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Running Head: MATERNAL DEPRESSION, CHILD MALADJUSTMENT, AND  
PARENTAL STYLE

MATERNAL DEPRESSION AND CHILD MALADJUSTMENT:  
THE ROLE OF PARENTAL STYLE

By

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B.A., Washington State University, Pullman, Washington, 2006

Professional Paper

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ABSTRACT—MATERNAL DEPRESSION AND CHILD MALADJUSTMENT: THE  
ROLE OF PARENTAL STYLE

Chairperson: Paul Silverman, PhD

Parental practices are perhaps the most important aspect of a child's development. Diana Baumrind was one of the first to attempt to conceptualize parenting and she identified four distinct categories of parental style. Building upon Baumrind's work, Ellen Skinner has further refined the concept of parenting and identified six dimensions of parenting: warmth, structure, autonomy support, rejection, chaos, and coercion. Prior research supports a link between undesirable parental practices and maternal depression and both of these constructs have been shown to contribute to child maladjustment. The present study sought to further examine the relationship between maternal depression, parental style, and child maladjustment. It was hypothesized that two dimensions of parenting based on the Skinner model, Positive Parenting and Negative Parenting, would either mediate or moderate the relationship between maternal depression and child maladjustment.

All six dimensions of parenting proposed by Skinner were significantly related to child maladjustment. Although a mediating or moderating relationship of the Positive Parenting Dimension was not found to be significant, Negative Parenting was found to have a mediating effect. Additionally, a significant moderating effect of one of the individual parenting dimensions proposed by Skinner (Warmth) was found. Furthermore, when child maladjustment was divided into Externalizing, Internalizing, and Mixed patterns of behavior, Negative Parenting was found to mediate the relationship between maternal depression and Externalizing behavior, the individual parenting dimension of Warmth was found to moderate the relationship for Internalizing behavior, and the individual parenting dimension of Chaos was found to mediate the relationships for Externalizing and Mixed behaviors. The analyses also indicate that a model consisting of maternal depression and Negative Parenting as well as a model consisting of maternal depression and Positive Parenting explain more variance in child maladjustment than either predictor alone.

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## SECTION ONE: INTRODUCTION

### Conceptualization of Parenting

The way in which a parent relates to his or her child is arguably the most crucial aspect in a child's development. An individual's particular style of parenting has the ability to influence a child in a number of ways; an adaptive approach to parenting can be extremely beneficial for a child's development, whereas a maladaptive approach can have dire consequences for a child's physical, social, and emotional well-being. Although parenting has been conceptualized in many ways, Diana Baumrind was one of the first individuals who attempted to define parenting and classify individuals into separate parental styles. Baumrind's early work identified three parental styles (Authoritative, Authoritarian, and Permissive) which became the basis for conceptualizing parenting within the field of psychology (Baumrind, 1966, 1967).

Baumrind continued to further refine the concept of parenting, and, in 1991, she identified two factors which were essential in the conceptualization of parenting. The first factor, Demandingness, relates to the demands the parents make on the child to be part of the family, their expectations for mature behavior, the discipline and supervision they provide, and their willingness to confront behavioral problems. The second factor, Responsiveness, relates to fostering individuality, self-assertion, and regulation, as well as being responsive to special needs and demands (Baumrind, 1991). Further analysis revealed four distinct parental styles, which arose from the factors of Demandingness and Responsiveness and were based on the three original parental styles identified from her earlier work.

The first style is Authoritative, which is primarily characterized by high control and high warmth. These parents are generally flexible but firm, maintaining control and discipline but showing some reason and flexibility as well, and communicating expectations while allowing verbal

give-and-take. Authoritative parents score equally high on Demandingness and Responsiveness, and have clear expectations for behavior and conduct. Their discipline fosters responsibility, cooperation, and self-regulation. Children of Authoritative parents cope the best, are individuated, mature, resilient, achievement oriented, self-regulated and responsible, and have the highest scores on tests of cognitive competence (Baumrind, 1991).

The second parental style identified by Baumrind is Authoritarian, which is primarily characterized by high control and low warmth. Authoritarian parents tend to be highly directive, value obedience and are more controlling, show less warmth and nurturance and more distance and aloofness, and discourage discussion and debate. They are high on Demandingness but low on Responsiveness, and they exert control by maintaining order, communicating strict expectations, and monitoring their children carefully. Their children tend to be less individuated and show lower internalization of pro-social values, poorer ego development, and perform more poorly on cognitive tests (Baumrind, 1991).

The third parental style is Permissive, which tends to be characterized by low control and high warmth. These parents generally make few demands, allow the children to regulate themselves and use little discipline. They are higher on Responsiveness but lower on Demandingness, require little maturity and conventionalism, and avoid confrontation of problematic behavior. The children tend to be less assertive and less cognitively competent. These children are also less achievement oriented and show less self-regulation and social responsibility.

The final parental style identified by Baumrind is Rejecting/Neglecting, which tends to be characterized by low control and low warmth. These parents are generally low on both Demandingness and Responsiveness; they do not structure, organize, discipline, attend or supervise, and they may actively reject or neglect the children. These children demonstrate the worst coping

styles, and are the least competent of the four groups. Children of Rejecting/Neglecting parents tend to be antisocial, lack self-regulation, have more internalizing and externalizing problems, and generally attain lower scores on cognitive tests (Baumrind, 1991).

Baumrind's research on parental practices generated much further research on how to best define and conceptualize parenting. Many of these studies sought to define parental practices in terms of dimensional models, as opposed to the categorical model proposed by Baumrind. A study conducted by Skinner, Johnson, and Snyder (2005) attempted to create a model of parenting based on six dimensions that were partly based on Baumrind's original categories. The dimensions of parenting proposed by Skinner et. al. (2005) are Warmth, Rejection, Structure, Chaos, Autonomy Support, and Coercion. Warmth is defined as an expression of love, affection, caring, and enjoyment, characterized by appreciation and emotional availability; this dimension contains many elements characteristic of an Authoritative parental style. Rejection, which is partly based on Baumrind's Authoritarian parental style, is defined as active dislike, aversion, and hostility, characterized by an attitude that is harsh, over-reactive, irritable, critical, and disapproving. Structure is defined as a provision of information about pathways to reach desired outcomes, characterized by clear expectations and firm maturity demands. Chaos is defined as interfering or obscuring the pathways from means to ends, characterized by inconsistency or unpredictability. Autonomy Support, which also contains elements of an Authoritative parental style, is defined as allowing freedom of expression and action and encouraging the child to attend to, accept, and value preferences and opinions. The final dimension, Coercion, is defined as an autocratic style that is restrictive, over-controlling, and intrusive; this dimension is also partly based on the Authoritarian style proposed by Baumrind (Skinner et. al., 2005).

### Contributions to Parental Style

There are many studies that suggest that a variety of factors may play a role in the development and maintenance of maladaptive parental practices. One factor that may contribute to negative parental practices is parental psychological disorders. Psychiatric illness has been linked to poor parental outcomes (Howard, Thronicroft, Salmon, & Appleby, 2004) and research has shown that maternal mental health problems are associated with lack of confidence in one's parenting and, consequently, permissive or overly harsh disciplinary styles (Oyserman, Bybee, Mowbray, & Hart-Johnson, 2005). Trauma exposure, in particular, seems to play a role in negative parental practices. Banyard, Williams, and Siegel (2003) found that high rates of maternal trauma exposure were related to a decrease in parental satisfaction, reports of child neglect, use of physical punishment, and a history of protective service reports.

Research also supports a link between social factors and parental style. Good psychosocial functioning (defined as psychological well-being, a positive marital relationship, and high social support) has been found to be characteristic of Authoritative, emotionally involved and engaged parents; whereas poor psychosocial functioning has been found to be characteristic of Authoritarian, emotionally detached and Permissive parents (Metsäpelto & Pulkkinen, 2004). Furthermore, stressful life events and marital distress have been found to be associated with negative maternal control in mothers with children ages 2 to 4 years (Campbell, Pierce, March, & Ewing, 1991).

The environment has also been shown to influence parental practices. Financial strain, lower social class, and an unfavorable neighborhood environment have all been linked to unfavorable parental practices. Research conducted by Howard et. al. (2004) supports a link between low SES and poor parental outcomes, and a study by Gutman, McLoyd, and Tokoyawa

(2005) demonstrated that financial hardships and neighborhood stress were associated with psychological distress in parents of adolescents, leading to negative parental practices.

Further research suggests that child behavior problems influence maladaptive parental styles. Campbell et. al. (1991) found that 2 to 4-year-old children's noncompliant and overactive/inattentive behaviors each predicted negative maternal control. As suggested by Marks, Cyrulnik, Kera, Berwid, Santra, and Halperin (2006), child hyperactivity may also play a role in parental difficulties. This study found that mothers of hyperactive preschoolers exhibited more negative behavior. The study further found that parents of hyperactive preschoolers reported greater levels of anger and child rearing difficulty and perceived their children as more bothersome.

Finally, a genetic component to parental negativity is also supported by the current research. A study conducted by Knafo and Plomin (2006) examined the effects of genetics and the environment on parental pro-social behavior and negativity in parents with children ages 3, 4, and 7. The study found that genetics and the environment both contributed to individual differences in pro-social behavior and parental practices. Furthermore, the results showed a negative relationship between parental pro-social behavior and parental negativity and demonstrated that genetic factors largely mediated this relationship. Another study conducted by Feinberg, Neiderhiser, Howe, and Hetherington (2001) examined the role of genetic and environmental components in relation to social, family, and individual levels of perception. The study found that, at the social level of perception, genetic factors primarily influenced parental negativity.

It is important to note that the above studies largely consist of correlational research. Thus, it is difficult to determine whether the negative parental practices and behaviors are a product of the parental, social, environmental, child, or genetic factors discussed in each article, or if these factors are a product of the negative parental practices and behaviors. Furthermore, due to the correlational

nature of much of the above research, it is difficult to ascertain if there are other factors other than the ones discussed that are responsible for the relationships among the variables of interest.

### Parental Practices and Child Maladjustment

Clearly, parental practices that are less than optimal have the potential to contribute to undesirable consequences for the child, whereas positive parental practices are likely to have desirable consequences for children. A study conducted by Jones, Forehand, Brody, and Armistead (2002) found that positive parental practices were associated with fewer internal and external difficulties in children. Positive parental practices have also been shown to contribute to a child's academic achievement and lower levels of reported behavior problems in school (Gadeyne, Ghesquiere, & Onghena, 2004). Further research has demonstrated that parents who engage in positive parenting and co-parenting practices tend to have children who demonstrate higher levels of adjustment and academic performance and lower levels of psychological problems and negative classroom behavior (Bronstein, Clauson, Stoll, & Abrams, 1993).

Numerous studies have demonstrated the damaging effects that negative parental styles can have on children and have shown that parental styles, in general, can either encourage healthy development or have detrimental consequences. It appears that a beneficial parental style can contribute to a child's well-being, whereas unfavorable parental practices can contribute to a litany of childhood disorders and behavior problems. Maladaptive parental practices have been linked to childhood anxiety in children 10 to 11 years of age (Creswell & O'Connor, 2006), and a lack of sensitivity in parenting has been shown to influence the maintenance of anxiety disorders in children ages 8 to 12 years (Sallinen, 2006). Furthermore, negative parental practices appear to correspond with higher levels of depressive cognitions in children in grades 2, 4, and 6, whereas positive parental practices correspond with lower levels of depressive cognitions (Bruce, Cole,

Dallaire, Jacquez, Pineda, & LaGrange, 2006). Aunola and Nurmi (2005) also demonstrated that behavior problems in children ages 5 to 6 are linked to higher levels of maternal psychological control.

### Maternal Depression and Child Maladjustment

Although it has been demonstrated that many factors may be related to an individual's parental style, the present study will specifically focus on the role of maternal depression. Research has demonstrated that lower levels of maternal depression are related to higher levels of child adjustment. Nelson, Stage, Duppong-Hurley, Synhorst, and Epstein (2007) found that lower levels of maternal depression and higher levels of family functioning were linked to lower levels of emotional and behavioral disorders in children. Griest, Wells, and Forehand (1979) found that mothers who demonstrated lower levels of depression were more likely to view their children with higher levels of positive regard. Furthermore, children of mothers who demonstrated lower levels of depression were more likely to demonstrate fewer noncompliant behavior problems.

Although low levels of parental depression are linked to lower levels of child maladjustment, high levels of parental depression can have dire consequences for children and can contribute to an array of physical, social, and emotional problems. A study conducted by Tavoulareas-Karahalios (2000) found that boys, between the ages of 8 and 12, of clinically depressed mothers demonstrated more internalizing symptoms, including withdrawal, somatic complaints, and anxiety/depression, than boys of mothers who did not report a high level of depressive symptoms. In another study consisting of 7<sup>th</sup> and 8<sup>th</sup> grade adolescents, maternal depression was found to be linked with adolescent depressed mood, greater family conflict, and adolescent negative mood when interacting within the family unit (Sarigiani, Heath, & Camarena, 2003). Furthermore, mothers with a history of depression have been found to express more critical

attitudes toward their children (ages 8 to 12 years) and these critical attitudes have been shown to contribute to their children's lower self-esteem and to the development of psychiatric disorders (Goodman, Adamson, Riniti, & Cole, 1994).

Despite the overwhelming amount of literature suggesting that the mere presence of a parent's depressive cognitions in and of themselves can influence a child's adjustment, it should be noted that some early work has demonstrated that it is not simply the presence of depressive cognitions, but the severity of a mother's depression that most directly influences a child's maladjustment. One specific example concerns a study conducted by Sameroff, Seifer, and Barocas (1983). This study found that maternal depressive symptoms had few effects on how children developed socially and cognitively. However, this study also found that mothers who were quite severely depressed were more likely to have children that demonstrated a lack of social-emotional competence than mothers who were not as severely depressed. Thus, as the authors concluded, it was the severity of the symptoms that appeared to have an effect on a child's adjustment, and not the symptoms themselves.

#### Parental Style and Maternal Depression

Previous research suggests that parents who demonstrate lower levels of depression tend to engage in more adaptive parenting behaviors. An article by Lyons-Ruth, Wolfe, Lyubchik, and Steingard (2002) discusses research findings that indicate that parents who are less depressed are more likely to cuddle, read to, hug, play with, and maintain routines with their infants and toddlers. The article further discusses how parental contact and support contributes to better development in young children.

Prior research also supports a link between maternal depression and negative parental styles and attitudes. A study conducted by Lagacé-Séguin and d'Entremont (2006) examined the

relationship between parental style, child transgressions in preschool children, and maternal depression. This study found that less than optimal parental practices (specifically, an Authoritarian style and an emotionally dismissing attitude) predicted maternal depression over and above child transgressions. Furthermore, the study found that mothers who engage in negative parental strategies are likely to experience greater levels of depression. A study conducted by Gelfand and Teti (1990) also demonstrated a link between maternal depression and negative parental practices. The results of this study suggested that maternal depression is associated with undesirable parental practices such as unresponsiveness, inattentiveness, intrusiveness, inept discipline, and parental negative perceptions of their preschool-aged children.

#### Parental Style, Maternal Depression, and Child Maladjustment

Although the research in this area is limited, it does appear that there are links between parental practices and maternal depression, maternal depression and child maladjustment, and parental practices and child maladjustment. Further research suggests that perhaps all three constructs are related to and influence one another. Maternal depression has been found to be related to undesirable parental practices as well as psychopathology in preschool children (Gelfand & Teti, 1990). Research further suggests that a mediating or moderating effect of parental practices in the relationship between maternal depression and child maladjustment may exist. Brennan, Le Brocque, and Hammen (2003) examined the relationship among maternal depression, parent-child relationships, and resilient outcomes in adolescents. Resilient outcomes were defined as no current Axis I diagnosis, no history of depressive symptoms, no current internalizing problems, and no indication of current social functioning difficulties. The researchers found that, although children of depressed mothers were less likely to exhibit resiliency, positive parental practices had a moderating effect on this relationship. The study found that high levels of perceived maternal

warmth and acceptance and low levels of perceived maternal psychological control and emotional over-involvement were associated with higher levels of resilient outcomes in children of depressed mothers. Another study conducted by Elgar, Mills, McGrath, Waschbusch, and Brownridge (2007) examined the potentially mediating effect of parental behavior, specifically, parental nurturance, rejection, and monitoring, in the relationship between parental depression and child behavior problems. The article found that these parental behaviors and practices did indeed mediate the relationship between symptoms of parental depression and children's behavioral problems.

Maternal mental health problems and parental style have also been shown to be linked with poor academic outcomes in children. Oyserman et. al. (2005) found that a permissive parental style mediated the negative effect of maternal mental health problems on academic outcomes in children ages 4 to 16. Further research suggests that parental style may influence the relationship between maternal depression and child behavior problems. Querido et. al. (2002) found that maternal depression was indeed related to child behavior problems in children ages 3 to 6 years. However, a beneficial, Authoritative parental style was predictive of fewer behavior problems in children of depressed mothers. Parental style has also been shown to influence the relationship between parental psychological distress and child mental health problems. Kwok, Haine, Sandler, Ayers, Wolchik, and Tein (2005) found that parents who exhibited psychological distress brought on by the loss of a partner were likely to have a child (ages 7 to 16) who demonstrated mental health problems. The study further found that this relationship was mediated by positive parental attitudes; the relationship between a parent's psychological distress and the mental health problems exhibited by his/her child was likely to become less prevalent when the parent engaged in positive parental practices.

### Present Study

The present study sought to further examine the relationship between maternal depression, parental style, and child maladjustment. It was hypothesized that maternal depression would be positively correlated to child maladjustment; furthermore, it was hypothesized that two distinct dimensions of parenting based on the dimensions proposed by Skinner (Warmth, Structure, Autonomy Support, Rejection, Chaos, and Coercion) would either mediate or moderate the relationship between maternal depression and child maladjustment. The present study proposed two potential relationships: 1) A Positive Parenting dimension consisting of Warmth, Structure, and Autonomy Support and/or a Negative Parenting dimension consisting of Rejection, Chaos, and Coercion mediates the relationship between maternal depression and child maladjustment. That is, much of the variance in the relationship between maternal depression and child maladjustment can be explained by the presence of either Positive or Negative parental styles. 2) The interaction between maternal depression and the Positive Parenting dimension or the interaction between maternal depression and the Negative Parenting dimension moderates the relationship between maternal depression and child maladjustment. That is, the interaction between maternal depression and either Positive or Negative parental styles predicts child maladjustment above and beyond either parenting dimension or maternal depression alone; specifically, a positive parental style may buffer the negative effects of depression on child adjustment, whereas a negative parental style may exacerbate the effects. Based on prior research, it was not clear whether maternal depression acted within the context of parental style in order to influence child maladjustment (mediating effect), or whether maternal depression and parental child acted in accord with one another to affect child maladjustment (moderating effect). Thus, the present study examined both the mediating and

moderating effects of parental style in the relationship between maternal depression and child maladjustment.

## SECTION TWO: METHOD

### Participants

A power analyses indicated a need for a sample of between 30 and 50 participants, based on an expected correlation of .40 for the relationship between maternal depression and child maladjustment. This value was selected based on the prior research on the relationship between a mothers' depression and the emotional and behavioral problems of children. The sample consisted of 33 mothers with a preschool child (between the ages of 3 and 5) from the Missoula, Montana area. Subjects were recruited via a face-to-face method from local childcare centers and "Playlands" at local McDonald's restaurants. Potential participants were approached by the primary researcher, and the researcher explained that research was being conducted for a Master's Thesis Project, that the time commitment was approximately two-and-a-half hours, and that they would be compensated \$20.00 for their time. If individuals indicated they were interested in participating in the study, they were scheduled for an appointment and handed an information sheet that contained a description of the study as well as directions to the University of Montana.

In addition to face-to-face recruitment, posters were placed in public areas of the local YMCA, the Head Start Program, and the Families First program, which provides parenting services, education, and support. The posters contained a description of the study, the time commitment required, the statement that participants would be compensated \$20.00 for their participation, and the phone number for the advisor of the study. Interested individuals left a voice message with the study advisor and their call was returned by the primary researcher.

Participants were also recruited from the Psych 100 classes at the University of Montana. A sign-up sheet was posted on the Psych 100 "Research Sign-Up" table with a notice stating that only mothers with a child between the ages of 3 and 5 were eligible for the study, and that qualified

individuals would receive 6 credits of research participation. Interested individuals signed-up for time slots that worked with their schedule.

### Measures

For the present study, participants completed a total of six paper and pencil measures. The first measure is a Background Questionnaire, which is a 30-item questionnaire used to collect information regarding age, sex, educational level, marital status, race/ethnicity, and socio-economic status. Questions on the Background Questionnaire also assess the participant's family of origin; specifically, whether the family consisted of a single-parent, the socio-economic status of the family, whether the family resided in a rural or urban setting, and abuse/neglect history. Current involvement with social services is also assessed. Much of the information gathered through the Background Questionnaire is being used for a larger study intended to develop an interview-based instrument that will be used to gather normative data on parental practices.

The next measure is the Parents as Social Context Questionnaire, which is a 25-item parent report that assesses parents on six dimensions of parenting: 1) Warmth, defined as an expression of love, affection, caring, and enjoyment, characterized by appreciation and emotional availability, 2) Rejection, defined as active dislike, aversion, and hostility, characterized by an attitude that is harsh, over-reactive, irritable, critical, and disapproving, 3) Structure, defined as a provision of information about pathways to reach desired outcomes, characterized by clear expectations and firm maturity demands, 4) Chaos, defined as interfering or obscuring the pathways from means to ends, characterized by inconsistency or unpredictability, 5) Autonomy support, defined as allowing freedom of expression and action and encouraging the child to attend to, accept, and value preferences and opinions, and 6) Coercion, defined as an autocratic style that is restrictive, over-controlling, and intrusive. Although there is little information on the psychometric properties of the

measure, internal consistency reliabilities for the specific dimensions have been found to be satisfactory, ranging from .64-.70, and internal consistency reliabilities for the items themselves have been shown to be good, ranging from .78-.88 (Skinner, Johnson & Synder, 2005).

The Beck Depression Inventory was used to assess maternal depression. The BDI is a 21-question, multiple choice, self-report inventory, designed for adults between the ages of 17 and 80. The BDI is composed of items relating to depressive symptoms such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well as physical symptoms such as fatigue, weight loss, and lack of interest in sexual activity. The BDI has been shown to have good psychometric properties (Silverberg, Marczak, & Gondoli, 1996) and the internal consistency reliabilities have been shown to range from .73-.92 for non-psychiatric populations (Beck, Steer, & Garbin, 1988).

The Child Behavior Check List for Children Ages 1 ½ to 5 was used to assess for child maladjustment. The CBCL is a 99-item questionnaire to be answered by parents, teachers, and other caregivers about children between the ages of 1 ½ to 5. The purposes of the CBCL are to determine what services are appropriate for a particular child, list the types of problems a child is having, and track changes in response to interventions. Questions allow the researcher to analyze three types of behavior scales: 1) Internalizing scales, which consist of depression/withdrawal, anxiety, or somaticizing behaviors, 2) Externalizing scales, which consist of cruel, aggressive, and delinquent behaviors, and 3) Mixed scales, which document other problem behaviors such as immaturity or hyperactivity. The CBCL 1 ½ to 5 has been found to have good psychometric properties, with an Internal consistency range of 0.93 to 0.95. Satisfactory internal consistency reliability values ranging from .82 to .92 and construct and convergent validity has also been reported for the

Internalizing, Externalizing, and Mixed scales (Achenbach & Rescorla, 2000; Tan, Dedrick, & Marfo, 2007).

The Interparental Conflict Questionnaire was used to assess marital conflict, and was used as a control variable in the final analysis. The ICQ is a self-report measure that uses Likert scales to assess the intensity, frequency, specific content, and occurrence of conflict between parents, as reported by each parent. The ICQ consists of 20 items, 10 of which assess spousal/ex-spousal issues, such as financial matters, household chores, and personal habits, and 10 of which assess child related issues, such as friends, chores, personal problems, and school performance. Each item consists of four questions: parents are asked to estimate, during the past month, how often a particular issue was discussed, how often they argued about the issue, how heated the argument became, and how often the argument occurred in front of the child. Forehand & McCombs (1989) report adequate validity and test-retest reliability of the subscale over 4 weeks.

The Marlowe-Crowne Social Desirability Short Form (Form C) was used to assess whether the participant responded in a socially desirable way, and was also used as a control variable in the final analysis. This measure is a 13-item questionnaire that asks participants to respond to statements regarding their own beliefs and attitudes. The participant assigns a judgment of “True” or “False” for each item, and items are scored “1” for “True” and “2” for “False.” Higher scores indicate a greater likelihood of socially desirable responses, whereas lower scores indicate a lower likelihood of socially desirable responses. This measure has been found to be highly reliable and valid, and the internal consistency reliability is satisfactory at .76 (Andrews & Meyer, 2003).

#### Procedure

The present study was conducted in a psychology lab (room 246) in the Skaggs Building at the University of Montana. Individuals were scheduled in groups of five to ten, and three-hour

increments of time were allotted for each group. When each participant arrived at Room 246 in the Skaggs Building, she was greeted by the primary researcher. Each participant then went into a small side room with a trained research assistant to complete the study. A formal written description of the study was handed to each participant and this description was also read aloud to each participant. During the verbal explanation, the participant was informed that she may withdraw from the study at any time and was allowed to have any questions answered. After each participant agreed to continue, she was handed a consent form to sign.

It is important to note that the present study is embedded in a larger study being conducted at the University of Montana. The purpose of this larger study is to develop an interview-based instrument, the Child Guidance Interview (CGI), to gather normative data on adult parental practices. Participants completed the CGI study as well as the present study. The CGI study asks participants to complete the Child Guidance Interview as well as three paper-and-pencil measures: 1) The Symptom Checklist-90-Revised (assesses for psychological adjustment of the participants) and 2) The Child Abuse Potential Inventory (screens for physical child abuse). 3) The Adult-Adolescent Parenting Inventory (assesses the parenting and child rearing attitudes of adolescents and adults). Thus, a total of ten measures were administered to each participant. The Demographics Questionnaire was administered first, followed by the Child Guidance Interview. After the CGI, participants completed the remainder of the written questionnaires in the following order: The Symptom Checklist-90-Revised, The Parents as Social Context Questionnaire, the Child Abuse Potential Inventory, The Child Behavior Checklist for Ages 1 ½ to 5, The Interparental Conflict Questionnaire, The Adult-Adolescent Parenting Inventory, and the Marlowe-Crowne Social Desirability Short Form.

After entering the small side-rooms in Skaggs 246, participants sat at a table with the research assistant and were read the written description of the study and asked to sign the consent form and complete the Demographics Questionnaire. The Child Guidance Interview was then administered. The participant's oral responses were audio-recorded; in addition, the research assistant manually recorded the participant's responses using a laptop computer. The study took approximately two to two-and-a-half hours for each participant. After participants either completed the study or chose not to continue, they were compensated \$20.00; Psych 100 participants were given 6 credits of research participation.

## SECTION THREE: RESULTS

Data were entered into the Statistical Package for the Social Sciences, Version 16.0 for analysis. Most participants were between the ages of 23 and 40; the youngest participant was age 21, and the oldest was age 44. The majority of participants reported themselves as Caucasian, married, having obtained a high school level of education or higher, and making more than \$21,000 per year. Table 1 displays the demographic characteristics of the sample.

**Table 1**  
**Demographic Characteristics of Participants (N = 33)**

Age		Race/Ethnicity		Marital Status		Years of Education		Income	
21-30	N = 16	Caucasian	N =29	Single	N =5	12-13	N =7	\$0-\$20,000	N =11
31-40	N = 14	Native American	N = 1	Married	N =26	14-15	N =5	\$21,000-\$40,000	N =6
> 40	N =3	Caucasian/ Native American	N =2	Divorced	N = 2	16-17	N =9	\$41,000-\$60,000	N =7
		Caucasian/ Asian American	N =1			18-19	N =9	> \$60,000	N =9

The Positive Parenting variable was created by combining the scores on the Warmth, Structure, and Autonomy Support dimensions. The Negative Parenting variable was created by combining the scores on the Rejection, Chaos, and Coercion dimensions. Prior to creating the Positive and Negative parenting variables, the positive parenting dimensions (Warmth, Structure, and Autonomy Support) and the negative parenting dimensions (Rejection, Chaos, and Coercion) were correlated with one another to determine if Positive and Negative parenting variables would be valid. The correlation between Warmth and Structure was .664 ( $p < .01$ ), the correlation between Warmth and Autonomy Support was .560 ( $p < .01$ ), and the correlation between Structure and Autonomy Support was .536 ( $p < .01$ ). The correlation between Rejection and Chaos was .473

( $p < .01$ ), the correlation between Rejection and Coercion was .416 ( $p < .05$ ), and the correlation between Chaos and Coercion was .402 ( $p < .05$ ).

Among the participants who completed the BDI ( $N = 32$ ), 26 fell in the “minimal” depressive range, four fell in the “mild” depressive range, one fell in the “moderate” depressive range, and one fell into in the “severe” depressive range. The mean BDI score was 9.00 (with 63 being the highest possible score), with a standard deviation of 8.33. Among the participants who completed the CBCL 1 ½ to 5 for their children ( $N = 32$ ), 31 fell below the “clinical range” cut-off and one fell into the “borderline clinical range.” The mean CBCL 1 ½ to 5 score was 24.63 (with 200 being the highest possible score), with a standard deviation of 15.25. It should be noted that a relatively low number of participants fell in the clinically significant ranges on the BDI and CBCL 1 ½ to 5; thus, it is possible that the results of the present study were influenced by the lack of variability in the severity of maternal depression and child maladjustment scores.

A hierarchical regression was used to evaluate the potential mediating or moderating effects of the two dimensions of parenting (Positive and Negative parenting). It should be noted that Interparental Conflict (via the Interparental Conflict Questionnaire) and Social Desirability (via the Marlowe-Crowne Social Desirability Short Form) were entered into each model through the use of a hierarchical regression as control variables. However, these variables were not found to contribute significantly to any of the models, with  $p$  values for Interparental Conflict ranging from .256 to .987 and  $p$  values for Social Desirability ranging from .170 to .785. The regression analyses were first conducted with Interparental Conflict and Social Desirability entered as control variables. However, because these variables were not found to contribute significantly when predicting child maladjustment, Interparental Conflict and Social Desirability were eliminated from the regression analyses and subsequent analyses were conducted that did not include these variables in the models.

It should also be noted that, due to the prior research conducted on these variables, one-tailed significance tests were utilized for all the models.

To test for a mediating effect of Positive Parenting, it was first determined whether there was a relationship between maternal depression and child maladjustment. This relationship was found to be significant ( $r = .485, p < .01$ ). The next step was to test the relationship between maternal depression and the Positive Parenting dimension. However, this relationship was not significant ( $r = -.101, p = .291$ ), thus, an assumption of the mediating model was violated and a mediating effect of Positive Parenting could not be examined (Baron & Kenny, 1986).

To test for a mediating effect of Negative Parenting, the relationship between maternal depression and the Negative Parenting dimension was examined. This relationship was found to be marginally significant ( $r = .264, p = .073$ ). Next, it was determined whether there was a relationship between child maladjustment and Negative Parenting. This relationship was found to be significant ( $r = .580, p < .01$ ). Then, a regression model was computed that contained maternal depression as the predictor variable and child maladjustment as the target variable. The  $r$  in this model was .485 ( $\beta = .485$ ). Finally, Negative Parenting was entered into the regression model as a mediating variable.

It was expected that the amount of variance explained by maternal depression would decrease significantly and the amount of variance explained by Negative Parenting would be significant, indicating that Negative Parenting was explaining the variance in the relationship between maternal depression and child maladjustment. In the model, the amount of variance explained by maternal depression decreased from .485 to .352, and Negative Parenting was found to explain a significant proportion of the variance when predicting child maladjustment ( $\beta = .486, p < .01$ ). Although the amount of variance explained by maternal depression continued to be significant in the model ( $\beta = .352, p < .05$ ), the decrease in the amount of variance explained by

maternal depression and the significant amount of variance explained by Negative Parenting lends support to a mediating model of Negative Parenting in the relationship between maternal depression and child maladjustment.

To test for a moderating effect of Positive Parenting, it was first determined whether there was a relationship between the Positive Parenting dimension and child maladjustment. This relationship was found to be significant ( $r = -.540, p < .01$ ). The next step was to use a hierarchical regression to test the model consisting of maternal depression and Positive Parenting (predictor variables) and child maladjustment (target variable). Then, the interaction between maternal depression and Positive Parenting was entered into the model to test for a moderating effect. The results of these analyses are summarized in Table 2.

**Table 2**  
**Regression Analysis: Maternal Depression, Positive Parenting, and Child Maladjustment**

Steps and Predictor Variables	Target Variable: Child Maladjustment		
	R	$\beta$	t
<b>Step 1</b>			
Mat. Depression	.702	.424	3.121**
Pos. Parenting		-.510	-3.762**
<b>Step 2</b>			
Mat. Depression	.711	-2.489	-.720
Pos. Parenting		-.739	-2.437*
Interaction		2.896	.843

\* $p < .05$

\*\* $p < .01$

It was hypothesized that the  $r$  would increase significantly once the interaction was entered into the model. However, the  $r$  only increased from .702 to .711. Thus, support was not found for a significant moderating effect of Positive Parenting.

To test for a moderating effect of Negative Parenting, it was first determined whether there was a relationship between the Negative Parenting dimension and child maladjustment. This

relationship was found to be significant ( $r = .580, p < .01$ ). The next step was to use a hierarchical regression to test the model consisting of maternal depression and Negative Parenting (predictor variables) and child maladjustment (target variable). Then, the interaction between maternal depression and Negative Parenting was entered into the model to test for a moderating effect. The results of these analyses are summarized in Table 3.

**Table 3**  
**Regression Analysis: Maternal Depression, Negative Parenting, and Child Maladjustment**

Steps and Predictor Variables	Target Variable: Child Maladjustment		
	R	$\beta$	t
<b>Step 1</b>			
Mat. Depression	.673	.352	2.420*
Neg. Parenting		.486	3.341**
<b>Step 2</b>			
Mat. Depression	.673	.324	.343
Neg. Parenting		.479	1.911
Interaction		.031	.030

\* $p < .05$

\*\* $p < .01$

It was hypothesized that the  $r$  would increase significantly once the interaction was entered into the model. However, the  $r$  remained the same at .673. Thus, support was not found for a significant moderating effect of Negative Parenting.

To further examine potential mediating/moderating effects of parental style, the dimensions of parenting proposed by Skinner (Warmth, Structure, Autonomy Support, Rejection, Chaos, and Coercion) were each tested separately as potential mediators/moderators in the relationship between maternal depression and child maladjustment. When testing for potential mediating effects, it was found that only one of the parenting dimensions, Chaos, was significantly correlated with maternal depression, whereas the other five dimensions were not significantly correlated with maternal

depression. Thus, mediating effects of five out of the six parenting dimensions could not be tested (Baron & Kenny, 1986).

**Table 4**  
**Correlations Between Maternal Depression and Parenting Dimensions**

<b>Maternal Depression (BDI)</b>		
	Pearson's r	p value
<b>Warmth</b>	-.228	.105
<b>Rejection</b>	.220	.113
<b>Structure</b>	-.061	.370
<b>Chaos</b>	.324	.035*
<b>Autonomy Support</b>	.025	.445
<b>Coercion</b>	.039	.417

\*p<.05

To test for a mediating effect of Chaos, it was first determined whether there was a relationship between Chaos and child maladjustment. This relationship was found to be significant ( $r = .530, p < .01$ ). Then, a regression model was computed that contained maternal depression as the predictor variable and child maladjustment as the target variable. The  $r$  in this model was .485 ( $\beta = .485$ ). Finally, Chaos was entered into the regression model as a mediating variable. It was expected that the amount of variance explained by maternal depression would decrease significantly and the amount of variance explained by Chaos would be significant, indicating that Chaos was explaining the variance in the relationship between maternal depression and child maladjustment. Although Chaos explained a significant amount of variance when predicting child maladjustment ( $\beta = .417, p < .05$ ), maternal depression also continued to explain a significant proportion of variance (.341,  $p < .01$ ). Thus, support was not found for a mediating effect of Chaos.

To test for moderating effects of the parenting dimensions, the relationships between each parenting dimension and child maladjustment were tested. All six dimensions were significantly related to child maladjustment (Table 5).

**Table 5**  
**Correlations Between Child Maladjustment and Parenting Dimensions**

<b>Child Maladjustment (CBCL)</b>		
	Pearson's r	p value
<b>Warmth</b>	-.552	.000**
<b>Rejection</b>	.652	.000**
<b>Structure</b>	-.394	.013**
<b>Chaos</b>	.530	.002**
<b>Autonomy Support</b>	-.534	.001**
<b>Coercion</b>	.304	.045*

\*p < .05

\*\*p < .01

The next step was to use a hierarchical regression to test the models consisting of maternal depression and each of the individual parenting dimensions (predictor variables) and child maladjustment (target variable). Then, the interactions between maternal depression and each parenting dimension were entered into their respective models to test for moderating effects. The results of these analyses are summarized in Table 6.

**Table 6**  
**Regression Analysis: Maternal Depression, Parenting Dimensions, and Child Maladjustment**

Steps and Predictor Variables	Target Variable: Child Maladjustment		
	R	$\beta$	t
<b>Step 1s</b>			
Mat. Depression	.673	.361	2.493*
Warmth		-.483	-3.340**
Mat. Depression	.742	.362	2.789**
Rejection		.575	4.431**
Mat. Depression	.608	.459	3.052**
Structure		-.367	-2.442**
Mat. Depression	.623	.341	2.168**
Chaos		.417	2.649**
Mat. Depression	.732	.496	3.850**
Autonomy Support		-.548	-4.257**
Mat. Depression	.559	.469	2.986**
Coercion		.277	1.766*
<b>Step 2s</b>			
Mat. Depression	.716	-4.060	-1.664*
Warmth		-.931	-3.287**
Interaction		4.333	1.815*
Mat. Depression	.743	.025	.025
Rejection		.502	1.971*
Interaction		.362	.333
Mat. Depression	.620	-1.504	-.627
Structure		-.585	-1.913*
Interaction		1.964	.820
Mat. Depression	.625	.535	.748
Chaos		.466	1.959*
Interaction		-.220	-.278
Mat. Depression	.747	-2.867	-.989
Autonomy Support		-.884	-2.796**
Interaction		3.389	1.161
Mat. Depression	.592	-1.468	-.955
Coercion		-.081	-.252
Interaction		2.000	1.267

\*p<.05

\*\*p<.01

It was hypothesized that the r in each model would increase significantly once the interactions were entered into the models. Five of the r's in each model did not significantly increase, indicating a lack of support for moderating effects for four out of the five parenting dimensions. However, a

significant moderating effect was found for the individual parenting dimension of Warmth. In this model, the  $r$  increased from .673 to .716.

An additional analysis consisted of creating a variable called “Parental Consistency” and testing the potential mediating/moderating effects of this variable. Parental Consistency refers to the extent to which a parent engages in a balanced amount of positive parental practices and negative parental practices. For example, a consistent parent would generally engage in a high amount of positive parental practices and a low amount of negative parental practices. The variable “Parental Consistency” was created by computing the percent of items endorsed for each subscale (Warmth, Rejection, Structure, Chaos, Autonomy Support, and Coercion), and then computing the difference score for each pair of corresponding subscales (Warmth and Rejection, Structure and Chaos, and Autonomy Support and Coercion). Finally, the sum of the difference scores was computed to create a Parental Consistency score for each participant. To test for a mediating effect of Parental Consistency, the relationship between maternal depression and Parental Consistency was examined. However, this relationship also was not significant ( $r = -.216$ ,  $p = .118$ ). Thus, an assumption of the mediating model was again violated and a mediating effect of Parental Consistency could not be examined (Baron & Kenny, 1986).

To test for a moderating effect of Parental Consistency, it was first determined if there was a relationship between Parental Consistency and child maladjustment. This relationship was found to be significant ( $r = -.732$ ,  $p < .01$ ). This indicates that as Parental Consistency increases, child maladjustment decreases and vice versa. The next step was to use a hierarchical regression to test the model consisting of maternal depression and Parental Consistency (predictor variables) and child maladjustment (target variable). Then, the interaction between maternal depression and

Parental Consistency was entered into the model to test for a moderating effect. The results of these analyses are summarized in Table 7.

**Table 7**  
**Regression Analysis: Maternal Depression, Parental Consistency, and Child Maladjustment**

Steps and Predictor Variables	Target Variable: Child Maladjustment		
	R	$\beta$	t
<b>Step 1</b>			
Mat. Depression	.807	.332	2.894**
Par. Consistency		-.663	-5.779**
<b>Step 2</b>			
Mat. Depression	.807	.325	.827
Par. Consistency		-.667	-2.906**
Interaction		.007	.019

\*p<.05

\*\*p<.01

It was hypothesized that the r would increase significantly once the interaction was entered into the model. However, the r remained the same at .807. Thus, support was not found for a significant moderating effect of Parental Consistency.

One final set of analyses included computations of the Internalizing scores (consisting of items pertaining to depression, anxiety, and somatic behaviors), Externalizing scores (consisting of items pertaining to aggressive and delinquent behaviors), and Mixed scores (consisting of items pertaining to other problem behaviors) from the Child Behavior Checklist 1 ½ to 5 for each participant. Several significant findings arose from regression analyses in which these were the criterion variables. First, the individual parenting dimension of Warmth was found to moderate the relationship between maternal depression and Internalizing behavior problems. It was determined that the relationship between Warmth and Internalizing behavior was significant ( $r = -.451, p < .01$ ). The relationship between maternal depression and Internalizing behavior was also found to be significant ( $r = .379, p < .05$ ). A model consisting of Warmth and maternal depression as the

predictor variables and Internalizing behavior as the target variable yielded an  $r$  value of .535. When the interaction between Warmth and maternal depression was entered into the model, the  $r$  increased to .621, indicating a moderating effect for Warmth.

Second, Negative Parenting was found to mediate the relationship between maternal depression and Externalizing behavior problems. For this analysis, it was first determined whether there was a relationship between maternal depression and Externalizing behavior. This relationship was found to be significant ( $r = .324, p < .05$ ). As previously noted, the relationship between maternal depression and Negative Parenting was found to be marginally significant ( $r = .264, p = .073$ ). Negative Parenting was also found to be significantly correlated with Externalizing behavior ( $r = .551, p < .01$ ). Interestingly, when Negative Parenting was entered as a mediator, maternal depression was found to be no longer significant ( $\beta = .191, p = .116$ ), and the contribution of Negative Parenting in this model was found to be significant ( $\beta = .507, p < .01$ ). Thus, support was found for a mediating effect of Negative Parenting in the relationship between maternal depression and Externalizing behavior problems.

Another significant finding concerned the effect of the individual parenting dimension of Chaos in the relationship between maternal depression and Externalizing behavior problems. Chaos was found to mediate this relationship. As previously noted, the relationship between maternal depression and Chaos was found to be significant ( $r = .324, p < .05$ ). In addition, the relationship between Chaos and Externalizing behavior was found to be significant ( $r = .478, p < .01$ ). In this case, when Chaos was entered as a mediator, the amount of variance explained by maternal depression dropped from .324 ( $p < .05$ ) to .186 ( $p = .139$ ). In addition, Chaos was found to be significantly contributing to the model ( $\beta = .428, p < .01$ ), indicating a mediating effect.

Finally, the parenting dimensions were examined for their potential mediating and moderating effects in the relationship between maternal depression and the Mixed behavior scale. The Mixed behavior scale assesses items that don't clearly fit into the Internalizing or Externalizing scales, such as eating and sleep disturbances, jealousy, strange fears, and somatic symptoms. It was found that the individual parenting dimension of Chaos mediates the relationship between maternal depression and Mixed behavior. Prior to testing for a mediating effect, it was determined that Chaos was significantly correlated with the Mixed scale ( $r = .613, p < .01$ ). Also, as previously reported, maternal depression was found to have a significant relationship with Chaos ( $r = .324, p < .05$ ). Finally, it was determined that maternal depression was significantly related to Mixed behavior ( $r = .440, p < .01$ ). When Chaos was entered into the model as a mediator, the amount of variance explained by maternal depression decreased to .269, although it was still significant at  $p < .05$ . However, the amount of variance explained by Chaos was .528 ( $p < .01$ ), indicating a mediating effect.

#### SECTION FOUR: DISCUSSION

The present study was conducted in order to further examine the relationship between maternal depression, child maladjustment, and parental style. Although prior research has demonstrated that all three constructs are related to and influence one another, it was unclear based on previous research whether parental style mediated or moderated the relationship between maternal depression and child maladjustment. This study sought to examine the potential mediating or moderating effect of parental style in this relationship.

It was hypothesized that maternal depression would be positively correlated with child maladjustment, and this hypothesis was supported. These results are consistent with previous research that suggests that mothers' depressive cognitions are related to the emotional and behavioral problems of their children (Tavoulaareas-Karahalios, 2000; Sarigiani, Heath, & Camarena, 2003; Goodman, Adamson, Riniti, & Cole, 1994). It was also expected that the two dimensions of parenting based on the dimensions proposed by Ellen Skinner (Positive and Negative parenting) would be related to child maladjustment, and this expectation was also upheld.

The positive correlation between child maladjustment and Negative Parenting is consistent with previous research that suggests that a parent's negative parental styles are related to a child's emotional and behavioral problems (Creswell & O'Connor, 2006; Sallinen, 2006; Bruce, et. al., 2006; Aunola & Nurmi, 2005). Also consistent with prior research was the negative correlation between Positive Parenting and child maladjustment, indicating that as Positive Parenting increases, child maladjustment decreases. This is consistent with previous research that suggests that positive parental practices act as a buffer against child behavior problems and contribute to better emotional well-being in children (Jones, Forehand, Brody, & Armistead, 2002; Gadeyne, Ghesquiere, & Onghena, 2004; Bronstein, Clauson, Stoll, & Abrams, 1993).

After testing the relationships between each individual parenting dimension and child maladjustment, the directions of all six relationships were as expected (Warmth, Structure, and Autonomy Support were negatively correlated with child maladjustment, whereas Rejection, Chaos, and Coercion were positively correlated with child maladjustment), and all six relationships were significant. These results are consistent with prior research that suggests that positive parental styles are related to lower levels of child maladjustment, whereas negative parental practices are related to higher levels of child maladjustment (Jones, Forehand, Brody, & Armistead, 2002; Gadeyne, Ghesquiere, & Onghena, 2004; Bronstein, Clauson, Stoll, & Abrams, 1993; Creswell & O'Connor, 2006; Sallinen, 2006; Bruce, et. al., 2006; Aunola & Nurmi, 2005).

Intuitively, it makes sense that a parent who engages in positive parental practices such as affection, setting clear expectations, and encouraging self-exploration (Skinner, Johnson, and Snyder, 2005) would have a child who demonstrated fewer symptoms of anxiety and depression and did better within the school and family environments. Alternatively, a parent who is overly critical, unpredictable and disapproving will likely have children who are angry, anxious, and do more poorly in school. Thus, the finding in the present study demonstrating the positive relationship between negative parenting practices and child maladjustment as well as the finding demonstrating the negative relationship between positive parenting practices and child maladjustment is not surprising.

It was hypothesized that the two dimensions of parenting based on the dimensions proposed by Ellen Skinner (Positive and Negative parenting) would mediate the relationship between maternal depression and child maladjustment, and this relationship was partly upheld. Unfortunately, the potential mediating relationship of Positive Parenting could not be tested because an assumption of the mediating model was violated, namely, the relationship between Positive

Parenting and maternal depression was not significant (Baron & Kenny, 1986). It is unclear why a significant relationship was not present between these two variables in the present study. It may be due to the study's small sample size, or the low number of participants who scored in the clinically significant range on the BDI. Perhaps too few mothers were experiencing a significant amount of depressive cognitions in the present study, leading to an insignificant relationship between Positive Parenting and maternal depression.

Furthermore, when the relationship between maternal depression and each individual parenting dimension (Warmth, Rejection, Structure, Chaos, Autonomy Support, and Coercion) was tested, five out of six of these relationships were not found to be significant either. However, the individual parenting dimension of Chaos was significantly related to maternal depression, but when a mediating model was evaluated, there did not appear to be a significant mediating effect of Chaos. This is contrary to previous research that suggests that higher levels of maternal depression are linked to negative parental practices (Lagacé-Séguin & d'Entremont, 2006; Gelfand & Teti, 1990). These findings also contradict previous research that suggests that positive parental practices are linked to lower levels of maternal depression (Lyons-Ruth, Wolfe, Lyubchik, & Steingard, 2002). These findings again may be due to the low number of mothers who reported moderate to severe depressive symptoms.

Although most of the parenting dimensions could not be evaluated for their potential mediating effects due to these variables' relationships with maternal depression, the Negative Parenting dimension was found to be a mediator in the relationship between maternal depression and child maladjustment; thus, this hypothesis was supported. Negative Parenting was positively correlated with child maladjustment, and this relationship was marginally significant. After evaluating for potential mediating effects, it was found that Negative Parenting does appear to

mediate the relationship between maternal depression and child maladjustment. This is consistent with previous research that suggests that positive parental styles and attitudes mediate the relationship between maternal mental health problems and childhood behavior problems (Elgar et. al., 2007; Oyserman et. al., 2005; Kwok et. al., 2005).

This finding indicates that much of the negative effect that maternal depressive symptoms are having on child maladjustment can be explained by the presence of negative parental styles. In other words, a mother's depressive symptoms are acting within a context of Negative Parenting in order to affect a child's adjustment. Thus, it may be negative parental practices such as hostility, inconsistency and harsh parenting that are leading to emotional and behavioral problems in children, and not the direct effects of the mother's depressive symptoms. This finding is especially important for clinicians doing work with families in which the mother is depressed and the child is exhibiting signs of maladjustment (such as anger outbursts, social isolation, and poor academic performance). In these cases, it may be important to focus on a mother's parental style during treatment, as the child's adjustment issues may be partly a result of the mother's parenting rather than her depression.

Interestingly, when Externalizing, Internalizing, and Mixed behaviors from the Child Behavior Checklist 1 ½ to 5 were evaluated separately, Negative Parenting was found to mediate for Externalizing symptoms only. This indicates that maternal depression is acting within a context of Negative parental styles only to have an influence on Externalizing behavior problems in children. Perhaps, rather than coping with the negative parental styles by experiencing negative emotional states, the impact of harsh parenting styles leads children to express maladjustment outwardly in an attempt to receive proper care and affection from their mothers.

The present study also hypothesized that parental style would moderate the relationship between maternal depression and child maladjustment. Contrary to expectation was the finding that the Positive and Negative dimensions of parenting, as well as five out of the six individual dimensions of parenting proposed by Skinner, did not demonstrate a moderating effect. This contradicts prior research suggesting that a moderating effect of parental style does indeed exist in the relationship between maternal depression and the emotional and behavioral problems of children (Brennan, Le Brocque, & Hammen, 2003). This finding again may be due to the study's small sample size or the lack of variability among BDI scores.

Interestingly, the individual parenting dimension Warmth did significantly moderate the relationship between maternal depression and child maladjustment. This indicates that, as a mother's level of parental warmth increases, the strength of the relationship between maternal depression and child maladjustment decreases. In other words, the negative effect of maternal depression on a child's maladjustment decreases as parental warmth increases. This finding was consistent with research that indicated that parental warmth may serve as a buffer where a child's adjustment is concerned. Articles by McKee et. al. (2007) and Lau et. al. (2006) found that parental warmth buffered the effects of harsh discipline on child behavior problems. It is unclear why this particular parenting dimension demonstrated a significant moderating effect in the relationship between maternal depression and child maladjustment in the present study. It is perhaps a result of Warmth being more heavily represented on the Parents as Social Context Questionnaire than the other five dimensions (seven items, compared to 5—6 items for the other five dimensions).

Nonetheless, it is an interesting finding that Warmth was found to moderate the relationship between maternal depression and child maladjustment in the present study, indicating that the negative effect of a mother's depressive cognitions on the behavioral problems of her child varies

depending on her level of parental warmth. This raises the question of whether there may be two (or more) distinct ways of experiencing and expressing depressive cognitions: one that involves expressing warmth toward the child and one that does not. It could be that a mother whose depressive cognitions are characterized primarily by guilty or needy thoughts and feelings may be more likely to express warmth toward her child. Likewise, a mother who experiences depressive cognitions that are characterized by feelings of anger and isolation may not express warmth toward her child. This indicates that it may be useful to evaluate specific expressions of depressive cognitions when treating mothers struggling with depression. Also interesting was the finding that Warmth moderated the relationship between maternal depression and child maladjustment for Internalizing behavior problems only. Perhaps a depressed mother who expresses a high amount of parental warmth versus a low amount of parental warmth is more likely to have a child who feels more loved and cared for, and consequently feels less internal negative emotional states. This indicates that it may be important to focus on techniques for increasing parental expressions of love, affection, caring, and enjoyment (Skinner, Johnson, & Snyder, 2005) when treating a family in which the mother is depressed and a child is exhibiting signs of maladjustment.

Although a majority of the individual parenting dimensions exhibited no mediating or moderating effects when predicting total child maladjustment, two interesting findings arose with regards to the individual parenting dimension of Chaos when Externalizing, Internalizing, and Mixed symptoms were evaluated separately. It was found that the individual parenting dimension of Chaos mediates the relationship between maternal depression and Externalizing behavior problems, as well as the relationship between maternal depression and Mixed behavior problems. That is, maternal depression appears to be acting within a context of chaotic parenting to predict Externalizing and Mixed symptoms of child maladjustment. It is possible that a mother who is

depressed as well as highly chaotic in her parenting practices is more likely to have a child who mirrors this chaotic behavior, and thus exhibits more external or mixed behavior problems rather than purely internalizing negative symptoms.

It should also be noted that the models consisting of maternal depression as a main effect and either Positive or Negative parenting as main effects, as well as the models consisting of maternal depression as a main effect and the significant individual parenting dimensions (Warmth, Rejection, Structure, Chaos, and Autonomy Support) as main effects accounted for more variance in child maladjustment than a model consisting of only maternal depression or models consisting of only any of the parenting dimensions. The directions of all relationships were as expected, with Negative Parenting, Rejection, and Chaos being positively correlated with child maladjustment, and Positive Parenting, Warmth, Structure, and Autonomy Support being negatively correlated with child maladjustment. It is interesting that the presence of each variable in the model better accounts for child maladjustment than any of the variables by themselves.

It is not clear why maternal depression and parental style, with the exceptions of Negative Parenting and Warmth, did not appear to interact with one another to better predict child maladjustment in the present study, or why the parenting dimensions and maternal depression acting independently in the same model is better predictive of child maladjustment than any of them alone. It is possible that maternal depression and parental style are each interacting with another contributor of child maladjustment that went untested in the present study. Prior research has demonstrated that parental psychiatric illness (Howard, Thronicroft, Salmon, & Appleby, 2004; Oyserman, Bybee, Mowbray, & Hart-Johnson, 2005; Banyard, Williams, & Siegel, 2003), social factors (Metsäpelto & Pulkkinen, 2004; Campbell, Pierce, March, & Ewing, 1991), environmental factors (Howard et. al., 2004; Gutman, McLoyd, & Tokoyawa, 2005), and genetics (Knafo &

Plomin, 2006; Feinberg, Neiderhiser, Howe, & Hetherington, 2001) are all connected to negative parental practices and subsequent child adjustment issues. It is possible that one of these factors is interacting with either parental style or maternal depression to predict child maladjustment.

Variables to consider include maternal anxiety, maternal substance abuse, income, social support, siblings, and the school and/or neighborhood environment.

One final issue to discuss is parental consistency. A significant relationship was not found between parental consistency and maternal depression. Thus, a mediating effect of parental consistency could not be examined (Baron & Kenny, 1986). It is suspected that the low number of mothers that reported clinically significant depressive symptoms is again influencing this finding. However, a significant relationship was found between parental consistency and child maladjustment. This finding is consistent with prior research that indicates that parental consistency is a contributing factor in the emotional and behavioral problems of children. An article by Lindahl (1998) found that consistency in parenting was predictive of fewer symptoms of ADHD and Oppositional Defiant Disorder (ODD) in children. A lack of parental consistency has also been shown to contribute to a lack of socialization and judgment in children, contributing to adolescent delinquency (Ritvo, Shanok, & Lewis, 1983). Finally, an article by Frick, Christian, and Wooten found that parental consistency when disciplining a child was predictive of fewer conduct problems.

Interestingly, no significant moderating effect of parental consistency was found in the relationship between maternal depression and child maladjustment. However, the model composed of parental consistency and maternal depression was better predictive of child maladjustment than either parental consistency or maternal depression alone. Thus, although maternal depression and parental consistency are not interacting to predict child maladjustment, the model containing each variable acting independently is better predictive of child maladjustment than each alone. This is

another important point to consider for clinicians treating families with a depressed mother and a maladjusted child. Consistency in the mother's parenting may also be playing a role in the child's adjustment issues, and, thus, parental style should not be overlooked.

### Limitations

The most significant limitation in the present study is sample size. Only 33 mothers were recruited for the study due to a limited sampling area and the time and resources needed to complete the study. It is entirely possible that the hypotheses would have been supported and a significant mediating or moderating effect of variables besides simply Negative Parenting and Warmth would have been found if the study had a larger sample size.

Another crucial limitation involves the low number of participants who fell in the "moderate" and "severe" ranges on the Beck Depression Inventory, as well as the low number of participants who reported a clinically significant level of symptoms of child maladjustment for their children via the CBCL 1 ½ to 5. Only two participants scored within the "moderate" and "severe" ranges on the BDI, while the rest of the participants scored in the "mild" and "minimal" ranges. In addition, only one participant reported that her child was in the "borderline" clinical range on the CBCL 1 ½ to 5. Although there was some variability in depression and child maladjustment scores, it may be that there were not enough participants representing higher levels of depression and child maladjustment to demonstrate significant relationships between many of the variables.

### Directions for Further Research

It is important for further studies to continue to examine the relationship between maternal depression, parental style, and child maladjustment. It is possible that a larger sample size or a greater number of significantly depressed individuals would yield more significant mediating/moderating effects of parental style in this relationship. It is also possible that another

variable that was not tested in the present study was either mediating or moderating the relationship between maternal depression and child maladjustment. Factors such as other maternal mental disorders, social components, the environment, and genetics should be studied to examine their relationship with maternal depression, parental style, and child maladjustment.

Parental consistency and its relationship with maternal depression and child maladjustment should also continue to be studied. Again, it is possible that a larger sample size or increased variability in maternal depressive cognitions and child maladjustment would lead to a significant mediating or moderating effect of parental consistency in this relationship. It is again also possible that another variable that went untested in the present study is contributing to the relationship between maternal depression, parental consistency, and child maladjustment. It is important for further research to continue to examine the role of parental consistency, parental style, and other possibly significant factors in the relationship between maternal depression and child maladjustment.

The contributions of Negative Parenting and Warmth in the relationship between maternal depression and child maladjustment should also be further examined. It is unclear why Negative Parenting was the only significant mediator and Warmth was the only variable in the present study to be a significant moderator when predicting total child maladjustment. Further research should examine these relationships to attempt to determine if Negative Parenting does indeed have a significant mediating effect and if Warmth does indeed have a significant moderating effect in the relationship between a mother's depression and a child's maladjustment.

Finally, potential mediating/moderating effects of different parental variables in the relationship between maternal depression and Internalizing, Externalizing, and Mixed patterns of behavior should also be studied further. The present study found that breaking down the total CBCL

1 ½ to 5 total score into the Externalizing, Internalizing, and Mixed subscales influenced which variables would mediate or moderate the relationship between maternal depression and child maladjustment. Further research should continue to examine which parental variables play a role in different symptoms of child maladjustment.

### Conclusions

There appears to be a significant relationship between maternal depression and child maladjustment. There also appears to be a significant relationship between parental style and child maladjustment. The relationship between parental consistency and child maladjustment was also found to be significant. Furthermore, a model consisting of maternal depression and parental style, as well as a model consisting of maternal depression and parental consistency, appear to account for more variance in child maladjustment than any of these factors alone. Perhaps the most important findings were those indicating a mediating effect of Negative Parenting and a moderating effect of Warmth. This indicates that it may be useful to focus on both a mother's depression as well as a mother's parental tendencies when treating the emotional or behavioral problems of a child in a therapeutic setting. These factors as well as other potential contributors to a child's maladjustment should be considered when working with children and families. Perhaps targeting multiple sources of a child's maladaptive behaviors will lead to more effective therapeutic interventions.

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