Laura Hubbs-Tait, Dr. Charles Hendrix, and Dr. Kathleen Briggs for all of their support and encouragement during my graduate college experience. Dr. Hubbs-Tait has been a mentor and a friend, since even before graduate school and I appreciate all that she has done to help me along the way. Dr. Hubbs-Tait employed me as a graduate research assistant and allowed me to use her data to examine a question in which I was really interested. Additionally, Dr. Hubbs-Tait has been a strong support for me both personally and professionally since we met in 1992. Thank you, Dr. Hubbs-Tait, for everything.

Dr. Briggs and Dr. Hendrix were not only research mentors, but also clinical mentors. From them, I learned a great deal about the field of Marriage and Family Therapy and what is needed to be a successful therapist. Further, Dr. Briggs and Dr. Hendrix provided great feedback on and insight into my research for my thesis. Thank you both for being so great over the past three years. Also, thank you to Dr. David Fournier for his clinical supervision and support through my master's program.

I would also like to say thank you to all of the other graduate research assistants who worked with Dr. Hubbs-Tait and spent countless hours collecting, entering, and checking data for all of the theses and dissertations that have been ongoing these past few years. I would especially like to say thank you to Rita Starost for making sure that everything I needed was always available and for being such a great friend.

Lastly, I would like to thank my friends and family, especially Mom, Dad, and Omid, for putting up with me while I have worked many long hours trying to complete my thesis and graduate from graduate school.

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CHAPTER I

Introduction

Purpose and Justification

The current study is a two-fold investigation of maternal depression. The purpose of this study is, initially, to determine whether an anxious component and a hostile component can be found within maternal depression through principal components analysis. Secondly, this study will examine how these possible components of maternal depression are related to, or explain differences in, parenting practices and child behavior outcomes.

A brief introduction is provided as a means of setting up the hypotheses of the study. Initially, a brief definition of the constructs will be given with epidemiological information for each construct. Next there will be a brief description of research leading to the need for and support of the current study. This description will be expanded and further explored in the literature review in Chapter II.

Depression, as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994), is a mood disorder that may involve depressed mood, lack of interest in pleasurable activities, feelings of worthlessness, and difficulty concentrating. According to Maxmen and Ward (1995), a person may experience major depression for three to nine months with 85 percent overcoming the disorder within one year. Fifteen percent of Americans will experience major depression in their lives and 100 million people are affected by major depression every day (Maxmen & Ward, 1995). This percentage does not include the

number of people who experience only some symptoms of depression; instead this number refers to the number of people who experience major depressive disorder. One of the highest risk groups for depression according to Ensel (1982, as cited in Maxmen & Ward, 1995), are young mothers with little support raising their children. Additionally, Maxmen and Ward (1995) report that major depression and dysthymia, another type of mood disorder with depressive symptoms, affect two to three times more woman than men. According to a study of women in rural Virginia, depressive symptoms were greater in young women with little education who had difficulty finding employment than in older women who had more education and were employed (Hauenstein & Boyd, 1994). Additionally, in this rural sample of low income, low educated women, depression scores were greater than depression scores in others studies of depression in the general population (Hauenstein, & Boyd, 1994).

Due to the high rate of major depression and the even higher rate of those people experiencing mild symptoms of depression (American Psychiatric Association, 1994; Maxmen & Ward, 1995) as well as the increased symptoms of depression in low-income, poorly educated samples similar to the current sample, the need for research on the impact of these symptoms is crucial. Further, due to the much higher incidence rate of depression in women than men, the current study will focus solely on the relationship of maternal depression to parenting practices and child behavior outcomes.

Anxiety refers to a disorder in which a person may experience panic attacks involving such things as fear of losing control, pounding heart rate, dizziness, and fear of going crazy (American Psychiatric Association, 1994). As defined by the DSM-IV (American Psychiatric Association, 1994) in order for a person to be diagnosed with an

anxiety disorder, the person must experience significant impairment in work, social, or other areas of functioning. Much like depression, the frequency of actual diagnosable cases of anxiety disorders is high, but even higher is the prevalence of persons experiencing milder symptoms of anxiety that impact their lives but not to the extent of the disorder. The prevalence for anxiety disorders such as panic disorder, specific phobia, social phobia, and generalized anxiety disorder, like depression, is higher, in some instances up to two times higher, for women than men (American Psychiatric Association, 1994).

Anxiety and depression are two separate diagnoses within the DSM-IV that are very likely to co-occur. That is, approximately 50 to 65 percent of the people with a panic disorder also have a major depressive disorder (American Psychiatric Association, 1994). Further, many different anxiety disorders are associated with mood disorders. Although there are two separate diagnoses which are likely to occur, the purpose of the current study, based upon literature to be discussed, is to examine how anxiety impacts the mother's style of and beliefs about parenting among mothers with high levels of depressive symptoms. Therefore in examining depression and anxiety in the current sample, only symptoms of the two disorders will be measured rather than actual diagnoses. This study will not examine whether the subjects have diagnosable depression or anxiety, but rather will examine how or if anxiety is exhibited by mothers with high levels of depressive symptomology.

The other construct that will be explored within depression in the current study is hostility. Hostility refers to the cognitive component of aggression that often is expressed as feelings of resentment and suspicion (Buss & Perry, 1992). Additionally, Buss and

Perry (1992) report that hostility can often be expressed as feelings of injustice and ill feelings towards others and that hostility is often comprised of the feelings that are left after a person has stopped being angry at someone or something. Weissman, Klerman, and Paykel (1971) examined hostility in depression in a sample of women and found that depressed women express varying amounts of hostility with the greatest amounts being focused on persons to whom women are close such as their spouses and children rather than on more distant acquaintances. While hostility has been researched in women, Buss and Perry (1992) report that men, in an undergraduate sample, have significantly higher scores on hostility than women in an undergraduate sample.

Much research has shown that maternal depression impacts mothers' parenting practices and children's behavior (Cummings & Davies, 1994; Downey & Coyne, 1990; and Gelfand & Teti, 1990), but the research shows a number of differences in the parenting practices of depressed mothers and child behavior outcomes of children of depressed mothers. Therefore, the question arises: What accounts for the variance in the parenting practices of depressed mothers and in the child behavior outcomes of their children? After exploring the literature, the idea of different components within depression appears plausible in order to explain the differences in parenting practices of depressed mothers and child behavior outcomes of children of depressed mothers. As will be seen in the review of literature, depressed mothers are likely to exhibit parenting practices that appear to be consistent with the definitions of anxiety and hostility mentioned above. Whether and how anxiety and hostility influence depressed mothers is unclear. Additionally, there is little research that shows the impact of anxious and hostile depression on parenting practices and child behavior outcomes. Therefore the

current study is focused on the exploration of these possible components, anxiety and hostility, of depression in order to explain some of the variance in parenting practices and parenting attitudes of depressed mothers and in the outcomes of these depressed mother's children.

In a review of maternal depression and child development, Cummings and Davies (1994) reported that few studies have explored how dimensions of depression (e.g. number of symptoms and episodes, intensity, duration) impact parenting practices or child behavior outcomes. Although the current study will not investigate types of depression in terms of diagnostic categories, this study will compare the impact of anxiety and hostility within a sample of depressed mothers. This study should extend the body of research on how differences in maternal depression impact parenting practices and child behavior outcomes.

Research has shown that maternal depression affects mothers' parenting practices and children's behavior (e.g. Cummings & Davies, 1994; Gelfand & Teti, 1990). The question remains: which component of depression affects which parenting practices and which child outcomes? In support of the current proposal that depression consists of hostility, Gelfand and Teti (1990) report that depressed mothers are more likely than nondepressed mothers to show hostility and rejection toward their children. Similarly, they may have negative attitudes toward parenting (Webster-Stratton & Hammond, 1988). Additionally, depressed mothers are more likely to use coercion in order to control their child's behavior (Downey & Coyne, 1990). Depressed mothers are also more likely than nondepressed mothers to be critical of their child (Webster-Stratton & Hammond, 1988) and use negative verbal behavior with their child (Gordon, Burge,

Hammen, Adrian, Jaenicke, & Hiroto, 1989). Depressed mothers also may be more likely to physically abuse their child (Cummings & Davies, 1994). Research examining problem behaviors of children of depressed mothers adds additional support to the current proposal that depression consists of a component of hostility. Downey and Coyne (1990) report children of depressed parents have more externalizing problems, such as aggression and acting out, than children of nondepressed mothers. Children of depressed mothers have also been found to exhibit more antisocial behaviors, as reported by their mothers (Downey & Coyne, 1990) and maternal hostility has been found to be related to the development and persistence of problem behaviors (Cohen & Bromet, 1992).

In support of the current proposal that depression consists of anxiety, Gelfand and Teti (1990) report that depressed mothers are more likely than nondepressed mothers to show helplessness. Similarly depressed mothers have been found to be more inconsistent and ineffective in disciplining their children (Zahn-Waxler, Iannotti, Cummings, & Denham, 1990). Moreover, depressed mothers often feel that they may not be competent parents (Downey & Coyne, 1990). These characteristics of depressed mothers appear to be similar to symptoms or characteristics of anxiety, thus supporting the notion of a component of anxiety within depression.

Additional support for the current proposal that depression consists of a component of anxiety comes from the literature regarding child outcomes of children of depressed mothers. Downey and Coyne (1990) report that children of depressed mothers are more likely to exhibit internalizing behaviors, such as withdrawal, anxiety, and passivity, than children of nondepressed mothers. Additionally, children of mothers who

show signs of depression and anxiety have been found to suppress distress and frustration (Cole, Barrett, & Zahn-Waxler, 1992). Moreover, children of depressed mothers have been found to have lower social competence, as reported by their mothers, than children of nondepressed mothers (Downey & Coyne, 1990).

In response to the previously mentioned research findings and the lack of additional research on the impact of components within maternal depression on parenting practices and child outcomes, the current study will investigate the following hypotheses:

- A. Maternal depression can be further explained as having components of hostility and anxiety.
- B. In a sample of depressed mothers hostility and anxiety will predict different parenting practices.
- C. In a sample of depressed mothers, hostility and anxiety will predict different child behavior outcomes.

Clinically, this research should influence the work practitioners do with depressed mothers and their families by providing additional insight into the manifestations of maternal depression. If depression consists of the proposed components of anxiety and hostility, then clinical treatment for depression may need to be modified in order for maternal symptoms and child consequences to be remedied. Interventions should be developed that focus not only on the depression, but also on how the depressive symptoms impact the parenting practices and the child behavior outcomes. For example, if a depressed mother responds consistently to her child in a hostile manner, interventions might need to focus on changing or eliminating the hostility as well as the depressive symptomology.

CHAPTER II

Review of Literature

Definition of Constructs

As mentioned previously, depression has been defined by the American Psychiatric Association (1994) as a mood disorder that involves depressed mood, loss of interest in pleasurable activities, feelings of worthlessness, and difficulty concentrating. The Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994) further states that depression may include significant change in weight (loss or gain), significant change in sleep patterns (insomnia or hypersomnia), psychomotor agitation, fatigue, and thoughts of suicide. In order for a person to be diagnosed with Major Depressive Disorder, the person must experience five or more of the symptoms of depression for at least two weeks and the symptoms must cause the person difficulty in functioning in their social life, at work, or in other areas of their life (American Psychiatric Association, 1994). The American Psychiatric Association (1994) reports that persons experiencing a major depressive episode may also exhibit excessive crying, irritability, brooding, rumination, anxiety, phobias, worry, and physical complaints.

The course of a major depressive episode (the two-week minimum required for a diagnosis for major depressive disorder) is quite variable. In approximately 40% of people who experience a major depressive episode, one year after the diagnosis, the person still will meet the criteria for the diagnosis. Further, approximately 20% of the cases of persons experiencing a major depressive episode continue to experience some

symptoms although insufficient for a diagnosis one year after the initial diagnosis (American Psychiatric Association, 1994).

Dysthymia, another type of mood disorder defined by the American Psychiatric Association (1994), involves depressed mood that lasts for at least two years and includes at least two of the symptoms of depression listed above. Dysthymia is a chronic depressed state that is not as severe as a major depressive episode, but instead is a milder depression that persists over a long period of time (American Psychiatric Association, 1994). For dysthymia, symptoms may include those listed above for major depressive episode as well as feelings of inadequacy, social withdrawal, feelings of guilt or brooding about the past, feelings of irritability or excessive anger (American Psychiatric Association, 1994).

According to the American Psychiatric Association (1994), women in community samples have a lifetime risk of 10 to 25 percent for Major Depressive Disorder whereas the risk for men is five to 12 percent. The lifetime risk of dysthymic disorder is approximately six percent, with women being two to three times more likely to suffer from dysthymia than men (American Psychiatric Association, 1994). Maxmen and Ward (1995) report that 100 million people are affected by major depression everyday and that major depression and dysthymia affect two to three times more women than men. These again are prevalence rates for the diagnosable disorders. These rates do not include the people who experience only some symptoms of depression.

The high rates of symptoms of depression, over 40 percent scoring at or above the standard cutoff score of 16 on the Center for Epidemiologic Studies-Depression Scale, especially among young, low income, low educated mothers (Hauenstein & Body, 1994)

much like the sample for the current study, substantiates the need for further research about maternal depression. Additionally, the description of symptoms common in persons experiencing depression: irritability, rumination, anxiety, phobia, worry, feelings of inadequacy, feelings of guilt and brooding about the past, and excessive anger (American Psychiatric Association, 1994) seems to further support the hypothesis that depression, whether a brief depressive episode or more chronic like dysthymia, consists of components of anxiety and hostility. This is not to say that all depressed person will exhibit anxiety or hostility, but that these may be components experienced by some people that can explain variance in parenting practices and child behavior outcomes.

The current study will explore the relationship between feelings of anxiety and hostility as related to depression scores, all of which will be based on a continuum of distress, in a sample of young, low income, low educated mothers in order to gain better understanding about the components of depression experienced by this population. In order to explore the relationships between depression and the possible components of hostility and anxiety, level of symptoms will be used rather than DSM-IV (American Psychiatric Association, 1994) diagnosis for depression and anxiety. Self-report measures will be used for the purpose of this study as is similar in other research.

Related Research

Maternal Depression. As can be seen from the statistics on prevalence of depression in woman in general (American Psychiatric Association, 1994) and young, low-income mothers in particular (Hauenstein & Boyd, 1994), there is a great need to understand the impact of maternal depression on parenting practices and child behavior outcomes in order to alleviate the negative outcomes for families. Considerable research

has been done to investigate the impact of maternal depression on both parenting practices and child outcomes. Extensive reviews of the literature on maternal depression (Gelfand & Teti, 1990; Cummings & Davies, 1994; Downey & Coyne, 1990) have shown that depression negatively impacts the parenting practices used by these mothers and children of depressed mothers are also impacted negatively. In fact, even after mother's depressive symptoms are alleviated by treatment, children's behavior problems remain (Downey & Coyne, 1990). This latter finding underscores the importance of examining parenting practices. They may maintain the behavior problems long after maternal depression has diminished.

Rutter and Quinton (1984) report that there are several pathways by which children may be affected by depression. First, children may be affected simply by being exposed to depressive symptoms. Secondly, there may be alterations in the parent-child interactions and finally, the depression may impact children by leading to an increase in conflict within the family. Rutter and Quinton (1984) point out that maternal mental health does not independently affect children's outcomes, but rather that maternal mental health is one of many psychosocial risk factors, that when combined, can have deleterious impacts on children. Further, Downey and Coyne (1990) report that the idea that children are directly impacted by living with a depressed mother is supported by previous research. Also asserted in Downey and Coyne's (1990) review is that maternal depression and child behavior problems are both related to other issues within the family such as marital difficulties or stressful life events. Therefore in order to understand what is going on with the family and the children, the various processes occurring in the family, especially the depressed parent, must be examined. Additionally, while there is

clear evidence that maternal depression has an impact, the process by which the depression impacts the parenting practices and child behavior outcomes remains unclear.

Parenting Practices-Maternal Depression. Depressed mothers have been found to exhibit a number of attitudes and parenting practices that may adversely affect their children (e.g. Gelfand & Teti, 1990; Downey & Coyne, 1990). The effects of maternal depression may impact the child through a number of different pathways mentioned above: altered parent-child interactions, simple exposure to depression, or through other processes occurring in the family. Egeland, Kalkoske, Gottesman, and Erickson (1990) report that depressed mothers are likely to be withdrawn and overwhelmed which impacts the child's home environment and the mother's caregiving capabilities. Further, depressed mothers have been reported as being more negative and critical and less helpful toward their children than nondepressed mothers (Gordon et al., 1989; Lovejoy, 1991).

In their review of the effects of maternal depression on children, Gelfand and Teti (1990) reported that previous research has found that depressed mothers may report feeling resentment, guilt, and ambivalence toward their children (Coyne, 1985; Weissman & Paykel, 1974, both as cited in Gelfand & Teti, 1990). Additionally, Gelfand and Teti (1990) and Cox, Puckering, Pound, and Mills (1987), report that rather than using effective parenting practices such as explanations or reasoning, depressed mothers may exhibit ineffective parenting including lax undercontrol and harsh coercion, each of which could be differentially related to the hypothesized anxious and hostile components of depression. The harsh coercion may be related to what the current study is predicting

will be hostile depression and the lax undercontrol may be related to the proposed core component of anxious depression. One study of depressed versus non-depressed mothers' parenting practices leaves open the possibility that maternal anxiety and hostility might be influencing parent-child interactions. In a study of 62 mothers with preschool children, Frankel and Harmon (1996) found that depressed mothers reported being less happy, less competent parents, experiencing more marital difficulties, and experiencing more stress related to parenting than did non-depressed mothers. In examining the interactions between these depressed and non-depressed mothers and their children, Frankel and Harmon (1996) found that the interactions in the depressed group did not differ significantly from the non-depressed group. The authors report that something more than diagnosis of depression may be impacting the interactions such as type or course of the depression. While, in this study, the depressed mothers viewed themselves differently than the non-depressed mothers, the parent-child interactions did not differ for the two groups. Therefore, there must be something more to examine in parent-child interactions than just presence or absence of depression.

Parenting Practices-The Case for Maternal Anxiety. As mentioned above, depressed mothers may experience feelings of being overwhelmed which may be similar to lack of confidence in her abilities to parent that have been found by Barnett, Schaafsma, Guzman, and Parker (1991) in mothers with increased symptoms of anxiety. In a study of 194 mothers of preschool children, Rickel, Williams, and Loigman (1988) reported that anxiety and depression were positively correlated with a restrictive parenting style and negatively correlated with nurturance. Hirshfeld, Biederman, Brody,

Faraone, and Rosenbaum (1997) report that mothers suffering from anxiety are more likely to be critical of their children than nonanxious mothers which is similar to descriptions by Gordon et al. (1989) and Lovejoy (1991) that depressed mothers may be negative and critical of their children. Therefore, there may be a commonality between mothers who are experiencing symptoms of depression and those who are experiencing anxiety in that both appear to be more critical of their children.

Briggs-Gowan, Carter, and Schwab-Stone (1996) report that in a sample of 188 children aged 9-12 depression and anxiety account for discrepancies in mother's reports of children's behavior problems. Analyses revealed that maternal depression and anxiety accounted for variance in discrepancies in mother-daughter reports of daughter's externalizing problems. Further, anxiety accounted for variance in discrepancies above and beyond depression, but depression did not account for any variance above and beyond anxiety.

These mothers may have two separate diagnosable disorders, anxiety and depression, or they may be experiencing an anxious component of depression. Further, some mothers may be experiencing only anxiety and others only depression. The current study will look at the overlap between the two affects, but not at whether the mothers have diagnosable disorders or suffer from one type of symptom over the other.

Parenting Practices-The Case for Maternal Hostility. Lesnik-Oberstein, Koers, and Cohen (1995) found that high levels of maternal hostility were associated with increased psychological abuse in mothers who experienced strain in parenting. Maternal anger and hostility is closely linked to harsh discipline, including yelling at the child and even physical abuse (Peterson, Ewigman, & Vandiver, 1994; Panaccione & Wahler,

1986). Weissman and Paykel (1974, in Downey & Coyne, 1990) report that a depressed mother's helplessness and hostility gets in the way of the mother being warm and consistent with her children. In a sample of 94 mothers with children between the ages of four and nine years old, Susman, Trickett, Iannotti, Hollenbeck, and Zahn-Waxler (1985) examined child rearing practices of depressed ($n = 61$), abusive ($n = 18$), and normal ($n = 15$) mothers. Results revealed that depressed and abusive mothers use some similar child-rearing practices such as hostility, inconsistency, and guilt inducing methods. As can be seen from the literature, hostility, like depression impacts mother's ability to parent, but is the hostility something separate from or actually a component of maternal depression?

Child Behavior Outcomes-Maternal Depression. The impact of maternal depression on children can be seen across areas of children's development and across ages (Gelfand & Teti, 1990). In a review of maternal depression and child development, Cummings and Davies (1994) report that children of depressed mothers have been found to be two to five or more times more likely to exhibit behavior problems than children of nondepressed mothers (Welsh-Allis & Ye, 1988; Weissman et al., 1984, both cited in Cummings & Davies, 1994). Downey and Coyne (1990) report that children of depressed mothers are at risk for both internalizing and externalizing problems. According to Hammen et al., (1987) children of depressed mothers are more likely to experience lower social competence than children of nondepressed mothers.

Shaw, Vondra, Hommerding, Keenan, and Dunn (1994) found that children's behavior problems are influenced by maternal warmth, which may be missing in depressed mothers, and maternal criticism, which may be higher in depressed mothers.

There is certainly the possibility that mothers who exhibit lack of warmth and are critical of their children may be experiencing the current proposed hostile or anxious components of maternal depression.

Other impacts of maternal depression have been found by Egeland et al., (1990) in a study examining a sample of 96 children, aged 4.5-5 years at the onset of the study, to determine whether behavior problems and school competence are continuous over time. For the most part, the results supported the ideas that both behavior problems and school competence are continuous over time. In the area of exceptions, children who had behavior problems in preschool, but not in elementary school had mothers with depression scores that declined over time, whereas children with continuous behavior problems had mothers whose depression scores increased over time. Additionally, children's competence was also related to mother's depression scores in that an increase in mother's depression scores was related to lower competence in children (Egeland, et al., 1990).

Anderson and Hammen (1993) investigated psychosocial functioning in children, aged 8 to 16, of four different groups of mothers to try to determine whether children of depressed mothers differed from other children and to determine whether difficulties in psychosocial functioning persisted over time. The sample included 22 children of mothers with recurrent depression, 18 children of mothers with bipolar disorder, 18 children of medically ill women, and 38 children of mothers with no mental or medical illness. Results of the study indicate that children of depressed mothers had significantly lower social competence scores, higher behavior problem scores, higher internalizing behavior scores, lower school behavior scores, poorer academic performance, greater

chronicity of behavior problems and school behavior than did children with bipolar, medically ill, or normal mothers. The only area in which children of depressed mother did not have significant differences from all three of the other groups was in chronicity of academic problems. In this area, the children of depressed mothers only differed significantly from the children of normal mothers (Anderson & Hammen, 1993).

Again, as in the case for parenting practices, there is great variance in the outcomes of children of depressed mothers. Some children of depressed parents exhibit outward peer directed type behaviors, while others exhibit more inward directed behaviors such as depression. While the variance could be accounted for by differences in the children, the variance could also be explained by the ways that maternal depression is exhibited such as in the proposed components of hostility and anxiety.

Child Behavior Outcomes-The Case for Maternal Anxiety. Children of mothers who experience symptoms of both anxiety and depression have been found to suppress feelings of tension and hostility (Cole et al., 1992). In their study of boys with Attention-Deficit Hyperactivity Disorder, Nigg and Hinshaw (1998) found that overt behaviors such as aggression and noncompliance were related to maternal depression and anxiety. Children of anxious mothers have also been found to have increased psychosocial difficulties as well as decreased social competence than children of nonanxious mothers (Barnett et al., 1991).

Spieker, Larson, Lewis, Keller, and Gilchrist (1999) examined the impact of a combined maternal depression/anxiety component on the disruptive behavior problems of children aged three and one half to six. Results showed that children of mothers experiencing depression/anxiety had higher disruptive behavior problems at six years old

and that these mothers reported more disruptive behavior problems in their sons than their daughters. These findings about depressed/anxious mothers are similar to findings described earlier about depressed mothers. Cummings and Davies (1994) report that children of depressed mothers have more externalizing (similar to disruptive behavior) problems than do children of non-depressed mothers. Thus, the question arises regarding overlap of depression and anxiety. Could anxiety be a component of depression, or are the two diagnosable disorders co-existing? The current study will examine whether anxiety is a component of depression.

Child Behavior Outcomes-The Case for Maternal Hostility. Cohen and Bromet (1992) reported that maternal hostility was one of several predictors of the development of childhood behavior problems. Rejection and harsh discipline, which have been found to be related to maternal anger and hostility, have been found to be related to low levels of social competence and increased moodiness in children (Elder, Nguyen, & Caspi, 1985). Therefore, children of mothers who are reported as being hostile, have similar outcomes as children of depressed mothers, thus adding to the idea that hostility may be a component of maternal depression.

Need for Research

As shown by the review of literature, research to date has not focused so much on components of maternal depression but rather on depression in general. The following studies are exceptions to the rule that research has focused on depression in general. Thus the following studies will add support for the current proposal of investigating anxious and hostile components of maternal depression.

Hops et al. (1987) recommended that depressive symptomology of nonverbal aversive behavior be separated into two categories: aggressive behavior and dysphoric behavior. The aggressive behavior is an external sign of anger and irritation whereas the dysphoric behavior is more internal and includes sadness and despair. These two types of behavior may possibly be similar to the currently proposed hostile depression (i.e., the aggressive behavior) and the currently proposed anxious depression (i.e., the dysphoric behavior).

Gelfand and Teti (1990) report that children of depressed mothers may have different outcomes due to differences in how the mother expresses and experiences the depression. Some depressed mothers may be anxious and irritable while others are more tired and sad, thus contributing to the differences in parenting practices and child behavior outcomes. Additionally, Weissman and Paykel (1974, in Cummings & Davies, 1994) report that depressed mothers may exhibit increased irritability and aggression. Downey and Coyne (1990) describe depressed mothers as more hostile and irritable as well as more anxious which makes developing positive relationships difficult.

McLoyd (1990) reported that economic difficulties, which are often faced by the Head Start families in the current study, are related to greater levels of parental anxiety, irritability, and depression. Additionally, McLoyd reports that these types of parental characteristics are related to parenting behaviors that are less nurturing and more punitive, allowing the inference that these characteristics may include hostility as well as anxiety. These findings add support for the current proposal of anxious and hostile components of depression. Although all depressed mothers might experience hostility and anxiety (i.e., complete overlap of depression, hostility, and anxiety), an alternative

possibility is that some depressed mothers experience hostility whereas others experience anxiety. This latter alternative is consistent with the proposed hypothesis of independent anxious and hostile components.

Cummings (1995) reports that while maternal depression often impacts family functioning, there are still children of depressed mothers that do not exhibit any negative outcomes. Further, Cummings (1995) stresses the need for research that explains the processes and pathways by which depression impacts families and children. Again, after the review of literature, the question remains: what about maternal depression negatively impacts child behavior outcomes and explains differences in the outcomes such as some children exhibiting internalizing problems and some exhibiting externalizing problems?

Nolen-Hoeksema, Wolfson, Mumme, and Guskin (1995) report that some depressed mothers exhibit impaired parenting while others do not. The differences tend to be in the mother's responsiveness toward the child and in the emotional tone used by the mother rather than on the specific diagnosis of depression. Further, the results of the study comparing a group of 80 mothers (40 matched pairs of depressed and nondepressed) found variance in the impact of maternal depression on mother-child interactions. The authors, like others mentioned by them (Goodman & Brumley, 1990; Seifer, Sameroff, & Jones, 1981; Teti et al., 1990; Zahn-Waxler, Iannotti, et al., 1990 all in Nolen-Hoeksema, Wolfson, Mumme, & Guskin, 1995), report that the differences in the mother-child interactions should be explored more deeply along with the extent of the depression rather than just presence of depression.

Based on the ideas presented that some depressed mothers exhibit negative parenting practices and some do not and that children of depressed mothers experience a number of different deleterious outcomes, the current proposal of components of depression will look to explain these variations in parenting practices and child behavior outcomes through the proposed components of maternal depression: hostility and anxiety.

Theoretical Basis

Systems Theory. A review of the literature on maternal depression revealed that the notion of the interrelatedness of various maternal characteristics, child characteristics, and family factors was prevalent. According to Downey and Coyne (1990), the most common hypothesis regarding children of depressed mothers is that the problems these children face are directly related to living with a depressed mother. In contrast, Downey and Coyne (1990) also discuss the notion that both maternal depression and child problems are due to other factors in the family such as marital or family stress, thus furthering the idea of interrelatedness among maternal, child and family characteristics.

Rutter and Quinton (1984) have outlined various ways in which maternal depression and child outcomes are related. The pathways mentioned included the depression affecting the child through difficulties in the parent child relationship; parental depression impacting family functioning thus leading to child problems; and marital stress impacting mothers' affect and children's outcomes. These possible pathways influence the way that maternal depression, parenting practices and child behavior outcomes are considered. The different constructs should not be examined as independent of the others rather as factors that interact in impact on their parenting practices and child behavior outcomes.

Cummings and Davies (1994) propose a model in which the impacts of maternal depression on child outcomes are influenced by parental characteristics, parent child relationships, marital functioning, socioeconomic status, and child characteristics. Cummings and Davies (1994) report that children do not passively accept environmental stimuli, but rather actively participate in the environment.

According to Family Systems Theory, families are made up of interrelated and interdependent systems that interact with each other in the form of family processes (Montgomery & Fewer, 1988). In these systems each member influences and is influenced by the actions of the other members. Additionally, any person's behavior within the system is related to and dependent upon the behaviors and processes of the other family members (Montgomery & Fewer, 1988). Relationships are developed from the various patterns of interactions between the members of the system and various relationships distinguish one system from another (Becvar & Becvar, 1982). Further, the members of the system and the system as a whole are impacted by and impact the environment outside of the system. The family system, as well as the subsystems within the family, are surrounded by boundaries which are set by the patterns and processes of the system that allow certain amounts of information into and out of the system (Becvar & Becvar, 1982).

Family Systems Theory asserts that the whole of the system is greater than the sum of all of the individual parts (Montgomery & Fewer, 1988). In other words, the relationships between the various individuals are all included when looking at the system as a whole rather than as a group of separate individuals. Additionally, a change in one part of the system will impact the rest of the system. Therefore, maternal depression

should not be viewed as an independent aspect of a family, but rather as a process that impacts and is impacted by the greater system as a whole. Family Systems Theory would assert that in order to better understand maternal depression, the entire system including characteristics of each family member (particularly the children of the depressed mother), marital characteristics, family stress, and the relationships between the members of the family should all be examined.

According to Minuchin's (1974) Structural Family Therapy Model, based in Systems Theory, individuals should be viewed within their social context which includes their family system. The family's organization and structure determines the experiences the individual has within the family. Therefore, in a family with a depressed mother, the mother is experiencing and impacting the rest of the system, as are the other members of the family.

Rather than looking at cause and effect, Family Systems Theory examines interrelatedness of the processes and patterns within a system. In other words, within a family system, the interactions are circular such that the interactions are impacting each other rather than being caused by another. Therefore, according to Family Systems Theory, the proposed factors of maternal hostile depression and maternal anxious depression should be examined in relation to parenting practices and child outcomes, rather than being referred to as the cause of certain practices or outcomes.

Minuchin (1985) asserts that in research, looking at interactions between parents and children and examining the sequences of interactions are important. This type of examination of interactions provides support for the current study in that the study will examine the impact of maternal affect on parenting practices and child behavior

outcomes. This is not to say that maternal affect has unidirectional effects on children, but for the current study the direction being examined is from affect to outcome. Further research could examine the impact of the child's behavior on maternal affect, but with the current study that is not feasible.

Family Systems Theory further provides a basis for the current study in examining differences within systems. The idea of components of depression could hold true in that depending upon the various processes within different families, a mother may experience and exhibit the symptoms of maternal depression differently. Further the constructs asserted by Family Systems Theory could explain the differences in the parenting practices and child behavior outcomes described in the literature and the different proposed components of maternal depression: anxiety and hostility.

Methods

Sample

The current study uses data collected through two grants, one funded by the National Institute of Mental Health and one funded by the Administration on Children, Youth, and Families. The grants funded a longitudinal study of Head Start children's adjustment and transition to school. The specific Head Start sites (eight total) were chosen by United Community Action, Inc. Head Start in consultation with Laura Hubbs-Tait, Rex Culp, and Anne McDonald Culp. Subjects were recruited from the eight chosen sites to participate in the study. Mothers of children in the Head Start sites were given a description of the project and then given the option of participating in the study. The mothers who participated received small monetary payments for their involvement.

Initially, in the Fall of their child's pre-Kindergarten Head Start year, mothers were recruited through Head Start parent meetings to participate in the project. Graduate research assistants attended the parenting meetings to explain the project and took the phone numbers of mothers who were interested in participating. The graduate research assistants then called the mothers to set appointments to begin the data collection. There was a total of 209 biological mothers who chose to participate during the Fall of their child's pre-Kindergarten Head Start year. An additional 10 caregivers of Head Start children completed the questionnaires but were excluded from the sample for this study because these caregivers were not the primary caregivers for the children throughout their early childhood. The sample in the Spring consisted of 162 biological mothers who had participated in the Fall with their Head Start children. The mothers in the Spring sample

were all in the Fall sample and were recruited in the Spring to continue participating in the project with their children. Due to the initial objectives of the project, adolescent mothers were most highly recruited from the Fall to the Spring of 1995 to 1996. Other non-adolescent mothers who chose not to participate in the Spring were not recruited as strongly; thus, some did not return for the Spring portion of the project. This case specific recruiting accounts for the attrition of most of the 47 biological mothers from the Fall to the Spring.

The two different samples being used in this study were included based on the data collected at two different times during the project. In the Fall of each year (1995 and 1996), mothers completed a packet of questionnaires. In the Spring of each year (1996 and 1997), mothers completed additional computer-presented and videotaped assessments of parent-child relations. The Fall sample of 209 will be used to investigate the hypothesis regarding components of maternal depression. Data on symptoms of depression, hostility, and anxiety were collected in the Fall; therefore, the sample of 209 will be used to test the hypothesis about anxious and hostile components of depression. In the Spring, data were collected regarding parenting practices and child behavior outcomes; therefore, the sample of 162 mothers who participated in the Fall and the Spring will be used for the hypotheses regarding the impact of maternal affect on parenting practices and child behavior outcomes.

Procedure

In the Fall of their child's pre-Kindergarten Head Start year, after consenting to participate, the mothers filled out several questionnaires regarding demographics, maternal affect, and attitudes about parenting. The affect questionnaires were: the Center

for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977), the State-Trait Anxiety Inventory (STAI, Spielberger, 1966; Spielberger, Gorusch, & Lushene, 1970), and the Aggression Questionnaire (AQ, Buss & Perry, 1992). The only parenting measure completed in the Fall was the Adult-Adolescent Parenting Inventory (AAPI, Bavolek, 1984).

In order to collect the data, a graduate research assistant met with each of the mothers at the Head Start sites and sat with them while they completed the questionnaires in order to answer any questions that arose. Mothers who were unable to meet the researcher at the Head Start site were seen in the home or various sites in their town including the library and restaurants.

The following Spring, mothers were again recruited to participate. As mentioned above, 162 of the original 209 mothers continued in the Spring. Data collected in the Spring included measures of parenting practices, children's school behavior, and children's social competence. In the Spring, a house-trailer was set up at the Head Start sites where the mothers and their children met with graduate research assistants to complete the additional data collection. The 162 mothers who chose to continue with the program completed the Computer Presented Parenting Dilemmas (CPPD) on a computer in the trailer. While the mothers completed the CPPD, their children were taken to another room in the trailer and given the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Pictorial PCS, Harter & Pike, 1983) by a trained graduate research assistant. Also in the Spring, the children's Head Start teachers completed the following rating scales of children's behavior: the Rating Scale of Social Competence with Peers (RSSCP, Howes, 1988), California Preschool Social Competence

Scale (CPSCS, Levine, Elzey, & Lewis, 1969), and the Preschool Behavior Questionnaire (PBQ, Behar, 1977).

Measures

Maternal Affect

Maternal Depression. Maternal depression was measured using Radloff's (1977) Center for Epidemiologic Studies Depression Scale (CES-D) (see Appendix 1). The CES-D is a 20-item questionnaire that was designed to measure the extent of depressive symptoms in the general population or in community samples rather than to validate a clinical diagnosis for depression (Radloff, 1977) or to determine the degree of depression in a clinical setting as was the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The CES-D was chosen over the BDI because the sample of mothers was a community dwelling sample.

The CES-D utilizes a 4-point Likert-type scale ranging from rarely or none of the time to most or all of the time and respondents answer how often they have experienced the items in the past week. Subscales for the CES-D are the depressed affect scale, the happy scale, the somatic and retardation scale, and the interpersonal scale (Radloff, 1991). Total scores for the CES-D range from 0 to 60 (the higher the score, the greater the depressive symptoms) with the clinical cutoff set at 16 by Radloff (1977; 1991) as 16 was at the 80th percentile of the distribution of scores.

Reliability and validity for the CES-D have been measured on a wide variety of groups. Originally, Radloff (1977) found the CES-D to have high internal consistency (.85) and acceptable test-retest reliability over a six-month period (.54). Further, Hubbs-Tait, Osofsky, Hann, and Culp (1994) reported stability of CES-D scores over a ten-

month period for adolescent mothers to be .43 ($p < .05$). Radloff (1977) also reported acceptable validity for the CES-D according to correlations with other measures of depression. In a sample of 155 adolescents between the ages of 13-21, Wilcox, Field, Prodromidis, and Scafidi (1998) found that the CES-D and BDI were highly correlated ($r = .58, p < .01$) and that 75% of the adolescent sample reported that the CES-D was easier to understand than the BDI. In a study with a community sample in rural Tennessee, Husaini, Neff, Harrington, Hughes, and Stone (1980) found that the CES-D differentiated between patient and community groups, thus supporting the appropriateness of the scale for use in research for exploring depressive symptomology in a rural sample similar to the sample in the current study.

Maternal Hostility. The Aggression Questionnaire (Buss & Perry, 1992) was used to measure maternal hostility (see Appendix 2). The Aggression Questionnaire is based on the Buss-Durkee Hostility Inventory (Buss & Durkee, 1957). The revised questionnaire includes 29 items that are rated on a 5-point Likert-type scale ranging from "extremely uncharacteristic of me" to "extremely characteristic of me." Buss and Perry (1992) report a factor analysis that revealed four subscales: physical aggression; verbal aggression; anger; and hostility. There are 8 items that make up the hostility subscale that are related to jealousy, resentment, and suspicion (Buss & Perry, 1992).

Internal consistency for the full-scale Aggression Questionnaire was found by Buss and Perry (1992) to be .89 with the four subscales having the following alphas: physical aggression, .85; verbal aggression, .72; anger, .83; and hostility, .77. Test-retest reliability for the whole scale has been found to be .80 with the subscales having test-retest reliabilities of physical aggression, .80; verbal aggression, .76; anger, .72; and

hostility, .72 (Buss & Perry, 1992). These findings were from a sample of 1,253 college students aged 18-20 years old.

Maternal Anxiety. The State-Trait Anxiety Inventory (STAI) will be used to measure maternal anxiety (see Appendix 3). The STAI consists of two 20-item questionnaires, one that measures state anxiety and one that measures trait anxiety (Spielberger, 1966; Spielberger et al., 1970). For the current study, the trait questionnaire was used to measure mother's anxiety. The trait scale was chosen over the state subscale due to the greater stability over time of the trait scale (test-retest reliability of .77 over 104 days versus .31 test-retest reliability of the state subscale, (Spielberger et al., 1970)). The trait scale thus is a more stable construct, like the CES-D (with a correlation coefficient of .54 over six months (Radloff, 1977)); therefore, the trait scale was chosen for the current study rather than the state scale. Additionally, the trait scale of the STAI has been found to have high internal consistency (alphas .86-.92) (Spielberger, 1966; Spielberger et al, 1970).

Parenting Practices

Adult-Adolescent Parenting Inventory. The Adult-Adolescent Parenting Inventory (AAPI) is a 32-item inventory of parenting attitudes and knowledge that consists of four subscales: inappropriate parental expectations; lack of empathy; belief in physical punishment; and endorsement of role reversal (Bavolek, 1984, 1989) (see Appendix 4). The AAPI consists of a 5-point Likert type scale that ranges from strongly agree to strongly disagree in response to questions about parenting and children. Construct validity has been documented according to Bavolek (1984) in that in comparing a group of non-abusive parents with a group of abusive parents, the results

showed that abusive parents score significantly higher on abusive attitudes about child-rearing and parenting than did the non-abusive parents. In samples of adults and adolescents respectively, internal reliability coefficients of the subscales were as follows: inappropriate parental expectations (.75, .70), lack of empathy (.82, .75), belief in physical punishment (.85, .81), and endorsement of role reversal (.86, .82). Additionally, test-retest reliability is acceptable for the full scale (.76) and for the subscales: lack of empathy (.89), belief in physical punishment (.69), and endorsement of role reversal (.85) (Bavolek, 1989). The reported test-retest reliability for the inappropriate parental expectations subscale (.39) was somewhat low.

Computer-Presented Parenting Dilemmas. The Computer-Presented Parenting Dilemmas (CPPD) for the present study is a revised version of Holden's Computer-Presented Social Situations (Holden & Ritchie, 1991) that includes several vignettes about mother's responses to children's behavior. The CPPD is a computer program that inserts information given by the mother about her child into the vignettes to make the stories more applicable to the individual mothers. The mother answers questions about how she would respond to dilemmas of child noncompliance, dilemmas regarding children's distress, and dilemmas regarding peer monitoring.

Hubbs-Tait, Culp, Culp, Steele, and Fore (1998) performed a factor analysis of the items from the different dilemmas on the CPPD. Factor analysis of the child noncompliance dilemmas revealed a six-factor solution of: power assertion, punitive reasoning, bribe, ignore, nonpunitive reasoning, and time out. Factor analysis of responses to child distress dilemmas revealed a six-factor solution of: hostile/punitive, warmth, distract, authoritarian-ignore, permissive-bribe, and authoritarian-time out.

Factor analysis of the peer monitoring dilemmas revealed a five-factor solution of: monitoring at a distance, pleased, participating in play, permissive-neglectful (in response to child hitting), and power assertion (in response to child hitting).

In order to reduce the factors to a manageable number, higher order factor analysis was conducted with each of the 17 factors entered as an item. Analysis yielded five higher-order factors that explained 63 percent of the variance (Fore, 1999). The five higher-order factors and the factors that comprise them are: 1) authoritarian comprised of power assertion, punitive reasoning, ignore (non-compliance), power hit and ignore (child distress); 2) rejecting comprised of permissive hit and hostility in response to child distress; 3) nurturant comprised of nonpunitive reasoning, join in, pleased, and warmth; 4) bribing comprised of bribing in response to non-compliance and child distress; and 5) time-out comprised of time-out in response to non-compliance and child distress. Internal consistencies of the factors were as follows: authoritarian (alpha .86); rejecting (alpha .70); nurturant (alpha .83); bribing (alpha .78); and time-out (alpha .63) (Fore, 1999).

Child Behavior Outcomes

Preschool Behavior Questionnaire. The Preschool Behavior Questionnaire (PBQ) is a 30-item measure of child behavior problems that is completed by the child's preschool teacher, in this case the Head Start teacher (see Appendix 5). The teacher scores whether the item "doesn't apply", "applies sometimes", or "certainly applies" to the child (Behar & Stringfield, 1974). The PBQ consists of three subscales: aggressive; anxious; and hyperactive/distractible. For the current study, the aggressive and anxious subscales were used. In order to determine the validity of the PBQ, Behar and Stringfield

(1974) used a sample of 496 children from regular preschools and 102 children from preschools for behavior disturbed children. The full scale of the PBQ discriminated beyond the .001 significance level between normal and behaviorally disturbed children. Interrater reliability (.84) between a teacher and teacher's aide and test-retest reliability (.87) over a five to six month period are acceptable for the full scale of the PBQ (Behar & Stringfield, 1974). Additionally, the PBQ full scale has been found to correlate with the Kohn Problem Checklist (.57, .58), the Kohn Social Competence Scale (-.71, -.79) and the California Preschool Social Competency Scale (-.76) (Behar, 1977).

Howes' Rating Scale for Social Competence with Peers. The Rating Scale for Social Competence with Peers (RSSCP) is an 18-item teacher rating scale of children's social functioning with peers that consists of three subscales: sociable; difficult; hesitant (Howes, 1988) (see Appendix 6). For the current study, only the sociable and difficult subscales will be used. Items on the RSSCP include: the child hits, pushes, or hurts other children, withdraws from peer activity, and is liked by other peers (Howes, 1988). The RSSCP has been found to have acceptable internal consistency for the subscales: difficult (.93), hesitant (.96), and sociable (.91) and reliability over time (test-retest ranging from .76-.84) (Howes, 1988).

Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. The Pictorial PCS is 24-item assessment in which children choose the picture of the child that is most like himself/herself in regards to cognitive competence, physical competence, peer acceptance, and maternal acceptance (Harter & Pike, 1983) (see Appendix 7). For the current study, only the two subscales related to acceptance, maternal and peer, will be used from the Pictorial PCS. Items on the maternal acceptance

subscale include choosing whether the subject child is like the picture of the child whose mom plays with him/her or mom does not play with him/her, and mom reads to him/her or mom does not read to him/her. The peer acceptance items are related to having lots of friends, and getting asked to play with others. From a sample of 90 preschoolers, Harter and Pike (1984) found internal consistency as follows: physical competence .66, cognitive competence .71, peer acceptance .74, maternal acceptance .85, and full scale .89. Discriminant validity for the subscales of the Pictorial PCS was shown by the subscales' differentiating between various groups such as children who had recently moved into a new school. Harter and Pike (1984) predicted and found that children who moved into a new school within the past two months would have lower peer acceptance scores than children who had been in the school for at least one year.

California Preschool Social Competence Scale. The California Preschool Social Competence Scale (CPSCS) is a 30-item questionnaire regarding the social competence of children from 2.5 to 5.5 years of age (Levine et al., 1969) (see Appendix 8). Principal components analysis by Ladd and Price (1987) revealed three factors in the CPSCS: task mastery, shares materials, and peer involvement. For the current study, only the scales related to peer competence (shares materials and peer involvement) will be used. The CPSCS has been found to have acceptable interrater reliability (.75-.86) and split-half reliability (.90-.98) (Ladd & Price, 1987). Cronbach's alpha was used by Ladd and Price (1987) to determine internal consistency of the CPSCS and alphas were acceptable (.79-.94).

Operationalization of Hypotheses

Hypothesis I: Principal components analysis of the CES-D, AQ, and STAI will reveal independent hostile and anxious components within depression. That is, the hostility subscale will load with one or more of the depression subscales, and other depression subscales will load with one or more of the anxious factors. In order to prepare for this principal components analysis, data reduction by principal components analysis will be performed on the STAI thus revealing factors from the 20 STAI items. For the principal components analysis of the CES-D, AQ, and STAI, orthogonal rotation will be used in order to maximize the independence of the components revealed in the analysis. In order to maintain consistency in the analyses, orthogonal rotation will be used for the data reduction of the STAI due to being the type of analysis dictated for the principal components analysis of the CES-D, AQ, and STAI for hypothesis I.

Hypothesis II: Among depressed mothers, maternal anxiety will account for greater variance in some parenting practices than hostility. Recall that the reviewed literature discusses overlap between maternal depression and anxiety or between maternal depression and hostility. Thus, hypotheses II and III focus only on mothers with high levels of depressive symptomology (CES-D scores ≥ 16). Depressed mothers will be defined as those with CES-D scores of 16 or greater. The non-depressed mothers, those scoring below 16 on the CES-D will be excluded from these analyses. Further, there will be other parenting practices in which the greatest amount of variance will be explained by hostility rather than by anxiety. Hostility will explain more variance in physical punishment and lack of empathy than anxiety. Additionally, hostility will explain more variance in rejecting parenting than anxiety. Anxiety will explain more variance in

inappropriate expectations and role reversal than hostility. Additionally, anxiety will explain more variance in nurturant parenting than hostility.

Hypothesis III: Among depressed mothers, the variance in child behavior outcomes will be accounted for in some instances by anxiety and in some cases by hostility. Hostility will explain externalizing behavior problems, including aggressive and difficult. Anxiety will explain internalizing problems such as being anxious, as well as less social competence in sociability, sharing, and peer involvement.

Data Analyses

The initial analysis for this study included generating Cronbach's alphas for the various measures in order to determine internal consistency for the subscales of the measures. Next, descriptive statistics were calculated to obtain information regarding the Fall and Spring samples including depression level, mother's and child's age, mother's and child's ethnicity, family income, mother's education level, mother's marital status, child's gender, and amount of contact with child's father.

Hypothesis I: This hypothesis was tested in two steps. First, the components of anxiety were identified through principal components analysis of the STAI. Second, the components of anxiety (three subscales revealed through principal components analysis of the STAI), depression (four subscales of the CES-D), and hostility (hostility plus the other three subscales of the AQ) were entered into a principal components analysis.

Hypothesis II: Hierarchical regression, in which maternal education and family income were entered into the first block, was used to look at the relationship between maternal affect and parenting practices. The sample used for the regression analyses was the mothers who scored at or above the clinical cutoff of 16 on the CES-D. In order to

look at how hostility impacts parenting practices above and beyond anxiety, family income and mother's education level were entered in the first block of the regression, the anxiety subscales in the second block, and finally, maternal hostility in the third block. The same process was used to determine the amount of variance accounted for by anxiety, except that hostility was entered in the second block and anxiety in the third. The dependent variables in all of the regressions were the various parenting practices: inappropriate parental expectations, lack of empathy towards children's needs, endorsement of parent-child role reversal, and the five higher-order parenting factors of rejecting, nurturing, authoritarian, bribing and time-out.

Hypothesis III: Hierarchical regression was also used to look at the relationship between maternal affect and child behavior outcomes. Again, in these regression analyses, mother's education and family income were controlled for in the first block of the regression. The same process was used for the regressions for the child behavior outcomes with either hostility or anxiety being entered in the second block and the other being entered in the third block. The dependent variables were the child behavior outcomes of: perceived peer acceptance, perceived maternal acceptance, aggression, anxious, peer involvement, sharing, difficulty with peers, and sociability with peers.

Results 34 percent making less than \$10,000 per year, 21 percent making \$10,000-\$14,999, 21 percent making \$15,000-\$19,999, and 16 percent making \$20,000 or more.

Data Reduction

The initial step of data analysis involved data reduction of the STAI (Spielberger, 1966; Spielberger et al., 1970) in order to make the number of items more manageable. The CES-D (Radloff, 1977) and the AQ (Buss & Perry, 1992) had previously been factored into subscales by the original authors, but the STAI had not. In order to have the most precise components, the entire sample of 219 caregivers was used for this initial step in data reduction. The sample of 219 consisted of the 209 biological mothers used in hypothesis one and 10 non-mothers who were excluded from further data analyses based on their not being the primary caregivers for the children throughout their early childhood.

Regarding the 219 subjects (see Table 1) for this initial data reduction, the caregiver's ages, as of September 1 of the child's pre-kindergarten, Head Start year, ranged from 19.2 to 77.5 years ($M=29.3$, $Mdn=27.5$, $SD=6.9$). The vast range in age is due to one child being reared by a great-grandmother. The ethnic make-up of the sample of caregivers was 16 percent Native American, three percent African American, four percent Hispanic, 76 percent Caucasian, and one percent Multiethnic. Marital status of the mothers included: 46 percent married; 10 percent never married; five percent separated; 20 percent divorced; four percent widowed; and 16 percent remarried. Caregiver's education levels were as follows: 23 percent of the caregivers did not complete high school; 27 percent graduated from high school; nine percent had some vocational-technical school; 25 percent had some college; 11 percent graduated from

vocational-technical school; and 4 percent graduated from college. The income range for the sample was from \$0 to \$4000+ per month with 34 percent making less than \$1000 per month, 29 percent making \$1000-1499, 21 percent making \$1500-1999, and 16 percent making more than \$2000 per month.

The principal components analysis with orthogonal rotation of the items of the STAI revealed three factors that accounted for 56 percent of the cumulative variance. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy for the analysis was .91, indicating that the correlation matrix was appropriate for factor analysis. The criterion used to determine the number of factors was eigenvalues > 1.0 . The criterion used to determine which items comprised each factor was a loading of $> .50$. The three factors revealed were named insecure, anxious thoughts, and low self-esteem based on the items that loaded in each factor (see Table 2 and Appendix 3). Insecure included such positive items as "I feel pleasant", "I feel secure", and "I make decisions easily." Positive items on the insecure factor were reverse scored such that a higher score revealed more insecurity rather than less. Internal consistencies for the subscales for the entire sample of 219 were as follows: insecure (.88), anxious thoughts (.86), and low self-esteem (.77).

Hypothesis I-Sample Descriptive Statistics

In order to examine hypothesis I, the sample of 209 mothers (the original sample of 219 less the 10 non-biological mothers) was used. This sample (see Table 3) was comprised of mothers ranging in age from 19 to 46 as of September 1 of the child's pre-kindergarten Head Start year ($M=28.8$, $Mdn=27.4$, $SD=5.6$). The ethnic make-up of the sample of mothers was 16 percent Native American, three percent African American, four percent Hispanic, 76 percent Caucasian, and one percent Multiethnic. Marital status

of the mothers included: 47 percent married; 9 percent never married; five percent separated; 19 percent divorced; three percent widowed; and 17 percent remarried. Mother's education levels were as follows: 23 percent of the mothers did not complete high school; 27 percent graduated from high school; eight percent had some vocational-technical school; 26 percent had some college; 12 percent graduated from vocational-technical school; and 4 percent graduated from college. The income range for the sample was from \$0 to \$4000+ per month with 33 percent making less than \$1000 per month, 30 percent making \$1000-1499, 21 percent making \$1500-1999, and 16 percent making more than \$2000 per month.

Further analysis revealed that 160 or 77 percent of the 209 mothers in the Fall sample scored at or above the cutoff score of 16 on the CES-D ($M = 25.2$, $Mdn = 23.0$, $SD = 8.1$, $n = 160$). For the purpose of the current study, mothers scoring at or above 16 on the CES-D will be referred to as depressed mothers. The non-depressed mothers, those scoring below the cutoff score of 16, had mean CES-D score of 12.6 ($Mdn = 13.0$, $SD = 2.4$, $n = 49$) (see Table 4 for comparison to the original norming samples). On the STAI, which has a scoring range of 20 to 80, the range of scores for the 160 depressed mothers was 21 to 77 ($M = 38.9$, $Mdn = 38.0$, $SD = 10.2$, $n = 160$). The nondepressed mothers in the sample had a range of 20 to 55 ($M = 32.2$, $Mdn = 30.0$, $SD = 8.3$, $n = 49$) on the STAI (see Table 5 for comparison to original norming samples). The scores of the 160 depressed mothers ranged from 30 to 133 ($M = 61.8$, $Mdn = 61.5$, $SD = 16.9$, $n = 160$) on the AQ which has a range of 29 to 145. The nondepressed mothers had a range of 30 to 95 ($M = 53.2$, $Mdn = 50.0$, $SD = 14.7$, $n = 49$) (see Table 6 for comparisons to the original norming samples).

Internal consistencies for the subscales and total scales were found to be acceptable for all measures for the sample of 209 subjects (see Table 7). Internal consistency of the CES-D was .82 and for the subscales internal consistencies alphas were: depressed affect (.90); happy (.75); somatic and retardation (.80) and interpersonal (.61). For the AQ, full-scale internal consistency was .90, with alphas for the subscales as follows: anger (.77); hostility (.82); physical aggression (.76); and verbal aggression (.75). Internal consistency for the STAI was .92 and for the subscales internal consistencies were: insecure (.89); anxious thoughts (.86); and low self-esteem (.77).

Test of Hypothesis I

Principal components analysis was run on the four CES-D subscales: depressed affect, happy, somatic and retardation, and interpersonal; the four AQ subscales: physical aggression, verbal aggression, anger, and hostility; and the three STAI subscales revealed in the data reduction described earlier: insecure, anxious thoughts, and low self-esteem (see Table 8). Orthogonal rotation was selected to maximize independence of the components in order to examine whether an independent anxious component and an independent hostile component would be found within maternal depression. The Kaiser-Meyer-Olkin measure of sampling adequacy for the analysis was .87, indicating that the correlation matrix was appropriate for factor analysis.

The principal components analysis revealed one component that explained 22 percent of the variance and included the four CES-D subscales, the three STAI subscales, and the hostility subscale from the AQ. A second factor was revealed that accounted for an additional 15 percent of the variance and included the other three AQ subscales. The results did not support hypothesis one, that the principal components analysis would

reveal two separate components of hostile depression and anxious depression. Rather, one component that included depression, anxiety, and hostility but excluded anger, verbal aggression and physical aggression, was revealed.

Hypotheses II and III-Descriptive Statistics

For the second and third hypotheses, the Spring sample of 162 mothers and their Head Start children was used for the data analysis. Initially, the sample of 162 was split into a depressed sample (those scoring 16 or greater on the CES-D) and a nondepressed sample (those scoring 15 or less on the CES-D). Of the 162 mothers in the sample, 124 or 77 percent scored in the depressed range of the CES-D ($M = 24.4$, $Mdn = 22.0$, $SD = 8.3$, $n = 124$). The range of scores on the CES-D for the depressed mothers was 16 to 52. For the 38 nondepressed, or those who scored below the cutoff of 16 on the CES-D, the scores ranged from 5 to 15 ($M = 12.7$, $Mdn = 13.0$, $SD = 2.4$, $n = 38$). The depressed group had a range of scores on the STAI from 21 to 77 ($M = 38.4$, $Mdn = 38.0$, $SD = 10.4$, $n = 124$) compared to the nondepressed group who had a range of 20 to 55 ($M = 31.5$, $Mdn = 30.0$, $SD = 7.5$, $n = 38$). On the AQ, the depressed mothers scores ranged from 30 to 133 ($M = 61.5$, $Mdn = 61.0$, $SD = 18.0$, $n = 124$) as compared to the nondepressed mothers whose scores ranged from 30 to 95 ($M = 54.3$, $Mdn = 50.5$, $SD = 15.9$, $n = 38$). (See tables 4-6 for comparisons to the Fall sample and to the norming samples for the CES-D, STAI, and AQ).

The depressed subsample of 124 mothers from the Spring (see Table 9) ranged in age from 19 to 46 as of September 1 of the child's pre-kindergarten Head Start year ($M = 28.5$, $Mdn = 27.4$, $SD = 5.5$, $n = 124$). The ethnic make-up of the sample of mothers was 17 percent Native American, three percent African American, two percent Hispanic,

76 percent Caucasian, and two percent Multiethnic. Marital status of the mothers included: 45 percent married; 10 percent never married; six percent separated; 20 percent divorced; three percent widowed; and 16 percent remarried. Mother's education levels were as follows: 19 percent of the mothers did not complete high school; 25 percent graduated from high school; eleven percent had some vocational-technical school; 29 percent had some college; 11 percent graduated from vocational-technical school; and 5 percent graduated from college. The income range for the sample was from \$0 to \$4000+ per month with 33 percent making less than \$1000 per month, 32 percent making \$1000-1499, 23 percent making \$1500-1999, and 12 percent making more than \$2000 per month.

The children of these depressed mothers (see Table 10) ranged in age from four to five ($M = 4.55$, $Mdn = 4.60$, $SD = .27$, $n = 124$). Forty-five percent of the children were male and 55 percent were female. Thirty percent of the children were Native American, eight percent African American, three percent Hispanic, 57 percent Caucasian, and 2 percent Multiethnic. The children were all living with their mothers and had a varied amount of contact with their fathers. The amount of contact with their fathers was as follows: 19 percent of the children had no contact with their fathers; one percent saw their fathers once per year, three percent saw their fathers twice per year; three percent saw their father three to five times per year; two percent saw their fathers six to 11 times per year; 10 percent saw their fathers monthly; six percent saw their fathers weekly; and 56 percent saw their fathers daily.

Maternal affect measures (CES-D, STAI, AQ) and maternal parenting practices measures (CPPD, AAPI) were used to test hypothesis two. For hypothesis three,

maternal affect measures and child behavior outcome measures (CPSCS, Pictorial PCS, RSSCP, and PBQ) were used. Internal consistencies were adequate on all measures used for the second and third hypothesis (see Table 11). Internal consistency of the CES-D was .76 and for the subscales was: depressed affect (.89); happy (.77); somatic and retardation (.71) and interpersonal (.55). For the AQ, full-scale internal consistency was .92 and for the subscales was as follows: anger (.77); hostility (.83); physical aggression (.77); and verbal aggression (.76). Internal consistency for the STAI was .92 and for the subscales was as follows: insecure (.88); anxious thoughts (.86); and low self-esteem (.73). Internal consistency for the CPPD was as follows: authoritarian (.88); rejecting (.72); nurturant (.81); bribing (.78); and time-out (.67). Internal consistency for the AAPI was as follows: endorsement of role reversal (.87); belief in physical punishment (.81); inappropriate parental expectations (.73); and lack of empathy (.85). Internal consistency for the CPSCS was as follows: shares materials (.90); peer involvement (.84). For the Pictorial PCS, internal consistency was found to be .62 for the peer acceptance subscale and .77 for the maternal acceptance subscale. For the subscales of the RSSCP, internal consistency for the subscales was as follows: difficult (.90) and sociable (.79). Internal consistency for the PBQ subscales was as follows: aggressive (.95) and anxious (.74).

Test of Hypothesis II

For hypothesis II, hierarchical regressions, in which maternal education and family income were entered into the first block, were run to examine the relationship between maternal affect and parenting practices. The sample for the analysis (described above and in Table 9) was 124 mothers who scored at or above the cutoff score of 16 on the CES-D. In order to determine the amount of variance accounted for by hostility

above and beyond anxiety, maternal anxiety was entered into the second block and maternal hostility into the third. Further to examine whether anxiety explains variance above and beyond hostility, hostility was entered into the second block and anxiety into the third for each of the different parenting practice subscales.

For the parenting practices on the CPPD - authoritarian, nurturant, rejecting, bribing, and time-out - 10 hierarchical regressions (two for each practice) were run with the parenting practices as the dependent variable. In block one of each of the 10 regressions, maternal income and maternal education were entered. In block two of five regression analyses, maternal hostility was entered and in the other five, maternal anxiety was entered. In the third block of the regressions with maternal hostility in the second step, maternal anxiety was entered. Likewise, in the third block of the regressions with maternal anxiety in the second block, maternal hostility was entered.

For the parenting practices on the AAPI - belief in physical punishment, lack of empathy, inappropriate parental expectations, and endorsement of role reversal - eight hierarchical regressions (two for each practice) were run with the practices as the dependent variables. Again in block one of the regressions, maternal income and maternal education were entered. Maternal hostility and maternal anxiety were entered alternately in block two and three as described above.

The regression analyses of the CPPD revealed that maternal hostility accounted for significant variance in rejecting parenting (see Table 14) and bribing (see Table 15) above and beyond anxiety. Analyses of the AAPI revealed that maternal hostility accounted for significant variance in lack of empathy (see Table 18) and physical punishment (see Table 17) above and beyond maternal anxiety. The variance accounted

for by maternal hostility approached significance for authoritarian parenting (see Table 12) on the CPPD above and beyond maternal anxiety.

The regression analyses revealed that maternal anxiety accounted for significant variance in authoritarian (see Table 12), nurturant (see Table 13), and rejecting (see Table 14) parenting on the CPPD above and beyond maternal hostility. The insecure subscale of the STAI accounted for the greatest variance in the total variance explained by anxiety in nurturant (see Table 13) and rejecting parenting (see Table 14), whereas anxious thoughts accounted for the greatest variance in the total variance explained by anxiety in authoritarian parenting (see Table 12) above and beyond hostility. Analyses of the AAPI revealed that maternal anxiety, particularly the anxious thoughts subscale, accounted for significant variance for inappropriate parental expectations (see Table 19) and endorsement of role reversal (see Table 20) above and beyond maternal hostility. The low self-esteem subscale approached significance for the amount of variance accounted for by anxiety in role reversal (see Table 20) above and beyond hostility. The variance accounted for by maternal anxiety, particularly the anxious thoughts subscale, approached significance for lack of empathy (see Table 18) above and beyond maternal hostility. See Table 16 for the regression analysis results for time-out parenting practice in which neither hostility nor anxiety accounted for significant variance.

Test of Hypothesis III

For hypothesis III, hierarchical regressions in which maternal education and family income were entered into the first block were run to examine the relationship between maternal affect and child behavior criterion variables. The sample for the analysis (described above and in Table 9) was 124 mothers who scored at or above the

cutoff score of 16 on the CES-D and their children. In order to determine the amount of variance accounted for by maternal hostility above and beyond maternal anxiety, maternal anxiety was entered into the second block and maternal hostility into the third. Further to examine whether maternal anxiety explained variance above and beyond maternal hostility, maternal hostility was entered into the second block and maternal anxiety into the third for each of the different child behavior criterion variables.

In order to reduce the number of child behavior criterion variables from nine to a more manageable number, the subscales from the measures were correlated. A correlation of .50 was the criterion selected to determine which variables to combine, because all pairs of variables thus correlated shared 25 percent of their variance in common. This liberal criterion was selected in order to reduce the large number of criterion variables. Correlations revealed that "peer involvement" from the CPSCS and "sociable" from the RSSCP could be collapsed into one variable renamed peer sociability. "Maternal acceptance" and "peer acceptance" from the Pictorial PCS were collapsed into one variable renamed social acceptance. "Shares" (reverse coded as "does not share") from the CPSCS, "difficult" from the RSSCP, and "aggressive" from the PBQ were collapsed into a variable renamed negative peer play. Thus, four criterion variables were evaluated. Three were aggregates: peer sociability, social acceptance, and negative peer play and one was an individual variable: anxious.

For the child behavior outcome criterion variables, eight hierarchical regressions (two for each criterion) were run. In block one of each of the eight regressions, maternal income and maternal education were entered. In block two of four regression analyses, maternal hostility was entered and in the other four, maternal anxiety was entered. In the

third block of the regressions with maternal hostility in the second block, maternal anxiety was entered. Likewise, in the third block of the regressions with maternal anxiety in the second block, maternal hostility was entered.

The regression analyses revealed that maternal hostility did not account for significant variance in any of the four child behavior criterion variables (see Tables 21-24). Further, the analyses revealed that maternal anxiety did not account for significant variance above and beyond maternal hostility for three of the child behavior criterion factors (see Tables 21, 23, 24). The variance accounted for by maternal anxiety approached significance, with the insecure subscale being significant and the low-self esteem approaching significance, for the anxious child criterion variable (see Table 22) above and beyond hostility. Further examination of the results revealed that child gender, entered in block one of the regressions, was significant for peer sociability (see Table 21), anxious (see Table 22), and negative peer play (see Table 23), thus boys scored significantly worse on these variables than did girls. For the social acceptance factor, maternal education, entered in the first block, was significant (see Table 24), thus the lower the mothers education level, the worse the children scored on social acceptance.

CHAPTER V

Discussion

Summary of Findings

Data Reduction. Data reduction of the STAI revealed three separate factors that accounted for 55 percent of the overall variance. The factors revealed through the analysis were insecure, anxious thoughts, and low self-esteem. These factors were then utilized in exploring the amount of variance that could be explained by anxiety above and beyond hostility in various parenting practices and child behavior outcomes. The factors gave a clearer picture of the components of anxiety that impacted the different parenting practices and child behavior outcomes (See hypothesis II and III for further description).

Sample Descriptives. The sample used for this study originally included 219, but 10 subjects in the original sample were omitted for not fitting the initial description of subjects (biological mothers of Head Start children.) Of the 209 subjects that were included in the study, 77 percent of them scored at or above the cutoff score of 16 on the CES-D for depression. While these mothers cannot be diagnosed with depression from these scores, the scores do represent an increased risk for developing a diagnosable type of depression. This 77 percent is much higher than the figures reported by the American Psychiatric Association (1994): women in community samples have a lifetime risk of 10 to 25 percent for Major Depressive Disorder. Further, in examining the CES-D scores of this depressed subsample, the mean score (25.2) of these mothers is much higher than general population sample means (7.94-9.25), but the current sample mean score is very similar to the mean score (24.42) of a group of 70 psychiatric inpatients from the original sample on which the CES-D was normed (Radloff, 1977).

The STAI scale scores of the 160 mothers that scored at the depressed level on the CES-D, were similar to a large group of female undergraduate students that were used in the original evaluation of the STAI. The mothers in this sample had a mean STAI score of 38.9 as compared to the female undergraduates mean score of 38.3. The mothers in the current sample had a lower mean STAI score than the other groups used in the evaluation of the STAI: neuropsychiatric patients ($M = 46.6$); general medical and surgical patients ($M = 41.9$) and prison inmates ($M = 44.6$) (Spielberger et al., 1970). Unlike the comparison of the current sample mean scores with the CES-D samples, in which the current mean was much higher than the general population samples, and with the STAI samples in which the current mean was similar to the general population sample, the comparison of the current sample with a general population sample of 641 undergraduate women revealed that the current sample has a lower mean AQ score (53.2) than the undergraduate female sample (68.2) (Buss & Perry, 1992). While the current sample appears to have much higher levels of depressive symptomology, they do not appear to be more anxious or hostile than the general population which may explain why the initial hypothesis of the current study was not supported (see below).

Hypothesis I. The initial hypothesis of the current study was that principal components analysis of measures of depression, anxiety, and hostility would reveal two separate components of maternal depression: anxious and hostile. The principal components analysis did not provide support for this hypothesis. Rather, the analysis revealed a component that included all depression, anxiety and hostility subscales but not other subscales. This factor was named depression. Other subscales that were included in the factor analysis, but that did not load on this one component were anger, physical

aggression, and verbal aggression. These three subscales loaded on a second factor, named anger/aggression. This finding of one component comprised of depression, hostility and anxiety is similar to the findings of Rickel et al. (1988) in which analysis revealed a unitary factor of anxiety and depression (hostility was not examined) which was positively correlated with a restrictive parenting style and negatively correlated with nurturance. The component of depression, anxiety, and hostility revealed in the principal components analysis of the current study could support overlap of anxiety and hostility within depression or overall overlap of depression with anxiety and hostility.

The lack of support for Hypothesis I could be due to depression, hostility, and anxiety being constructs that overlap as opposed to hostility and anxiety being independent components within depression. Moreover, the idea that hostility is something different from anger and aggression was revealed in the second component of this analysis and should be examined further in future research.

Hypothesis II. Hypothesis II stated that there would be some parenting practices in which anxiety would explain variance above and beyond hostility and that there would be other parenting practices in which hostility would explain variance above and beyond anxiety. The specific parenting practices and the maternal affect predicted to explain variance were as follows: 1) hostility: lack of empathy and belief in physical punishment on the AAPI and rejecting on the CPPD; 2) anxiety: inappropriate parental expectations and role reversal on the AAPI and nurturant parenting on the CPPD.

Regarding the parenting practices in which hostility would explain variance above and beyond anxiety, the hypothesis was supported in that hostility explained significant variance in lack of empathy, belief in physical punishment, and rejecting above and

beyond anxiety. Further, hostility explained significant variance for bribing on the CPPD and approached significance for authoritarian on the CPPD above and beyond anxiety. Therefore, depressed mothers experiencing hostility are more likely than depressed mothers experiencing anxiety to believe that spanking and other forms of strict physical punishment are acceptable. These parents are also more likely to ignore their children's needs and reject their children than depressed and anxious mothers. Further these parents are likely to parent in a way such that the children are to do things "because I said so."

Support was also provided for the hypothesis that anxiety would predict certain parenting practices above and beyond hostility. Anxiety explained significant variance in inappropriate parental expectations, endorsement of role reversal, and nurturant above and beyond hostility. Further, anxiety explained significant variance for authoritarian and rejecting parenting practices and the amount of variance approached significance for lack of empathy above and beyond hostility. Mothers who are experiencing anxious and depressed feelings are more likely than mothers who are experiencing hostile and depressed feelings to expect more of their children than they are capable of attaining, expect their children to take care of the mother's needs rather than the mother taking care of the child, and be less nurturant in their parenting. For mothers experiencing anxious and depressed feelings, anxious thoughts and insecurity explained more variance in parenting practices than did low self-esteem.

While hypothesis I was not supported by the principal components analysis described above, the results of hypothesis II did provide support for independent components of hostility and anxiety within depression. Both hostility and anxiety explained significant variance in rejecting parenting on the CPPD when entered last into

the regression, thus revealing that both maternal anxiety and maternal hostility within depressed mothers are independent and explain non-redundant variance in rejecting parenting. There is a similar case with authoritarian parenting and lack of empathy in that both anxiety and hostility explained independent, non-redundant variance above and beyond the other. The exception with authoritarian parenting is that the amount of variance explained by hostility above and beyond anxiety only approaches significance. Similarly, with lack of empathy, the amount of variance accounted for by anxiety only approaches significance above and beyond hostility. These results, though, do lend support to hypothesis I, that there are independent components of hostility and anxiety within maternal depression.

Hypothesis III. Hypothesis III asserted that there would be some child behavior outcomes in which anxiety would explain variance above and beyond hostility and that there would be other child behavior criterion variables in which hostility would explain variance above and beyond anxiety. The specific child behavior criterion variables and the maternal affect predicted to explain variance were as follows: 1) hostility: externalizing problems including aggressive and difficult; 2) anxiety: internalizing problems such as being anxious, as well as less social competence in sociability, sharing, and peer involvement.

In the analysis of the child behavior criterion variables, the various items were correlated and collapsed into three aggregate variables and one individual variable: peer sociability, anxious, negative peer play, and social acceptance. Neither anxiety nor hostility explained significant variance in peer sociability, negative peer play, or social acceptance above and beyond the other. The variance explained by anxiety approached

significance for the anxious criterion variable above and beyond hostility, with the insecure subscale on the STAI explaining significant variance.

The only statistically significant variables in the equations predicting child behavior criterion variables were child gender and maternal education. Child gender accounted for significant variance in negative peer play, peer sociability, and anxious. Boys scored higher on negative peer play, anxious, and lower on peer sociability than girls. All of the measures that boys scored higher on were teacher-report measures, thus raising the question: Do boys really act out more than girls or are teachers less tolerant of boys behavior than girls? This type of scoring issue could be lessened if data were collected from additional reporters including parents. The fact that gender did not explain significant variance in the child self-report measures of the current study lends credence to the conjecture that gender differences in teacher ratings are due to low teacher tolerance for boys or to stereotyping or bias.

Maternal education explained significant variance in children's self-reported social acceptance with lower education being related to lower social acceptance. This result could be related to mothers with lower education not being aware of what their children need in order to feel more socially competent. For example, the social acceptance factor included questions regarding how often the child's mother reads to the child, how often the child's mother smiles at the child, and how often the child's mother cooks foods the child likes. Mothers with lower education levels may not be aware that these are things that are important to the development of social acceptance in children.

Sample Context and Discussion. From the results of this study, several questions arise. The initial question is could there be something about this particular sample that

impacted the lack of support for Hypothesis I? The current sample is at-risk due to the impact of low-income, low-education, and lack of resources on the sample of mothers such that they could be highly overwhelmed. Feeling overwhelmed increases the likelihood that the mothers may be experiencing symptoms of all three of the constructs examined in the current study: depression, hostility, and anxiety.

Another question is: what is there about the current sample that resulted in 77 percent of the mothers scoring at or above the clinical cut-off on the CES-D? In comparing the depressed and non-depressed mothers, the depressed mothers were less likely to be married, more likely to be divorced, and had lower monthly income than nondepressed mothers. Further, depressed mothers had children who were less likely to have regular contact with their fathers than children of nondepressed mothers. All of these issues - unmarried, divorced, lack of contact with children's fathers - would add to the pile-up of stressors facing the mothers in the current sample. Additionally, these mothers seem to be lacking the necessary resources to cope with the pile-up of stressors, thus leading to increased symptoms of depression.

Regarding the current sample, there are a large number of mothers with children who have little or no contact with their fathers. The results of the current analyses might have been somewhat altered if this sample had increased contact with the children's father. These mothers might have scored differently on the affect measures if the increased contact included emotional and parenting support from the children's fathers. The depression scores, specifically, might have been decreased and fewer mothers might have scored at or above the clinical cutoff on the CES-D.

Shortcomings.

The current study examines maternal affect as measured by self-report questionnaires. A more accurate way of measuring such constructs would be through diagnostic interviews so that actual diagnoses could be made and groups could be compared based on diagnosis rather than on level of symptoms. This type of measurement could also further examine whether anxiety and hostility are components of depression or whether they co-exist with depression.

Further, the measurement of the symptoms or diagnosis should be completed at the same time as the examination of the parenting practices and child behavior outcomes in order to ascertain that the measured affect is indeed related to the practices and outcomes. Other information that could inform researchers about this population would be information about use of psychotropic medications, use of therapy, and paternal mental health. None of these variables were examined in the current study, but could have provided further explanation about the interactions and relationships within the family.

Implications

Clinical. In using the STAI in clinical practice, therapists or counselors can quickly assess and determine how a client's feelings of anxiety are impacting the client. By examining the factors of the STAI, the clinician can assess whether the client is dealing with anxious thoughts or whether the client may be suffering from insecurity or low self-esteem. Further the STAI full scale and factors could be used as an assessment of progress in therapy. While the STAI full scale has been used this way in the past, the

factors could further add to such an assessment in order to determine whether there is change in the specific issues the client may be facing.

Clinically, the results of this study should give direction in the treatment of depressed mothers in that there is a need to treat not only the sad and worthless type of feelings of depression, but also the other feelings of anxiety and hostility that depressed mothers may be facing. As was shown with the principal components analysis in hypothesis I, maternal depression, maternal hostility, and maternal anxiety are all closely related. Therefore, there is a need to consider both hostility and anxiety in the treatment of depressed mothers in order to impact, most importantly, the negative parenting practices of these mothers and also the negative child behavior outcomes of their children. Specifically, since some parenting practices, like rejecting parenting, can be predicted by both anxiety and hostility, therapy could focus on changing parenting practices by working through depression, hostility and anxiety.

From the examination of the self-report depression scale scores of the current sample, there is clear evidence that this is an at risk population. This rural, low income, low education sample needs to be more deeply examined with diagnostic interview type research in order to determine the full extent of the problems. Further, services are needed that are accessible to this population and focus on their specific needs. Such services might include individual therapy for the mother, but also family therapy in which the family works on the issues that are impacting the family including the mother's depression, possible child issues, family conflict, or any other issues. Parent education could also be used as a means of improving parenting skills in similar samples in that the parents need to understand more about the development of the child and what is

appropriate to be expected of young children. Services such as those described should be placed in the Head Starts in order to make them more accessible to the mothers or even set up as home-based services.

Future Research. This study conducted a principal components analysis with a sample of 219 on the STAI which revealed three factors of insecure, anxious thoughts, and low self-esteem. Additional studies are needed with larger, more diverse samples in order to determine the validity of these factors. Additional research is also needed to look at similar populations, but using diagnostic interviews rather than self-report measures for maternal depression and maternal anxiety.

Research is also needed that further examines child behavior outcomes in order to try to explain or understand the deleterious outcomes that are often faced by such an at-risk sample as the one for the current study. Additional research should include gathering information from multiple sources, including parent-report, teacher-report, self-report, and observations. In the research of child behavior outcomes, longitudinal information including types of issues occurring over time in the family as well as the extent of such issues.

Further research is also needed to explore the findings of hypothesis I that maternal depression, maternal hostility, and maternal anxiety all load onto one factor, thus suggesting overlap among depression, hostility, and anxiety. As mentioned above, in examining this overlap, diagnostic interviews should be used in order to attain the most accurate information regarding diagnosis of disorders and level of symptoms. Further, research regarding the overlap should also examine how the overlap changes over time

and how parenting practices and child behavior outcomes, as well as other areas of family life are impacted.

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Table 1

Description of Sample for STAI Principal Components Analysis

Sample n = 219		
Age	Range	19.2-77.5
	<u>M</u>	29.3
	<u>Mdn</u>	27.5
	<u>SD</u>	6.9
Ethnicity	Native American	16%
	African American	3%
	Hispanic	4%
	Caucasian	76%
	Multiethnic	1%
Marital Status	Married	46%
	Never Married	10%
	Separated	5%
	Divorced	20%
	Widowed	4%
	Remarried	16%
Education Level	Less than High School Graduate	23%
	High School Graduate	27%
	Some Vocational Technical School	9%
	Some College	25%
	Vocational Technical School Graduate	11%
	College Graduate	4%
Monthly Income	Less than \$1000	33%
	\$1000 - \$1499	30%
	\$1500 - \$1999	21%
	More than \$2000	16%

Table 2

Rotated Component Matrix for State-Trait Anxiety Inventory

	Component		
	Insecure	Anxious	Low Self-Esteem
STAI 21-Pleasant	<u>.75</u>	.13	.06
STAI 22-Nervous and restless	.23	<u>.63</u>	.24
STAI 23-Satisfied with self	<u>.72</u>	.17	.28
STAI 24-Wish were happy	.24	.30	<u>.59</u>
STAI 25-Feel like failure	.11	.36	<u>.67</u>
STAI 26-Feel rested	<u>.57</u>	.28	-.05
STAI 27-Calm, cool, and collected	<u>.69</u>	.29	-.02
STAI 28-Difficulties pile-up	.34	<u>.60</u>	.31
STAI 29-Worry too much	.17	<u>.74</u>	-.09
STAI 30-Happy	<u>.74</u>	.18	.23
STAI 31-Disturbing thoughts	.21	<u>.59</u>	.35
STAI 32-Lack self-confidence	.15	.18	<u>.68</u>
STAI 33-Feel secure	<u>.65^a</u>	.08	.51
STAI 34-Make decisions easily	<u>.58</u>	.13	.09
STAI 35-Feel inadequate	.19	.35	<u>.67</u>
STAI 36-Content	<u>.71</u>	.02	.41
STAI 37-Thoughts run through head	.12	<u>.72</u>	.23
STAI 38-Disappointments	.02	<u>.64</u>	.35
STAI 39-Steady person	<u>.64</u>	.13	.27
STAI 40-Tension or turmoil	.27	<u>.67</u>	.28

Note. Varimax with Kaiser Normalization with underlining of all loadings that constitute factors (i.e., factor loading > .50).

^a Since item loaded > .50 on both factors, the higher factor loading was chosen.

Table 3

Description of Sample for Principal Components Analysis of Maternal Affect Measures

		Total	Depressed	Non-depressed
Sample n		209	160	49
Age				
	Range	19.2-46.1	19.2-46.1	20.7-41.2
	<u>M</u>	28.8	28.7	29.2
	<u>Mdn</u>	27.4	27.2	28.0
	<u>SD</u>	5.6	5.6	5.3
Ethnicity				
	Native American	16%	16%	16%
	African American	3%	3%	2%
	Hispanic	4%	3%	8%
	Caucasian	76%	77%	74%
	Multiethnic	1%	1%	0%
Marital Status				
	Married	47%	44%	55%
	Never Married	9%	10%	8%
	Separated	5%	5%	4%
	Divorced	19%	22%	10%
	Widowed	3%	3%	4%
	Remarried	17%	16%	19%
Education Level				
	Less than High School Graduate	23%	24%	20%
	High School Graduate	27%	25%	33%
	Some Vocational Technical School	8%	9%	4%
	Some College	26%	26%	27%
	Vocational Technical School Graduate	12%	12%	12%
	College Graduate	4%	4%	4%
Monthly Income				
	Less than \$1000	33%	36%	21%
	\$1000 - \$1499	30%	29%	31%
	\$1500 - \$1999	21%	21%	23%
	More than \$2000	16%	14%	25%

Table 4

Comparison of CES-D Scores to Norming Sample

<u>Sample</u>	<u>N</u>	<u>M</u>	<u>Mdn</u>	<u>SD</u>
Fall Depressed	160	25.17	23	8.12
Fall Nondepressed	49	12.63	13	2.35
Spring Depressed	124	24.42	22	8.28
Spring Nondepressed	38	12.68	13	2.44
General Population ^a	2514	9.25		8.58
General Population ^a	1060	8.17		8.23
General Population ^a	1422	7.94		7.53
Psychiatric Patients ^a	70	24.42		13.51

^afrom Radloff, 1977

Table 5

Comparison of STAI Scores to Norming Sample

Sample	<u>N</u>	<u>M</u>	<u>Mdn</u>	<u>SD</u>
Fall Depressed	160	38.89	38	10.23
Fall Nondepressed	49	32.16	30	8.27
Spring Depressed	124	35.35	38	10.43
Spring Nondepressed	38	31.53	30	7.48
Female Undergraduates ^a	231	38.25		9.14
Male Undergraduates ^a	253	37.68		9.69
Neuropsychiatric Patients ^a	461	46.62		12.41
Medical & Surgical Patients ^a	161	41.91		12.70
Prison Inmates ^a	212	44.64		10.47

^afrom Spielberger et al., 1970

Table 6

Comparison of AQ Scores to Norming Sample

Sample	<u>N</u>	<u>M</u>	<u>Mdn</u>	<u>SD</u>
Fall Depressed	160	61.76	61.5	16.93
Fall Nondepressed	49	53.22	50	11.64
Spring Depressed	124	61.53	61	17.98
Spring Nondepressed	38	54.32	50.5	15.87
Undergraduate Females ^a	641	68.2		17.0
Undergraduate Males ^a	612	77.8		16.5

^afrom Buss & Perry, 1992

Table 7

Alphas of Items for Principal Components Analysis of Maternal Affect Measures (n = 209)

<u>Items</u>	<u>Standardized Alpha</u>
CES-D Total Scale	.82
CES-D Depressed Affect Subscale	.90
CES-D Happy Subscale	.75
CES-D Somatic & Retardation Subscale	.80
CES-D Interpersonal Subscale	.61
AQ Total Scale	.90
AQ Anger Subscale	.77
AQ Hostility Subscale	.82
AQ Physical Aggression Subscale	.76
AQ Verbal Aggression Subscale	.75
STAI Total Scale	.92
STAI Insecure Subscale	.89
STAI Anxious Thoughts Subscale	.86
STAI Insecure Subscale	.77

Table 8

Rotated Component Matrix for Maternal Affect

	Component	
	Depression	Anger/Aggression
CES-D Depressed	<u>.812</u>	.179
CES-D Happy	<u>-.743</u>	-.09
CES-D Somatic and Retardation	<u>.758</u>	.141
CES-D Interpersonal	<u>.611</u>	.04
STAI Insecure	<u>.677</u>	.192
STAI Anxious Thoughts	<u>.802</u>	.209
STAI Low Self-Esteem	<u>.707</u>	.212
AQ Anger	.364	<u>.773</u>
AQ Hostility	<u>.601^a</u>	.529
AQ Verbal Aggression	-.04	<u>.855</u>
AQ Physical Aggression	.187	<u>.799</u>

Note. Varimax with Kaiser Normalization with underlining of all loadings that constitute factors (i.e., factor loading > .50).

^aSince item loaded > .50 on both factors, the higher factor loading was chosen.

Table 9

Comparison of Sample for Hierarchical Regression Analyses (CES-D \geq or = to 16) with Sample not Included (CES-D < 16) in Analyses

		Depressed	Non-depressed
Sample n		124	38
Age			
	Range	19.2-46.1	20.1-41.2
	<u>M</u>	28.5	29.4
	<u>Mdn</u>	27.4	28.8
	<u>SD</u>	5.5	5.5
Ethnicity			
	Native American	17%	18%
	African American	3%	3%
	Hispanic	2%	11%
	Caucasian	76%	68%
	Multiethnic	2%	0%
Marital Status			
	Married	45%	61%
	Never Married	10%	8%
	Separated	6%	5%
	Divorced	20%	5%
	Widowed	3%	5%
	Remarried	16%	16%
Education Level			
	Less than High School Graduate	19%	21%
	High School Graduate	25%	32%
	Some Vocational Technical School	11%	3%
	Some College	29%	26%
	Vocational Technical School Graduate	11%	13%
	College Graduate	5%	5%
Monthly Income			
	Less than \$1000	33%	18%
	\$1000 - \$1499	32%	34%
	\$1500 - \$1999	23%	24%
	More than \$2000	12%	24%

Table 10

Comparison of Children in Hierarchical Regression Analyses to Children of Non-depressed Mothers (CES-D <16)

		Children of Depressed Mothers	Children of Non-depressed Mothers
Sample n		124	38
Age	Range	4.01-4.99	4.02-4.97
	<u>M</u>	4.55	4.57
	<u>Mdn</u>	4.60	4.60
	<u>SD</u>	.27	.25
Ethnicity	Native American	30%	26%
	African American	8%	5%
	Hispanic	3%	11%
	Caucasian	57%	50%
	Multiethnic	2%	8%
Gender	Male	45%	60%
	Female	55%	40%
Contact with Father	No Contact	19%	10%
	One Time per Year	1%	0%
	Two Times per Year	3%	0%
	Three to Five Times per Year	3%	0%
	Six to Eleven Times per Year	2%	3%
	Monthly	10%	5%
	Weekly	6%	3%
	Daily	56%	79%

Table 11

Alphas of Items for Hierarchical Regression Analysis (n = 124)

<u>Items</u>	<u>Standardized Alpha</u>
CES-D Total Scale	.76
CES-D Depressed Affect Subscale	.89
CES-D Happy Subscale	.77
CES-D Somatic & Retardation Subscale	.71
CES-D Interpersonal Subscale	.55
AQ Total Scale	.92
AQ Anger Subscale	.77
AQ Hostility Subscale	.83
AQ Physical Aggression Subscale	.77
AQ Verbal Aggression Subscale	.76
STAI Total Scale	.92
STAI Insecure Subscale	.88
STAI Anxious Thoughts Subscale	.86
STAI Insecure Subscale	.73
CPPD Authoritarian	.88
CPPD Rejecting	.72
CPPD Nurturant	.81
CPPD Bribing	.78
CPPD Time-out	.67
AAPI Endorsement of Role Reversal	.87
AAPI Belief in Physical Punishment	.81
AAPI Inappropriate Parental Expectations	.73
AAPI Lack of Empathy	.85
CPSCS Shares	.90
CPSCS Peer Involvement	.84
Pictorial PCS Peer Acceptance	.62
Pictorial PCS Maternal Acceptance	.77
RSSCP Difficult	.90
RSSCP Sociable	.79
RSSCP Hesitant	.82
PBQ Aggressive	.95
PBQ Anxious	.74

Table 12

Regressions Predicting CPPD Authoritarian Parenting Practice

Parenting Practice	Block	Predictors	ΔR^2	F	Df	Beta
AUTHORITARIAN	1.	Maternal Education	.030	1.71	2, 111	-.16 ⁺
		Family Income				-.04
	2.	Maternal Hostility	.110	14.10	1, 110	.34***
	3.	Anxious Thoughts	.072	3.27	3, 107	.29*
		Low Self-Esteem				-.05
		Insecure				-.00
	1.	Maternal Education	.030	1.71	2, 111	-.16 ⁺
		Family Income				-.04
AUTHORITARIAN	2.	Anxious Thoughts	.162	7.23	3, 108	.33**
		Low Self-Esteem				.10
		Insecure				.03
	3.	Maternal Hostility	.020	2.77	1, 107	.18 ⁺

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 13

Regressions Predicting CPPD Nurturant Parenting Practice

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
NURTURANT	1.	Maternal Education Family Income	.006	.33	2, 115	.05
						.04
	2.	Maternal Hostility	.008	.95	1, 114	-.10
	3.	Anxious Thoughts Low Self-Esteem Insecure	.086	3.52	3, 111	-.05
						-.09
						-.28*
NURTURANT	1.	Maternal Education Family Income	.006	.33	2, 115	.05
						.04
	2.	Anxious Thoughts Low Self-Esteem Insecure	.086	3.55	3, 112	-.02
						-.05
						-.26*
	3.	Maternal Hostility	.007	.92	1, 111	.12

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 14

Regressions Predicting CPPD Rejecting Parenting Practice

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
REJECTING	1.	Maternal Education Family Income	.019	1.13	2, 116	-.12
						-.05
	2.	Maternal Hostility	.126	16.93	1, 115	.37***
	3.	Anxious Thoughts Low Self-Esteem Insecure	.091	4.42	3, 112	.05
						-.11
						.36**
REJECTING	1.	Maternal Education Family Income	.019	1.12	2, 116	-.12
						-.05
	2.	Anxious Thoughts Low Self-Esteem Insecure	.184	8.68	3, 113	.11
						-.04
						.39**
	3.	Maternal Hostility	.033	4.80	1, 112	.23*

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 15

Regressions Predicting CPPD Bribing Parenting Practice

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
BRIBING	1.	Maternal Education Family Income	.125	8.13	2, 114	-.33***
						-.08
	2.	Maternal Hostility	.103	15.14	1, 113	.34***
	3.	Anxious Thoughts Low Self-Esteem Insecure	.034	1.68	3, 110	-.03
						.06
						.20 ⁺
	1.	Maternal Education Family Income	.125	8.13	2, 114	-.33***
						-.08
BRIBING	2.	Anxious Thoughts Low Self-Esteem Insecure	.109	5.28	3, 111	.04
						.12
						.23*
	3.	Maternal Hostility	.028	4.18	1, 110	.22*

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

⁺ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 16

Regressions Predicting CPPD Time-out Parenting Practice

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
TIME-OUT	1.	Maternal Education	.047	2.72	2, 111	-.21*
		Family Income				-.01
	2.	Maternal Hostility	.035	4.21	1, 110	.19*
	3.	Anxious Thoughts	.045	1.86	3, 107	.16
		Low Self-Esteem				-.15
		Insecure				.17
TIME-OUT	1.	Maternal Education	.047	2.72	2, 111	-.21*
		Family Income				-.01
	2.	Anxious Thoughts	.071	2.88	3, 108	.19
		Low Self-Esteem				-.11
		Insecure				.18
	3.	Maternal Hostility	.010	1.22	1, 107	.13

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 17

Regressions Predicting AAPI Belief in Physical Punishment

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
BELIEF IN PHYSICAL PUNISHMENT	1.	Maternal Education	.008	.50	2, 121	-.08
		Family Income				-.03
	2.	Maternal Hostility	.109	14.77	1, 120	.34***
	3.	Anxious Thoughts	.032	1.47	3, 117	.19
		Low Self-Esteem				-.06
		Insecure				.09
BELIEF IN PHYSICAL PUNISHMENT	1.	Maternal Education	.008	.50	2, 121	-.08
		Family Income				-.03
	2.	Anxious Thoughts	.112	4.99	3, 118	.26*
		Low Self-Esteem				.00
		Insecure				.12
	3.	Maternal Hostility	.029	4.01	1, 117	.23*

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 18

Regressions Predicting AAPI Lack of Empathy

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
LACK OF EMPATHY						
	1.	Maternal Education Family Income	.092	6.14	2, 121	-.28** -.07
	2.	Maternal Hostility	.115	17.46	1, 120	.35***
	3.	Anxious Thoughts Low Self-Esteem Insecure	.047	2.44	3, 117	.28* -.01 -.01
LACK OF EMPATHY						
	1.	Maternal Education Family Income	.092	6.14	2, 121	-.28** -.07
	2.	Anxious Thoughts Low Self-Esteem Insecure	.137	6.97	3, 118	.34** .05 .02
	3.	Maternal Hostility	.025	3.99	1, 117	.22*

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 19

Regressions Predicting AAPI Inappropriate Parental Expectations

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
INAPPROPRIATE PARENTAL EXPECTATIONS	1.	Maternal Education	.091	6.08	2, 121	-.29**
		Family Income				-.06
	2.	Maternal Hostility	.027	3.70	1, 120	.17 ⁺
	3.	Anxious Thoughts	.151	8.05	3, 117	.50***
		Low Self-Esteem				-.12
		Insecure				.05
INAPPROPRIATE PARENTAL EXPECTATIONS	1.	Maternal Education	.091	6.08	2, 121	-.29**
		Family Income				-.06
	2.	Anxious Thoughts	.176	9.44	3, 118	.48***
		Low Self-Esteem				-.14
		Insecure				.04
	3.	Maternal Hostility	.002	.35	1, 117	-.06

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 20

Regressions Predicting AAPI Endorsement of Role Reversal

Parenting Practice	Block	Predictors	ΔR^2	F	df	Beta
ENDORSEMENT OF ROLE REVERSAL	1.	Maternal Education	.149	10.63	2, 121	-.34***
		Family Income				-.14 ⁺
	2.	Maternal Hostility	.027	3.90	1, 120	.17 ⁺
	3.	Anxious Thoughts	.100	5.39	3, 117	.45***
		Low Self-Esteem				-.21 ⁺
		Insecure				-.13
ENDORSEMENT OF ROLE REVERSAL	1.	Maternal Education	.149	10.63	2, 121	-.34***
		Family Income				-.14
	2.	Anxious Thoughts	.121	6.51	3, 118	.50***
		Low Self-Esteem				-.18
		Insecure				-.11
	3.	Maternal Hostility	.006	.99	1, 117	.10

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 21

Regressions Predicting Peer Sociability Child Behavior

Child Behavior	Block	Predictors	ΔR^2	F	df	Beta
PEER SOCIABILITY						
	1.	Child Gender Maternal Education Family Income	.090	3.98	3, 120	.30** .06 .08
	2.	Maternal Hostility	.000	.01	1, 119	-.01
	3.	Anxious Thoughts Low Self-Esteem Insecure	.034	1.52	3, 116	.13 .17 -.20
PEER SOCIABILITY						
	1.	Child Gender Maternal Education Family Income	.090	3.98	3, 120	.28** .06 .08
	2.	Anxious Thoughts Low Self-Esteem Insecure	.031	1.39	3, 117	.10 .15 -.21 ⁺
	3.	Maternal Hostility	.003	.42	1, 116	-.08

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 22

Regressions Predicting Anxious Child Behavior

Child Behavior	Block	Predictors	ΔR^2	F	df	Beta
ANXIOUS	1.	Child Gender	.072	3.10	3, 120	-.23*
		Maternal Education				-.05
		Family Income				.10
	2.	Maternal Hostility	.001	.11	1, 119	.03
	3.	Anxious Thoughts	.052	2.32	3, 116	-.04
		Low Self-Esteem				-.24 ⁺
		Insecure				.28*
ANXIOUS	1.	Child Gender	.072	3.10	3, 120	-.23*
		Maternal Education				-.05
		Family Income				.11
	2.	Anxious Thoughts	.051	2.33	3, 117	-.02
		Low Self-Esteem				-.22 ⁺
		Insecure				.29*
	3.	Maternal Hostility	.001	.13	1, 116	.04

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 23

Regressions Predicting Negative Peer Play Child Behavior

Child Behavior	Block	Predictors	ΔR^2	F	df	Beta
NEGATIVE PEER PLAY	1.	Child Gender	.175	8.47	3, 120	-.42***
		Maternal Education				.03
		Family Income				-.06
	2.	Maternal Hostility	.011	1.55	1, 119	-.11
	3.	Anxious Thoughts	.010	.48	3, 116	.17
		Low Self-Esteem				-.14
		Insecure				.08
NEGATIVE PEER PLAY	1.	Child Gender	.175	8.48	3, 120	-.42***
		Maternal Education				.03
		Family Income				-.06
	2.	Anxious Thoughts	.017	.81	3, 117	.01
		Low Self-Esteem				-.16
		Insecure				.07
	3.	Maternal Hostility	.004	.53	1, 116	-.08

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

Table 24

Regressions Predicting Social Acceptance Child Behavior

Child Behavior	Block	Predictors	ΔR^2	F	df	Beta
SOCIAL ACCEPTANCE	1.	Child Gender	.044	1.84	3, 120	.09
		Maternal Education				-.19*
		Family Income				.13
	2.	Maternal Hostility	.008	.96	1, 119	-.09
	3.	Anxious Thoughts	.011	.45	3, 116	-.05
		Low Self-Esteem				-.12
		Insecure				-.05
SOCIAL ACCEPTANCE	1.	Child Gender	.044	1.84	3, 120	.09
		Maternal Education				-.19*
		Family Income				.13
	2.	Anxious Thoughts	.018	.77	3, 117	-.06
		Low Self-Esteem				-.12
		Insecure				.05
	3.	Maternal Hostility	.000	.03	1, 116	-.02

Note. ΔR^2 refers to the change in R^2 explained by the particular block of predictors.

+p < .10. *p < .05. **p < .01. ***p < .001.

APPENDIXES

APPENDIX 1

Center for Epidemiologic Depression Scale (CES-D)

INSTRUCTIONS FOR QUESTIONS: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

	<u>During the past week:</u>	<u>Rarely or</u> <u>none of</u> <u>the time</u>	<u>A little or</u> <u>some</u>	<u>Occasion-</u> <u>ally or</u> <u>moderate</u>	<u>Most or</u> <u>all of the</u> <u>time</u>
1.	I was bothered by things that usually don't bother me	0	1	2	3
2.	I did not feel like eating; my appetite was poor	0	1	2	3
3.	I felt that I could not shake off the blues even with help from my family or friends	0	1	2	3
4.	I felt that I was just as good as other people	0	1	2	3
5.	I had trouble keeping my mind on what I was doing	0	1	2	3
6.	I felt depressed	0	1	2	3
7.	I felt that everything I did was an effort	0	1	2	3
8.	I felt hopeful about the future	0	1	2	3
9.	I thought my life had been a failure	0	1	2	3
10.	I felt fearful	0	1	2	3
11.	My sleep was restless	0	1	2	3
12.	I was happy	0	1	2	3
13.	I talked less than usual	0	1	2	3
14.	I felt lonely	0	1	2	3
15.	People were unfriendly	0	1	2	3
16.	I enjoyed life	0	1	2	3
17.	I had crying spells	0	1	2	3
18.	I felt sad	0	1	2	3
19.	I felt that people dislike me	0	1	2	3
20.	I could not get "going"	0	1	2	3

Radloff, 1977

APPENDIX 2

Aggression Questionnaire (AQ)

	Extremely Uncharac- teristic of Me				Extremely Charac- teristic of Me
1. Some of my friends think I'm a hothead	1	2	3	4	5
2. If somebody hits me, I hit back	1	2	3	4	5
3. I tell my friends openly when I disagree with them	1	2	3	4	5
4. I am sometimes eaten up with jealousy	1	2	3	4	5
5. I flare up quickly but get over it quickly	1	2	3	4	5
6. I can't help getting into arguments when people disagree with me	1	2	3	4	5
7. Once in a while I can't control the urge to strike another person	1	2	3	4	5
8. At times I feel I have gotten a raw deal out of life	1	2	3	4	5
9. I can think of no good reason for ever hitting a person	1	2	3	4	5
10. Sometimes I fly off the handle for no good reason	1	2	3	4	5
11. I know that "friends" talk about me behind my back	1	2	3	4	5
12. I get into fights a little more than the average person	1	2	3	4	5
13. My friends say that I'm somewhat argumentative	1	2	3	4	5
14. I have become so mad that I have broken things	1	2	3	4	5
15. I sometimes feel that people are laughing at me behind my back	1	2	3	4	5
16. I have threatened people I know	1	2	3	4	5
17. When frustrated, I let my irritation show	1	2	3	4	5
18. I often find myself disagreeing with people	1	2	3	4	5
19. I wonder why sometimes I feel so bitter about things	1	2	3	4	5
20. Given enough provocation, I may hit another person	1	2	3	4	5
21. I have trouble controlling my temper	1	2	3	4	5
22. When people are especially nice, I wonder what they want	1	2	3	4	5
23. When people annoy me, I may tell them what I think of them	1	2	3	4	5
24. If I have to resort to violence to protect my rights, I will	1	2	3	4	5
25. I sometimes feel like a powder keg ready to explode	1	2	3	4	5
26. I am suspicious of overly friendly strangers	1	2	3	4	5
27. There are people who pushed me so far that we came to blows	1	2	3	4	5
28. Other people always seem to get the breaks	1	2	3	4	5
29. I am an even-tempered person	1	2	3	4	5

Buss & Perry, 1992

APPENDIX 3

Self-Evaluation Questionnaire

STAI Form Y-2

Name _____ Date _____

Directions

A number of statements which people have used to describe themselves are listed below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you generally feel.

	Almost never	Some- times	Often	Almost always
21. I feel pleasant	1	2	3	4
22. I feel nervous and restless	1	2	3	4
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool, and collected"	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that really doesn't matter	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I make decisions easily	1	2	3	4
35. I feel inadequate	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

APPENDIX 4

Adult-Adolescent Parenting Inventory (AAPI) Stephen J. Bavolek, Ph.D.

INSTRUCTIONS: There are 32 statements in this questionnaire. They are statements about parenting and raising children. You decide the degree to which you agree or disagree by circling one of the responses. Respond to the statements truthfully. There is no advantage in giving an untrue response because you think it is the right thing to say. There really is no right or wrong answer-only your opinion. Respond to the statements as quickly as you can. Give the first natural response that comes to mind. Circle only one response for each statement. Although some statements may seem much like others, no two statements are exactly alike. Make sure you respond to every statement.

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1. Young children should be expected to comfort their mother when she is feeling blue	SA	A	U	D	SD
2. Parents should teach their children right from wrong by sometimes using physical punishment	SA	A	U	D	SD
3. Children should be the main source of comfort and care for their parents	SA	A	U	D	SD
4. Young children should be expected to hug their mother when she is sad	SA	A	U	D	SD
5. Parents will spoil their children by picking them up and comforting them when they cry	SA	A	U	D	SD
6. Children should be expected to verbally express themselves before the age of one year	SA	A	U	D	SD
7. A good child will comfort both of his/her parents after the parents have argued	SA	A	U	D	SD
8. Children learn good behavior through the use of physical punishment	SA	A	U	D	SD
9. Children develop good, strong characters through very strict discipline	SA	A	U	D	SD
10. Parents should expect their children who are under three years to begin taking care of themselves	SA	A	U	D	SD
11. Young children should be aware of ways to comfort their parents after a hard day's work	SA	A	U	D	SD
12. Parents should slap their child when s/he had done something wrong	SA	A	U	D	SD
13. Children should always be spanked when they misbehave	SA	A	U	D	SD
14. Young children should be responsible for much of the happiness of their parents	SA	A	U	D	SD
15. Parents have a responsibility to spank their children when they misbehave	SA	A	U	D	SD
16. Parents should expect their children to feed themselves by twelve months	SA	A	U	D	SD

17.	Parents should expect their children to grow physically at about the same rate	SA	A	U	D	SD
18.	Young children who feel secure often grow up expecting too much	SA	A	U	D	SD
19.	Children should always "pay the price" for misbehaving	SA	A	U	D	SD
20.	Children under three years should be expected to feed, bathe, and clothe themselves	SA	A	U	D	SD
21.	Parents who are sensitive to their children's feelings and moods often spoil their children.	SA	A	U	D	SD
22.	Children deserve more discipline than they get	SA	A	U	D	SD
23.	Children whose needs are left unattended will often grow up to be more independent	SA	A	U	D	SD
24.	Parents who encourage communication with their children only end up listening to complaints	SA	A	U	D	SD
25.	Children are more likely to learn appropriate behavior when they are spanked for misbehaving	SA	A	U	D	SD
26.	Children will quit crying faster if they are ignored	SA	A	U	D	SD
27.	Children five months of age ought to be capable of sensing what their parents expect	SA	A	U	D	SD
28.	Children who are given too much love by their parents often grow up to be stubborn and spoiled	SA	A	U	D	SD
29.	Children should be forced to respect parental authority	SA	A	U	D	SD
30.	Young children should try to make their parent's life more pleasurable	SA	A	U	D	SD
31.	Young children who are hugged and kissed usually grow up to be "sissies"	SA	A	U	D	SD
32.	Young children should be expected to comfort their father when he is upset	SA	A	U	D	SD

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APPENDIX 5

Preschool Behavior Questionnaire (PBQ)

Lenore Behar, Ph.D.

Samual Stringfield, Ph.D.

Following is a series of descriptions of behaviors often shown by preschoolers. After each statement are three columns, "Doesn't Apply," "Applies Sometimes," and "Certainly Applies." If the child shows the behavior described by the statement frequently or to a great degree, place an "X" in the space under "Certainly Applies." If the child shows behavior described by the statement to a lesser degree or less often, place an "X" in the space under "Applies Sometimes." If, as far as you are aware, the child does not show the behavior, place an "X" in the space under "Doesn't Apply." Please put ONE "X" for EACH statement.

		Doesn't Apply	Applies Sometimes	Certainly Applies
1.	Restless. Runs about or jumps up and down. Doesn't keep still.			
2.	Squirmy fidgety child			
3.	Destroys own or others' belongings			
4.	Fights with other children			
5.	Not much liked by other children			
6.	Is worried. Worries about many things			
7.	Tends to do things on his own, rather solitary			
8.	Irritable, quick to "fly off the handle"			
9.	Appears miserable, unhappy, tearful, or distressed			
10.	Has twitches, mannerisms, or tics of the face and body			
11.	Bites nails or fingers			
12.	Is disobedient			
13.	Has poor concentration or short attention span			
14.	Tends to be fearful or afraid of new things or new situations			
15.	Fussy or over-particular child			
16.	Tells lies			
17.	Has wet or soiled self this year			
18.	Has stutter or stammer			
19.	Has other speech difficulty			
20.	Bullies other children			
21.	Inattentive			
22.	Doesn't share toys			
23.	Cries easily			
24.	Blames others			
25.	Gives up easily			
26.	Inconsiderate of others			
27.	Unusual sexual behaviors			
28.	Kicks, bites, or hits other children			

29.	Stares into space			
30.	Do you consider this child to have behavior problems?			

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APPENDIX 6

Rating Scale for Social Competence with Peers (RSSCP)

Please assign a score of 1 to 5 from least to most (5) characteristic of the child.

	1	2	3	4	5
	not at all like		somewhat like		very like
1.	Persists when told s/he cannot have something; nags, demands				_____
2.	Easily upset when interfered with by peers				_____
3.	Bosses and/or dominates other children				_____
4.	Gets very upset or over emotional with adults if things don't go his/her way				_____
5.	Hits, bites, pushes or in other ways hurts other children				_____
6.	Reacts with immediate anger or upset if some other child interferes with his/her play or takes something that is his/hers				_____
7.	Unable to wait proper time or to share; grabs toys; unable to take turns				_____
8.	Acts defiant, will not do what he/she is asked				_____
9.	Shows concern and/or offers help when a child is distressed				_____
10.	Seeks physical closeness to teacher				_____
11.	Withdraws from excitement and commotion				_____
12.	Is liked by peers; they seek him/her out to play				_____
13.	Initiates activities with peers				_____
14.	Is a spectator rather than a participant in group activities				_____
15.	Is characteristically unoccupied				_____
16.	Is socially hesitant				_____
17.	Is a peer leader				_____
18.	Is socially withdrawn				_____

Howes, 1988

APPENDIX 7

Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Pictorial PCS)

Item order and

Description

1. Good at puzzles
2. Has lots of friends
3. Good at swinging
4. Mom smiles
5. Gets stars on papers
6. Stays overnight at friends
7. Good at climbing
8. Mom takes you places
9. Knows names of colors
10. Has friends to play with
11. Can tie shoes
12. Mom cooks favorite foods
13. Good at counting
14. Has friends on playground
15. Good at skipping
16. Mom reads to you
17. Knows alphabet
18. Gets asked to play by others
19. Good at running
20. Mom plays with you
21. Knows first letter of name
22. Eats dinner at friends'
23. Good at hopping
24. Mom talks to you

Harter and Pike, 1983

APPENDIX 8

California Preschool Social Competency Scale (CPSCS)

Samuel Levine
Freeman Elzey
Mary Lewis

Profile Sheet

Item	1	2	3	4
1. Identification	•	•	•	•
2. Using Names of Others	•	•	•	•
3. Greeting New Child	•	•	•	•
4. Safe Use of Equipment	•	•	•	•
5. Reporting Accidents	•	•	•	•
6. Continuing in Activities	•	•	•	•
7. Performing Tasks	•	•	•	•
8. Following Verbal Instructions	•	•	•	•
9. Following New Instructions	•	•	•	•
10. Remembering Instructions	•	•	•	•
11. Making Explanations to Other Children	•	•	•	•
12. Communicating Wants	•	•	•	•
13. Borrowing	•	•	•	•
14. Returning Property	•	•	•	•
15. Sharing	•	•	•	•
16. Helping Others	•	•	•	•
17. Playing with Others	•	•	•	•
18. Initiating Involvement	•	•	•	•
19. Initiating Group Activities	•	•	•	•
20. Giving Direction to Play	•	•	•	•
21. Taking Turns	•	•	•	•
22. Reaction to Frustration	•	•	•	•
23. Dependence upon Adults	•	•	•	•
24. Accepting Limits	•	•	•	•
25. Effecting Transitions	•	•	•	•
26. Changes in Routine	•	•	•	•
27. Reassurance in Public Places	•	•	•	•
28. Response to Unfamiliar Adults	•	•	•	•
29. Unfamiliar Situations	•	•	•	•
30. Seeking Help	•	•	•	•

Published 1969.

Portions of scale from the Cain-Levine Social Competency Scale © Copyright 1963

APPENDIX 9

OKLAHOMA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

Date: June 24, 1999 IRB #: HE-99-103

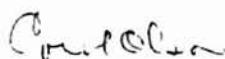
Proposal Title: "THE IMPACT OF ANXIETY AND HOSTILITY ON THE PARENTING PRACTICES OF DEPRESSED MOTHERS AND ON THEIR CHILDREN'S BEHAVIOR OUTCOMES"

Principal Investigator(s): Laura Hubbs-Tait
Angela S. Morton

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Signature:



Carol Olson, Director of University Research Compliance

June 24, 1999

Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA

Angela Susanne Morton

Candidate for the Degree of

Master of Science

Thesis: THE IMPACT OF ANXIETY AND HOSTILITY ON THE PARENTING PRACTICES OF DEPRESSED MOTHERS AND ON THEIR CHILDREN'S BEHAVIOR OUTCOMES

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