THE ROLE OF CARETAKING IN CHILDREN OF MOTHERS WITH A HISTORY OF DEPRESSION

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CHAPTER I

INTRODUCTION

Depression is a major public health problem in the United States, particularly for women. According to data from the National Comorbidity Survey, Kessler and colleagues (1994) found that lifetime prevalence of any affective disorder is 23.9% among females, as compared to 14.7% among males. Moreover, parental depression has been found to be a significant risk factor for emotional and behavioral problems in children and adolescents (Goodman & Gotlib, 1999). Rates of depressive symptoms and disorders in children of depressed parents far exceed base rates in the population (e.g., Hammen, 2000; Weissman, Warner, & Fendrich, 1990). Furthermore, these children are also at increased risk for other internalizing disorders and externalizing problems (Anderson & Hammen, 1993).

Adolescence marks a period of significant increase in psychopathology across a wide range of disorders (e.g., depression, conduct disorder, eating disorders; Compas, 2004). It may be especially important to learn more about children of depressed parents as they move into adolescence since it marks a time of increased incidence in the development of psychopathology (Hankin et al., 1998). Given that adolescent offspring of depressed parents face an elevated risk for negative mental health outcomes, it is critical to examine the intergenerational mechanisms of transmission.

Mechanisms of Transmission

Goodman and Gotlib (1999) propose several likely mechanisms through which parental depression may affect offspring. These mechanisms include the heritability of depression; innate dysfunctional neuroregulatory mechanisms; exposure to negative maternal cognitions, behaviors, and affect; and the stressful context of children's lives. Being exposed to the negative cognitions, behaviors, and affect of depressed mothers creates a chronically stressful environment for offspring of these mothers which in turn has been associated with negative psychological consequences for these children. Specifically, parental withdrawal and parental intrusiveness are sources of stress for children of depressed parents and have been found to be predictive of increased levels of internalizing and externalizing symptoms in children of depressed parents (Langrock et al., 2002). The present study focused on two sources of risk for children whose parents have a history of depression: (a) stressful parent-child interactions, specifically those stressful interactions that result from symptoms of parental depression, and (b) the ways that children respond to and cope with these stressful interactions, specifically their engagement in caretaking behaviors in interactions with their parents.

Observational Studies

Direct observations of parent-child interactions have been demonstrated to be one of the most powerful methodologies to study the effects of parenting and stressful parent-child interactions on children whose parents have suffered from depression. Lovejoy and colleagues (2000) conducted a meta-analytic review of 46 observational studies of depressed mothers and their children. The results of this meta-analysis revealed

significant differences in interactive communication style in the depressed dyads as compared to the control dyads. Specifically, they found a moderate effect size for negative and disengaged maternal behaviors (d = .40, .29, respectively), with significantly more negative and disengaged maternal behaviors displayed in depressed mothers as compared to non-depressed mothers. A small effect (d = .16) was found for positive maternal behavior, with significantly less positive maternal behavior observed in depressed mothers relative to non-depressed mothers.

Most of the studies included in the Lovejoy et al. (2000) meta-analysis looked at the relationship between depressed mothers and their young children. In contrast, relatively little research has been conducted with older children and adolescents. Importantly, however, the few studies of older children and adolescents that have been conducted do show results that are consistent with those studies conducted using younger children. One such study found that depressed women were less likely to show happy or caring affect and more likely to exhibit dysphoric affect than non-depressed women (Hops et al., 1987) and another indicated that unipolar depressed mothers were more likely to display negative affect as compared to bipolar, medically ill, or control mothers (Hamilton, Jones, & Hammen, 1993). Overall, the data from multiple studies seem to support the hypothesis that depressed women will exhibit greater negative affect and less positive affect with their children as compared to non-depressed women. More specifically, research suggests that depressed mothers are more likely to display more negative parental behaviors (e.g., parental intrusiveness and parental withdrawal) as compared to control mothers (Cummings & Davies, 1994; Gelfand & Teti, 1990).

Although the majority of the research on children of depressed parents has focused on parents who are currently depressed, some research has been conducted looking at parents with a history of depression (but not currently in an episode of depression) as well. For example, Hammen, Brennan, and Shih (2004) found that adolescent children of mothers with current or past major depressive disorder or dysthymia experienced significantly greater levels of conflict and stress than children of never-depressed mothers. Additionally, Gordon, Burge, Hammen, and Adrian (1989) found that mothers' history of depression, current depressive symptoms, and chronic stress predicted mothers' negative remarks directed at their children. Therefore, these findings highlight the importance of examining the effects that having a parent with a history of depression has on children without confounding these effects with parents who meet criteria for current depression.

Behavioral Observation Coding Systems

Using direct observational methods allows researchers to study relationships between individuals, rather than simply separate characteristics of individuals (Kerig, 2001). A variety of coding systems have been used in previous studies of depressed mothers and their children, ranging from micro systems focusing in specific behavior sequences to macro or global systems that focus on larger units of behavior. Global coding systems are well suited for studying maternal depression in that they reflect the broader, more trait-like aspects of family members' behavior and the context in which they occur (Melby & Conger, 2001), rather than observing discrete behaviors in isolation as is often done in using a micro-system. Using direct observational methods also allows

researchers to obtain information independent of self- and other-reports and is unaffected by reporting biases that influence the reports of parents and children (Kerig, 2001). As such, combining behavioral observations with questionnaire data generates a more powerful measure of interaction style, as it is obtained using multiple methods and across multiple informants.

Caretaking

One important behavior to consider in offspring of depressed parents is the tendency to try to meet the emotional and tangible needs of a parent who suffers from depression. Caretaking in children has various definitions in the literature. The term "parental child" was coined by Minuchin et al. (1967) referring to children who assume parental responsibility in the home due to economic or social conditions. Broszormenyi-Nagy and Spark (1973) later defined a process of "parentification" in which the parent expects the child to fulfill a parental role within the family system. This construct has also been referred to as "role reversal" (Kabat, 1996) and "crossing generational boundaries" (Frances & Frances, 1976). Although several definitions exist, the central feature of caretaking in children is defined as taking on roles or responsibilities that would typically be considered parental roles. In other words, there is a role-reversal in which the child assumes responsibility for the care and well being of some other person, most often his/her parent. This construct has been examined across various samples in the literature (e.g., children of alcoholics, victims of sexual abuse, children of parental divorce, parents with a terminal illness) and several research groups have conducted reviews of this literature (Barnett & Parker, 1998; Chase, 1999; Jurkovic, 1997). No

known studies have examined the caretaking in offspring of depressed parents or looked at correlations between caretaking and adjustment in these at-risk youth.

Although this concept and its theoretical underpinnings have been described extensively, empirical research has been limited. Several studies have examined precursors to this process in which parents turn to their children for instrumental and emotional support. Some examples include mothers with a history of sexual abuse (Burkett, 1991), mothers of low socio-economic status (Sroufe et al., 1985), children of alcoholics (Bekir et al., 1993), and divorce (Jurkovic et al., 2001). Personality styles and characteristics that may predict caretaking have also been studied (Jones & Wells, 1996).

Even fewer studies have directly examined the effects of caretaking on children. A pattern of behavior in which children take on age-inappropriate caretaking roles has been observed in children of parents with terminal diseases, such as cancer and AIDS and has been associated with increased emotional distress (Grant & Compas, 1995; Stein et al., 1999). Johnston (1990) also found that "role reversal" predicted emotional and somatic problems in children of divorce.

While these studies provide an initial understanding of the effect of caretaking on children, further investigation is needed. Many of these studies have relied on the retrospective reconstruction and recall of childhood behavior to predict adult adjustment rather than studying caretaking behaviors and childhood adjustment concurrently. Another drawback is that much of this research has been limited to self-report questionnaires. The present study addressed both of these limitations by using both direct observation of caretaking behavior and studying it concurrently with adjustment.

The present study examined the effects of chronic stress associated with emotional and instrumental caretaking in a population of adolescents at risk for psychopathology by having a parent with a history of depression. Several problems have been found to be associated with parental depression, including parental intrusiveness, parental withdrawal, and marital discord (Gelfand & Teti, 1990). It is proposed that in the absence of stable parenting and the presence of unstable parenting (i.e., increased withdrawn and intrusive parenting and increased marital discord), children of parents with a history of depression will assume age-inappropriate caretaking behaviors. Thus, caretaking may serve as an important link in explaining the relationship between maternal depression and negative outcomes in children of parents with a history of depression.

Types of Caretaking. Caretaking behaviors have been distinguished on both qualitative and quantitative dimensions. For example, research by Stein and colleagues (1999) shows that the type of caretaking behavior is important to consider when examining the effects of caretaking on the mental health consequences in children. Their work suggests that taking on instrumental adult roles (e.g., doing laundry, dishes, helping watch siblings) does not predict negative consequences in children of parents with AIDS whereas taking on emotional spousal or parental roles (e.g., discussing financial issues, having a lot of influence in making important decisions) does predict negative mental health consequences. Given this potentially important distinction, Instrumental and Emotional Caretaking were treated as separate constructs in the present study.

Although both types of caretaking measure the extent to which the child takes care of the parent or takes on tasks or responsibilities that are age-inappropriate and

typically considered parental roles, Instrumental Caretaking includes taking on household responsibilities such as watching siblings or other family members, cleaning, doing dishes, preparing meals, or carrying out parental roles during an observed interaction in the laboratory (e.g., taking charge of the interaction, adjusting the parent's clothing, or correcting misbehavior). Examples of Instrumental Caretaking include a child having to forfeit spending time with friends in order to watch his younger sibling every weekend or giving practical advice to a parent, such as a child suggesting that her parent turns her cell phone off so that it won't interrupt the parent's work. Emotional Caretaking, on the other hand, focuses on how much the child takes care of the emotional needs of the parent or takes on an emotional burden that may be age-inappropriate. More specifically, Emotional Caretaking includes displaying knowledge of the parents' problems or difficulties that do not directly involve the child (e.g., emotional problems, financial difficulties, marital problems, or interpersonal difficulties), offering solutions for the parent's emotional problems, or taking responsibility for the parent's difficulties. Examples of Emotional Caretaking include the child telling his mother "I know your boss has been really hard on you lately, maybe you can set up a meeting with her to let her know how you feel or a child saying "Sometimes I feel like your fights with Dad are my fault."

Amount of Caretaking. In addition to the qualitative distinction between types of caretaking behaviors, there is an important quantitative distinction to consider in assessing the role of caretaking behaviors in children of depressed parents. It is expected that the amount a child engages in either type of caretaking behavior will be an important

predictor of outcome as well. Although moderate levels of caretaking behavior may be adaptive for children in some circumstances or to a certain degree, being placed in a caretaking role prematurely or engaging in excessive amounts of caretaking may function as a significant risk factor for these adolescents. That is, either caretaking type, in excess, is predicted to correlate with poor outcome in these children. Research shows that at low to moderate levels, caring appears to have protective effects; however, at high levels, there appears to be a cost of caring (Kessler & McLeod, 1984). It is this burden or cost of caring that may contribute to the development of psychopathology in these children.

The Burden of Caretaking

Research by Kessler and McLeod (1984) has shown that there is a "cost of caring" when caretaking behaviors become excessive or when the caretaker becomes overly involved with the well-being of a significant other. More generally, research on stress also suggests that there is an increased risk for persons facing multiple stressors as compared to those facing a smaller number of stressors (Grant et al, 2003). Following that logic, caretaking may serve as a risk factor to children of depressed parents because it is "the straw that breaks the camel's back." That is, caretaking is an additional burden to these children who are already overloaded with so many other demands (e.g., stress of living with a depressed parent, school stress) that their capacity to cope with the additional emotional effects of caretaking break down (Wethington, McLeod, & Kessler, 1987).

The developmental period of adolescence further increases this burden because involvement in caretaking behaviors comes at a developmentally inappropriate time.

Developmentally, adolescents may be lacking the cognitive and social skills needed to be an effective caretaker and as such may not be able to effectively handle or cope with their role as caretaker. Moreover, normative development is for the adolescent to move away from the family group and become more independent and increased caretaking within the family may conflict with typical milestones of development (e.g., school achievement, relationships with friends, increased autonomy; Grant & Compas, 1995).

It was also expected that gender differences would be found in caretaking behavior as girls are more likely to be affected emotionally by the stressful experiences of the people they care about (Wethington, McLeod, & Kessler, 1987). Wethington et al. argued that the gender difference in level of stress could be explained by the amount of network stress (i.e., stress of loved ones) the individual reported. Other research shows that girls are not only more likely to be affected by the stress that their loved ones experience, but that they are also more likely than boys to take on nurturing roles (Grant & Compas, 1995).

Models for explaining the role of Caretaking in Children of Depressed Parents

Caretaking may be related to the adjustment of children of depressed parents in several ways, including mediated and independent models.

Mediation Model. Caretaking may serve as an important mediator in explaining the link between maternal depression and negative outcomes in children of depressed parents. Baron and Kenny (1986) define a mediator as a variable that "accounts for the relation between the predictor and the criterion." Again, the predictor is parental

depression and the criterion is problematic child behavior (i.e., internalizing and externalizing symptoms). In this case, caretaking is hypothesized as a mediator of the relation between parental depression and children's emotional and behavioral problems. The model for mediation depicts a "causal" chain. As explained by Baron and Kenny this model assumes a three-variable system with two causal paths feeding into the outcome variable: the direct impact of parental depression (path c) and the impact of the mediator, caretaking (path b) on problematic child behavior. There is also a path from the parental depression to caretaking (path a). If caretaking does function as a mediator it is expected that the following conditions will be met: (1) variations in levels of parental depression significantly account for variations in caretaking behaviors, (2) variations in caretaking behaviors significantly account for variations in problematic child behavior, and (3) when paths *a* and *b* are controlled, a previously significant relation between parental depression and problematic child behavior is no longer significant, with the strongest demonstration of mediation occurring when path *c* is reduced to zero. However, because it is expected that there are multiple causal pathways that can explain the link between parental depression and negative psychological outcomes in their children, it is expected that path *c* will be significantly reduced but not eliminated completely and therefore should be considered partial mediation. If the criteria for mediation are met that would suggest that caretaking is one possible mechanism to explain the link between parental depression and the development of anxiety and depression offspring of parents with a history of depression.

Independent Effects Model. Caretaking may instead serve as a unique, independent risk factor for children of depressed parents. Kraemer et al. (2003) define independent risk factors as predictor variables that are uncorrelated that simultaneously predict outcome. Because the association between parental depression and caretaking has not been tested in prior research, it is important to consider this model if the criteria for mediation are not met.

Summary and Hypotheses

This study examines the effects of caretaking, an additional burden that many of children of depressed parents may carry, on children's psychological adjustment. The specific hypotheses are:

1. Children of mothers with a history of depression will show increased caretaking behavior as measured by emotional caretaking and instrumental caretaking compared to children of mothers without a history of depression in their interactions with their parents.
2. Caretaking behavior will be positively associated with negative parenting as measured by mothers' self reports of hostile/intrusive and withdrawn parenting.
3. Daughters of mothers with a history of depression will display more emotional and instrumental caretaking behavior as compared to sons of mothers with a history of depression.
4. Children of mothers with a history of depression will have higher rates of internalizing symptoms (as reported by both parent and child self-report) than children of mothers without a history of depression.

5. Differences in internalizing symptoms between children of mothers with and without a history or depression will be accounted for by their level of emotional and instrumental caretaking.

CHAPTER II

METHOD

Participants

The sample consisted of 71 women (34 with a history of depression and 37 with no history of depression) and their adolescent children (36 girls and 35 boys; mean age 12.3; *SD* = 1.07; range 10 to 14 years old) from Nashville, TN. Mothers with a history of depression were recruited from the roster of a completed study conducted by Richard Shelton, M.D. at the Department of Psychiatry at Vanderbilt University, as well as through an email advertisement of the study at the Vanderbilt University Medical Center. Mothers without a history of depression were recruited through the same email advertisement. Attempts were made to achieve group-level matching for mothers with and without a history of depression in terms of SES, ethnicity, age and gender of child, and marital status. When mothers had multiple children in the desired age range, one child was randomly selected by the researcher to participate. The children, who ranged in age from 11-14, represent early adolescents according to Lerner and Steinberg's (2004) definition of adolescence as the second decade of life. This developmental period is also associated with increasing rates for depression, as well as increasingly stressful parent-child interactions (Hankin & Abramson, 2001).

Out of the 115 women who were screened, 36 did not participate. Among those who did not participate, seven women were not eligible because they were currently experiencing an episode of depression, and six women were not eligible because they had

another principle DSM-IV diagnosis (four reported anxiety disorders and one reported an eating disorder). In addition, 16 of the eligible families failed to show for a scheduled appointment, and seven families who were eligible were not interested in participating. Seventy-nine families participated in the study, but seven families were excluded from the current sample due to substantial missing data (they either did not complete the questionnaires or they failed to complete the interaction) and one family was excluded when it became evident that the child did not live with his mother. Thus, the final sample consists of 71 mother-adolescent dyads.

Mothers' mean age was 41.4 (*SD* = 7.14) and median mothers' education was 16 years (i.e., completion of a 4 year college degree). The sample was 83% Caucasian, 13% African American, 3% Asian-American, and 1% Other, which is representative of the region in which the study was conducted. Of the mothers in the study, 69% were married, 27% were divorced, and 4% were single. Mothers did not differ by group on age, race, education, or marital status. Children's mean age was 12.3 (SD = 1.06), with 45.9% female. Children of mothers with and without a history of depression did not differ on age or gender. Means, standard deviations, and percentages by group (mothers with and without a history of depression) are reported in Table 1. Of the mothers with a history of depression, time since last episode ranged from 1 to 120 months, with a mean of 31 months. The number of depressive symptoms endorsed for the last episode ranged from 5 to 9, with a mean of 6.9. Seventy-four percent of the women with a history of depression (n = 26) reported taking medication for their depression, and 34% (n = 12) reported receiving counseling.

Table 1. *Demographic information on families of mothers with and without a history of depression.*

	History of Depression (N = 34)		No History of Depression (N = 37)		Significance tests
	Mean	SD	Mean	SD	
Child's Age	12.26	1.16	12.32	.97	t (69) = .24, p = .82
Mother's Age	41.88	5.53	40.92	8.40	t (69) = -.57, p = .57
Mother's Education	4.65	1.32	4.68	1.29	t (69) = .09, p = .93
Child's Gender	56% female (n = 19)		46 % female (n = 17)		χ^2 (1, N = 71) = .70, p = .40
Mother's Marital Status	64.7 % intact (n = 22)		73% intact (n = 27)		χ^2 (1, N = 71) = .57, p = .45
Mother's Race	79.4 % Caucasian (n = 27)		86.5 % Caucasian (n = 32)		χ^2 (1, N = 71) = .63, p = .43

Procedure

Mothers were interviewed by telephone using the affective disorders section of the SCID I/P (First et al., 2001) in order to determine eligibility. Mothers who met full criteria for at least one past episode of Major Depressive Disorder or Dysthymia during the lifetime of her 11-14 year old adolescent child as well as women without a history of depression were eligible to participate. In order to examine the effects of a history of maternal depression on these offspring without the confounding effects of a current depressive episode, mothers who met criteria for a current episode of depression were excluded. Mothers with a history of depression were also screened for and excluded if they met criteria for any other current, primary Axis-I disorder that served as their principal diagnosis. Women without a history of depression were excluded if they had experienced any Axis I disorder during the lifetime of the child. This method of

diagnostic phone screening has been successful in recruiting depressed parents in previous research (e.g., Langrock et al., 2002). Upon enrollment in the study, participants were asked to complete questionnaires and participate in a videotaped interaction. All participants provided informed consent before participating in any part of the study and received $25 monetary compensation for their participation.

Upon arriving at Jesup Hall at Peabody College, families completed the battery of questionnaires. Mothers' questionnaires include demographic information, a measure of their current depressive symptoms, and a measure of their child's functioning. Adolescents' questionnaires included a measure of their own functioning. Additionally, mothers and their adolescents were asked to identify stressful interactions that occur in their family by completing a standardized checklist. The 12 items on the list were taken from the parental depression version of the Responses to Stress Questionnaire (Connor-Smith et al., 2000; Langrock et al., 2002). These items were chosen because they reflect areas of parent behavior previous research has shown to be affected by parental depression: parental withdrawal, parental intrusiveness, and marital conflict (e.g., Cummings & Davies, 1994; Gelfand & Teti, 1990; Hammen et al., 2004). The specific items for parental withdrawal include: "My mom does not want to spend as much time with me as I would like," "My mom does not want to do things with the family," "My mom does not listen to me, or pay attention to events in my life," and "My mom seems to be sad or cries a lot of the time;" for parental intrusiveness: "My mom is too upset, tense, grouchy, angry, and easily frustrated," "I am not sure how my mom will react when I ask her for something," "Sometimes I feel responsible for the way my mom feels," and "My mom worries too much that bad things might happen to me;" and for parental conflict: "I

see my parents get angry with each other," "My parents do not talk to each other," "My parents shout at each other," and "My parents say mean things to each other." Although these items were chosen to reflect stressors associated with living with a depressed parent, many of them generalize to families without depression. The experimenter determined a common stressor by comparing the top three stressors ranked by the mother and child.

After completing questionnaires, participants participated in a 15-minute videotaped interaction in which they discussed the source of stress selected based on their pooled responses to the stress checklist described above. The experimenter provided the family with a cue card that listed several standardized questions to prompt discussion on this topic (e.g., What happened the last time [Mom was upset or tense]? When [Mom gets upset or tense,] what usually happens? What kind of feelings or emotions do we usually have when [Mom is upset or tense]? What can we do to reduce this stress?). After 15-minutes, the experimenter returned and turned off the camera.

Upon completion of the interaction and all questionnaires, mothers and their adolescents were debriefed. At that time they were given an opportunity to discuss what happened during the procedure, what feelings or thoughts about depression may have surfaced, and how each participant felt about the discussion. Participants were informed that they could call the project coordinator or the primary investigator if any questions or concerns were to arise.

Measures

Interviews for Maternal Diagnosis. Maternal diagnosis was determined by the screening interview, which was used to assess symptoms of Major Depressive Disorder (MDD) and Dysthymia (DYS) using rules for deriving diagnoses using the MDD and DYS sections of the Structured Clinical Diagnostic Interview (SCID; First et al., 2001). This screening interview was used regardless of the source/method of recruitment, allowing us to determine which women met the criteria of Major Depressive Disorder during the life of the child and to rule out women who were currently in episode, who met the criteria for bipolar disorder or psychotic symptoms, or who reported another primary Axis I disorder that they considered more serious than their depression.

Questionnaires

Demographics. Demographic information was obtained from the mother in a questionnaire asking for her birth date and the birth date of her child, parents' levels of education, parents' occupation, ethnicity, and marital/partner status.

Maternal Depressive Symptoms. The Beck Depression Inventory II (BDI-II, Beck, Steer, & Brown, 1996) was administered to all of the women, regardless of diagnostic history, to determine current levels of depressive symptoms. The BDI-II has been widely used to assess the typical attitudes and symptoms presented by depressed individuals. The BDI has been shown to have excellent reliability, with internal

consistency of α = .91 and test-retest reliability of *r* = .93 (Beck, Steer, Ball, & Ranieri, 1996).

Stress Related to Parent Behaviors. The parental depression version of the Responses to Stress Questionnaire (Connor-Smith et al., 2000; Langrock et al., 2002) was used to assess how often in the last six months adolescents were exposed to stressors related to parent behaviors associated with depression. Twelve stressful events were selected to provide examples of three areas which research has shown to be affected by parental depression: marital conflict, parental withdrawal (or disengagement) and parental intrusiveness. Prior research with this measure has found adequate internal consistency (Chronbach's alphas ranged from ∝ = .49 to .67) and good test-retest reliability over a 3 month period (*r*'s ranged from .57 to .80, all $p < .01$) (Jaser et al., 2005). Based on previous analyses that indicated the marital conflict items were not related to child adjustment, these items were dropped from the present analyses (Langrock et al., 2002).

Children's Emotional and Behavioral Problems. The Child Behavior Checklist (CBCL, Achenbach, 1991) was given to the mother for her perception of the child's internalizing and externalizing problems over the past six months. Adolescents completed the Youth Self Report (YSR, Achenbach, 1991) to provide their own perceptions of their functioning. The Achenbach System of Empirically Based Assessment has strong test-retest reliability (.79-.95), and criterion-related validity has been established, as referred young adults consistently score significantly higher than

non-referred young adults on problem scales (Achenbach & Rescorla, 2001). The scales are based on factor analyses of data from 4,994 clinically referred children and were normed on 1,753 children from a nationally representative sample. Normalized t scores allow an individual's data to be compared to norms for the same age and sex in the general population. *T* scores of greater than or equal to 65 ($\geq 93^{rd}$ percentile) for narrow-band scales (e.g., anxiety/depression, aggression), and *T* Scores of greater than or equal to 60 ($\geq 84^{th}$ percentile) for Broadband Scales (internalizing and externalizing problems) are in the borderline clinical range. *T* scores of greater than 69 ($> 97^{th}$ percentile) for narrow-band scales and greater than 63 ($> 90^{th}$ percentile) for Broadband Scales are in the clinical range. These cutoffs are based on scores that best differentiate referred versus non-referred children and adolescents (Achenbach & Rescorla, 2001). The anxiety/depression scale was used in the current analyses as the best representation of adolescents' internalizing symptoms.

Observed Behaviors from Parent-Child Interaction Task. Direct observations of parent-child interactions were used in the present study as a means to sample the stressful context that characterizes families struggling with depression and the way children react to this stress in their lives. A global coding system (Iowa Family Interaction Rating Scales (IFIRS); Melby, Conger et al., 1998) was used to code a videotaped 15-minute conversation about a stressful topic between mothers and their children. IFIRS is a global coding system designed to measure behavioral and emotional characteristics at both the individual and dyadic level. This macro-level system is ideal for assessing patterns of behavior that comprise the ongoing, dynamic process of interaction (Melby &

Conger, 2001). The validity of the IFIRS system as been well established using correlational and confirmatory factor analyses (Kashy & Kenny, 1990).

Behaviors are coded on two general types of scales: Individual Characteristic Scales and Dyadic Interaction Scales. Each behavioral code is rated on a 9 point scale, ranging from 1 which indicates that the behavior is "not at all characteristic" of the subject during the interaction to a 9 which indicates that the behavior is "mainly characteristic." In determining the score for each code, frequency and intensity of behavior, as well as the contextual and affective nature of the behavior are considered. The Individual Characteristic scales measure each participant's expression of specific behaviors, regardless of the other interactor, whereas the Dyadic Interaction Scales measure the behavior of each participant toward the other interactor. Additionally, several Parenting Codes, a type of dyadic scale, were used to assess the mother's observed and reported childrearing behaviors displayed and/or discussed during the interaction.

For this study, two additional dyadic codes, Emotional Caretaking and Instrumental Caretaking, were developed based on the guidelines of the IFIRS manual to provide a measure of adolescent's observed and reported age-inappropriate caretaking behaviors displayed during the interaction. Extensive research of the literature was conducted in order to develop appropriate definitions for these constructs. Additionally, the team of four raters each achieved scores within one point of the primary coder before coding independently.

Instrumental and Emotional Caretaking were defined as follows. The Instrumental Caretaking scale measures the extent to which the child takes care of the

parent or takes on tasks or responsibilities that are age-inappropriate and typically considered parental roles. It includes taking on household responsibilities such as watching siblings or other family members, cleaning, doing dishes, preparing meals, etc or carrying out parental roles during the interaction (e.g., taking charge of the interaction, adjusting the parent's clothing, or correcting misbehavior). At high levels, the child may seem very mature for his/her age. The child may seem very mature for his/her age.

The Emotional Caretaking scale measures the extent to which the child takes care of the emotional needs of the parent or takes on an emotional burden that may, especially at high levels, be age-inappropriate. At lower levels, the child may display knowledge of the parents' problems or difficulties (e.g., emotional symptoms, financial difficulties, marital problems, or interpersonal difficulties). At higher levels, the child may offer solutions for the parent's emotional problems or take responsibility for the parent's difficulties and may seem overly mature for his/her age. Both codes will be scored for frequency and severity using a 9 point scale as are all other codes within IFIRS system (see Tables 2 and 3 for a complete description of the Instrumental and Emotional Caretaking Codes).

Training for the IFIRS consisted of in-depth studying of the manual, a written test of the scale definitions, and coding conventions. Successful completion of training consisted of passing a written test with at least 90% correct, and achieving at least 80% reliability. Raters remained blind to the diagnostic status of the mother and independently code the interactions. Weekly training meetings were also held in order to prevent coder drift and to provide a forum in which questions about the different codes may be addressed. All interactions were double-coded by two independent observers. In

the case that inter-rater reliability was below 80%, coders met to establish consensus on any discrepant codes (i.e., greater than two steps apart). Average measure intraclass correlations were run to test the inter-rater reliability between the primary and reliability coder scores for caretaking behaviors. Rating for both emotional and instrumental caretaking showed strong inter-rater reliability (.89, $p < .001$; .81, $p < .001$, respectively).

Table 2. Instrumental Caretaking Code

INSTRUMENTAL CARETAKING (IC)
Rate: Child (Dyadic)

This scale measures the extent to which the child takes care of the parent or takes on tasks or responsibilities that are age-inappropriate and typically considered parental roles. It includes taking on household responsibilities such as watching siblings or other family members, cleaning, doing dishes, preparing meals, etc or carrying out parental roles during the interaction (e.g., taking charge of the interaction, adjusting the parent's clothing, or correcting misbehavior). At high levels, the child may seem very mature for his/her age.

1 = Not at all characteristic:
The focal displays no signs of instrumental caretaking behavior. The child does not take on any tasks or responsibilities for any parental roles.
2 =
3 = Minimally characteristic:
The focal rarely displays instrumental caretaking behavior. Although he/she may show some evidence of taking on parental roles, these behaviors are of short duration, are generally of low intensity, and disappear quickly.
4 =
5 = Somewhat characteristic:
The focal sometimes displays instrumental caretaking behavior. He/she sometimes takes on parental responsibilities. Such behaviors are of low to moderate intensity.
6 =
7 = Moderately characteristic:
The focal fairly often shows signs of taking on parental roles that are more intense. The child may seem exceptionally mature for his/her age, or take on age-inappropriate tasks. These behaviors sometimes interfere with normal, age-appropriate activities.
8 =
9 = Mainly characteristic:
The focal frequently takes on tasks or responsibilities instead of the parent. He/she frequently shows signs of taking on parental roles that are more intense. These behaviors often interfere with normal, age-appropriate activities.

Clarifications: **Instrumental Caretaking**

1. **Instrumental Caretaking** scores may be based on information reported during the family discussion about the child's behavior toward the parent (including both parent and child report), as well as on behavior actually observed during the interaction task (observation). Whether based on observation or report, the evidence must be actual behavior vs. assumptions about behaviors or causes of the behaviors.
2. If the child takes charge of the interaction (e.g. reading the questions from the card, coming up with the solutions, asking the parent questions) that may be coded as **Instrumental Caretaking**.
3. Chores and responsibilities that do not seem appropriate for the child's age, especially chores that a parent would typically do (e.g., taking care of younger siblings; preparing meals, painting kitchen). Age-appropriate chores (e.g., cleaning own room) should not be counted.
4. The child may show signs of parenting the adult, such as telling the parent when to go to bed, when to stop working, suggesting changes in unhealthy behaviors, or correcting misbehavior.
5. Statements that are classified as **Prosocial** or **Warmth/Support** may also be **Instrumental Caretaking** if they involve the child taking over parental responsibilities.
6. Statements that are classified as **Hostile** or **Antisocial** may also be **Instrumental Caretaking** if they involve age inappropriate knowledge or behaviors.
7. To score a '7' or above on **Instrumental Caretaking**, the child's caretaking behavior must interfere with normal, age-appropriate activities (e.g., giving up going out with friends or taking part in extra-curricular activities).
8. A score on **Instrumental Caretaking** does not preclude a score on **Emotional Caretaking.** If caretaking behavior includes an emotional element, also code as **Emotional Caretaking**.

Examples: **Instrumental Caretaking**

1. 11-year old child baby-sits her younger sisters every weekend.
2. Teenage boy paints the kitchen on a Friday night for his mother.
3. Child has to do more than fair share of the work (e.g., takes on another family member's chores).
4. Child takes charge of the conversation by reading the questions from the card, coming up with solutions, or asking the parent questions.
5. Child adjusts the parent's collar.
6. Child suggests that the parent turns his/her cell phone off so that it won't interrupt the interaction.
7. Child reprimands the parent for interrupting or other misbehavior during the task.

Nonexamples: **Instrumental Caretaking**

1. Whining and complaining about age-appropriate tasks (**Antisocial**).
2. Refusing to comply with the parent's wishes (**Antisocial**).
3. Child comforts upset parent (**Emotional Caretaking**).
4. Fidgeting with cue card (**Anxiety**).

Table 3. Emotional Caretaking Code

EMOTIONAL CARETAKING-(EC)
Rate: Child (Dyadic)

This scale measures the extent to which the child takes care of the emotional needs of the parent or takes on an emotional burden that may, especially at high levels, be age-inappropriate. At lower levels, the child may display knowledge of the parents' problems or difficulties (e.g., emotional symptoms, financial difficulties, marital problems, or interpersonal difficulties). At higher levels, the child may offer solutions for the parent's emotional problems or take responsibility for the parent's difficulties and may seem overly mature for his/her age.

1 = Not at all characteristic:
The focal displays no signs of emotional caretaking behavior. The child does not display knowledge of the parents' personal problems or take responsibility for any of the parent's problems.
2 =
3 = Minimally characteristic:
The focal displays low-level emotional caretaking behavior. He/she may demonstrate an awareness of the parent's problems or difficulties or offer a generic solution to a parent's problem. The solution may be in the child's best interest or the intention of the solution is ambiguous.
4 =
5 = Somewhat characteristic:
The focal displays moderate-level emotional caretaking behavior. He/she sometimes takes responsibility for the parent's emotional problems or shows other signs of taking care of the parent. The child may show evidence of taking care of the emotional needs of the parent, these behaviors are of short duration, are generally of low intensity, are appropriate for the context, and disappear quickly. The child may offer a specific solution to the parent's problems or difficulties or take responsibility for these problems. If suggesting a solution, it may be mutually beneficial, but should at least partially have the parent's interests in mind.
6 =
7 = Moderately characteristic:
The focal fairly often shows signs of taking care of the parent, solving problems for the parent, or taking responsibility for the parent's emotional problems that are more intense. There should be evidence that the Caretaking behaviors are done in the best interests of the parent in mind. The child may offer a specific solution to the parent's problems or difficulties or take responsibility for the parent's problems in order to ease the burden on the parent. The child may seem overly mature for his/her age.
8 =
9 = Mainly characteristic:
The focal frequently demonstrates heightened awareness of the parent's emotional problems and actively takes care of the parent, solves the parent's problems or takes responsibility for these difficulties. The solutions or behaviors are altruistic in nature and may interfere with normal, age-appropriate activities. The child should seem overly mature for his/her age.

Clarifications: **Emotional Caretaking**

1. **Emotional Caretaking** scores may be based on information reported during the family discussion about the child's behavior toward the parent (including both parent and child report), as well as on behavior actually observed during the interaction task (observation). Whether based on observation or report, the evidence must be actual behavior vs. assumptions about behaviors or causes of the behavior.
2. Knowledge of a parent's problems or difficulties (e.g., emotional symptoms, financial difficulties, marital problems, or interpersonal difficulties) may be coded as **Emotional Caretaking.** A simple awareness of the parent's daily routine or preferences (e.g., names of parent's friends or coworkers, food likes/dislikes) should not be counted.
3. Statements that are classified as **Prosocial** or **Warmth/Support** may also be **Caretaking** if they involve the child taking responsibility for the parent or providing solutions for the parent's problems.
4. Statements that are classified as **Hostile** or **Antisocial** may also be **Caretaking** if they involve age inappropriate knowledge or behaviors.
5. The child may suggest ways for the parent to feel better, or taking the blame for the parent's problems.
6. Emotional touching (i.e., backrub, giving the parent a tissue, rubbing the parent's arm or hand) in an effort to soothe the parent should be coded as **Emotional Caretaking.**
7. The child may solve problems for other people in his/her family or act like a referee.
8. Child may take the blame for problems in the family that are not his/her responsibility (i.e., parent's depression, parental conflict, siblings fighting).
9. To score a '5' or above on **Emotional Caretaking**, the child must be actively caring for the parent (e.g., emotional touching to soothe the parent), suggesting solutions for parent's problems or taking responsibilities for these difficulties, not simply displaying awareness of them.
10. To score a '7' or above on **Emotional Caretaking**, there may be evidence that the child's caretaking behaviors are done with the best interests of the parent in mind.
11. At the highest level, a score of '9' there should be evidence that the **Emotional Caretaking** behaviors are altruistic in nature ((i.e., the child sacrifices own needs for the good of the parent) and may interfere with normal, age-appropriate activities (e.g., giving up going out with friends or taking on extra-curricular activities).
12. If caretaking behavior does not include an emotional element, it should be coded as **Instrumental Caretaking**.
13. A score on **Emotional Caretaking** does not preclude a score on **Instrumental Caretaking.**

Examples: **Emotional Caretaking**

1. "You pay the bills, and Dad spends money on clothes, and that's not fair."
2. Child gets up to turn off the camera when his mother starts crying.
3. "Maybe if you went to bed earlier, you would feel better."
4. Child rubs parent's arm to comfort parent when he/she is upset.
5. Child gets/takes the blame for most of what happens in the family
6. "I know your boss has been really hard on you lately, maybe you can set up a meeting with him to let him know how you feel."
7. "Sometimes I feel like your fights with Dad are my fault."

Nonexamples: **Emotional Caretaking**

1. Whining and complaining about age-appropriate tasks (**Antisocial**).
2. Refusing to comply with the parent's wishes (**Antisocial**).
3. Child prepares dinner daily for the family (**Instrumental Caretaking**).

Data Analyses

Demographic and Clinical Characteristics. Demographic characteristics of the sample by group are presented in Table 1. Importantly, the two groups (mothers with and without a history of depression) did not differ with respect to mother's age, t (69) = -.57, $p = .57$, education, t (69) = .09, $p = .93$; marital status, χ^2 (1, $N = 71$) = .57, $p = .45$; or race, χ^2 (1, $N = 71$) = .63, $p = .43$. The groups also did not differ with respect to child's age, t (69) = .24, $p = .82$, or gender χ^2 (1, $N = 71$) = .70, $p = .40$. Clinical characteristics (i.e., Means and SDs for maternal depressive symptoms, maternal intrusiveness and withdrawal, caretaking, and adolescent adjustment) of the sample by group are presented in Table 4.

Table 4. *Differences in predictor variables (Current Maternal Depressive Symptoms, Mothers' Self-reported Negative Parenting, and Observed Child Caretaking) and outcome variables in families with and without a history of depression.*

	History of Depression (N = 34)		No History of Depression (N = 37)		Significance Tests
	Mean	SD	Mean	SD	
Mom self-report of depressive symptoms (BDI)	13.03	10.48	5.94	6.46	t (54) = -3.40, $p = .00$
Mom Report Hostile Parenting	4.12	2.13	3.89	1.84	t (69) = -.66, $p = .51$
Mom Report Withdrawn Parenting	3.47	1.86	2.38	1.44	t (69) = -3.27, $p = .00$
Observed Emotional Caretaking	3.88	1.39	3.81	1.82	t (69) = -.19, $p = .85$
Observed Instrumental Caretaking	3.97	1.45	3.46	1.64	t (69) = -1.39, $p = .17$
CBCL anxiety/depression T score	58.68	9.84	54.19	4.98	t (48.25) = -2.79, $p = .01$
YSR anxiety/depression T score	57.27	6.69	54.25	5.35	t (67) = -2.61, $p = .01$

Analysis of Variance. To test for main effects for maternal diagnostic history and child gender and for an interaction of maternal diagnostic history x child gender, a 2 X 2 multivariate analysis of variance was conducted with emotional and instrumental caretaking as the dependent variables and maternal history of depression and child gender as the independent variables. Planned comparisons were used to test these main effects as well as the interaction (see Table 5).

Table 5. *Levels of caretaking behaviors in families with and without a history of depression divided by child gender.*

	History of Depression (N = 34)				No History of Depression (N = 37)			
	Emotional Caretaking		Instrumental Caretaking		Emotional Caretaking		Instrumental Caretaking	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Females (N = 36)	3.74 (N = 19)	1.45	3.84 (N = 19)	1.68	3.82 (N = 17)	2.24	3.53 (N = 17)	1.81
Males (N = 35)	4.07 (N = 15)	1.34	4.13 (N = 15)	1.13	3.80 (N = 20)	1.44	3.40 (N = 20)	1.54

Correlational Analyses. Bivariate Pearson correlations were conducted as a first step in examining relationships among variables for observed caretaking, mothers' self-reported depressive symptoms and parenting behaviors, and mother- and adolescent self-reports on adolescent adjustment. These included the correlations between the mothers' current depressive symptoms on the BDI-II and her self-reports of hostile/intrusive and withdrawn parenting behaviors on the RSQ with ratings of observed Instrumental and Emotional Caretaking (see Table 6). In addition, the relationships between these

predictor variables and outcome as measured by adolescents' self-reported and parent-reported symptoms on the CBCL and YSR were examined (see Table 7).

Table 6. *Correlations among Current Maternal Depressive Symptoms, Negative Parenting, and Observed Child Caretaking.*

	1.	2.	3.	4.	5.
1. Mom Self-Report of Depressive Symptoms (BDI)		.46***	.50***	-.06	.07
2. Mom Report Hostile Parenting			.45***	-.17	.00
3. Mom Report Withdrawn Parenting				.12	.34**
4. Observed Emotional Caretaking					.69***
5. Observed Instrumental Caretaking					

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

Table 7. *Correlations between Current Maternal Depressive Symptoms, Negative Parenting, Observed Child Caretaking, and Adolescent Adjustment*

	CBCL Anx/Dep	YSR Anx/Dep
Mom self-report of depressive symptoms (BDI)	.33**	.25*
Mom report of Hostile Parenting	.40**	.16
Mom report Withdrawn Parenting	.44***	.41***
Observed Emotional Caretaking	-.20+	.28*
Observed Instrumental Caretaking	-.04	.29*

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

Multiple Regression Analyses. To test for mediation a series of linear multiple regressions were conducted with the adolescents' CBCL and YSR scores on the Anxiety/Depression scales as the dependent variables, and mothers' BDI-II scores, withdrawn and intrusive parenting, and Instrumental and Emotional Caretaking as predictor variable (see Table 8).

Table 8. *Regression Equations Predicting Adolescents' Adjustment from Maternal Depressive Symptoms, Withdrawn Parenting, and Observed Caretaking Behaviors.*

Model 1 – CBCL Anxiety/Depression

Equation 1	BDI	F (1,68) = 8.14, p = .01	β = .33	sr^2 = .11	p = .01
Equation 2	BDI	F (2,67) = 8.63, p = .00	β = .15	sr^2 = .02	p = .26
	Withdrawn Parenting		β = .36	sr^2 = .10	p = .01
Equation 3a	BDI	F (3,66) = 6.87, p = .00	β = .12	sr^2 = .01	p = .34
	Withdrawn Parenting		β = .44	sr^2 = .13	p = .00
	IC		β = -.19	sr^2 = .03	p = .10
Equation 3b	BDI	F (3,66) = 7.79, p = .00	β = .11	sr^2 = .01	p = .36
	Withdrawn Parenting		β = .40	sr^2 = .12	p = .00
	EC		β = -.24	sr^2 = .06	p = .03
Equation 4	BDI	F (4,65) = 5.77, p = .00	β = .11	sr^2 = .01	p = .37
	Withdrawn Parenting		β = .41	sr^2 = .11	p = .00
	IC		β = -.04	sr^2 = .00	p = .82
	EC		β = -.22	sr^2 = .02	p = .15

Model 2 – YSR Anxiety/Depression

Equation 1	BDI	F (1,67) = 4.50, p = .04	β = .25	sr^2 = .06	p = .04
Equation 2	BDI	F (2,66) = 6.87, p = .00	β = .07	sr^2 = .00	p = .57
	Withdrawn Parenting		β = .38	sr^2 = .11	p = .00
Equation 3a	BDI	F (3,65) = 5.41, p = .00	β = .10	sr^2 = .01	p = .44
	Withdrawn Parenting		β = .30	sr^2 = .06	p = .03
	IC		β = .18	sr^2 = .03	p = .14
Equation 3b	BDI	F (3,65) = 6.22, p = .00	β = .11	sr^2 = .01	p = .40
	Withdrawn Parenting		β = .32	sr^2 = .08	p = .01
	EC		β = .23	sr^2 = .05	p = .04
Equation 4	BDI	F (4,64) = 4.60, p = .00	β = .11	sr^2 = .01	p = .40
	Withdrawn Parenting		β = .32	sr^2 = .07	p = .02
	IC		β = .02	sr^2 = .00	p = .89
	EC		β = .22	sr^2 = .02	p = .17

CHAPTER III

RESULTS

Hypothesis 1: Children of mothers with a history of depression will show increased caretaking behavior as measured by emotional caretaking and instrumental caretaking compared to children of mothers without a history of depression in their interactions with their parents.

Caretaking Behaviors. Means and standard deviations for children's observed caretaking behaviors are reported in Table 4 by group (mothers with and without a history of depression). Contrary to expectations, the groups did not differ significantly on level of observed emotional or instrumental caretaking behaviors, $t(69) = -.19$, $p = .85$, and $t(69) = -1.39$, $p = .17$, respectively. Mean scores for instrumental and emotional caretaking for both groups fell between 3 and 4 on the 9-point scale used in IFIRS ratings; these scores represent ratings of "minimally" to "somewhat characteristic" of the adolescents.

Correlations of Maternal Current Depressive Symptoms with Caretaking Behaviors. Correlations were used to further test the first hypothesis regarding the relations between current maternal depressive symptoms with observed caretaking behaviors. The groups differed significantly on mothers' level of self-reported depressive symptoms as measured by the BDI, $t(54) = -3.40$, $p = .001$. Maternal depressive

symptoms were not significantly correlated with observed emotional or instrumental caretaking behaviors, $r = -.06$, $p > .05$, and $r = .07$, $p > .05$, respectively. The two types of caretaking behaviors showed a significant positive correlation with one another ($r = .69$, $p < .001$) (see Table 6).

Hypothesis 2: Caretaking behavior will be positively associated with negative parenting as measured by mothers' self reports of hostile/intrusive and withdrawn parenting.

Correlations of Parenting Styles with Caretaking Behaviors. The second hypothesis received partial support. With regard to parenting behaviors, the groups differed significantly on mothers' self-reported level of withdrawn parenting, $t(69) = -3.27$, $p = .002$, but did not differ significantly on mothers' self-reported level of hostile/intrusive parenting, $t(69) = -.66$, $p = .51$. Mothers' self-reported withdrawn parenting style was positively correlated with adolescents' instrumental caretaking, $r = .34$, $p < .01$, but was not related to adolescents' emotional caretaking, $r = .12$, $p > .05$. Mothers' self-reported hostile/intrusive parenting style was not related to observed emotional or instrumental caretaking behaviors ($r = -.17$, $p > .05$; $r = .00$, $p > .05$, respectively).

Hypothesis 3: Daughters of mothers with a history of depression will display more emotional and instrumental caretaking behavior as compared to sons of mothers with a history of depression.

Analysis of Variance. To test for main effects for maternal diagnostic history and child gender and for an interaction of maternal diagnostic history x child gender, a 2 X 2 multivariate analysis of variance was conducted with emotional and instrumental caretaking as the dependent variables and maternal history of depression and child gender as the independent variables. Planned comparisons were used to test these effects: adolescents of mothers with a history of depression would exhibit more emotional and instrumental caretaking behaviors; girls would exhibit more caretaking behaviors than boys; and to test the interaction, adolescent girls of mothers with a history of depression would exhibit more caretaking behaviors as compared to girls of mothers without a history of depression and boys of mothers with and without a history of depression.

Means and standard deviations of observed emotional and instrumental caretaking behaviors are reported in Table 5 by maternal diagnostic group and by child gender. Contrary to the hypotheses, there was not a significant main effect for mothers' diagnostic history on children's emotional caretaking, $F(1) = .05, p = .82;$ there was not a significant main effect for child gender, $F(1) = .15, p = .70;$ and there was not a significant interaction for mothers' diagnostic history x child gender, $F(1) = .20, p = .66.$ Similarly, when predicting instrumental caretaking there was not a significant main effect for mothers' diagnostic history, $F(1) = 1.94, p = .17;$ there was not a significant main effect for child gender, $F(1) = .05, p = .83;$ and there was not a significant interaction for mothers' diagnostic history x child gender, $F(1) = .31, p = .58.$

Correlations by Gender of Maternal Current Depressive Symptoms with Caretaking Behaviors. Correlations were used to further test the hypothesis regarding the

gender difference between current maternal depressive symptoms with observed caretaking behaviors. Mothers' current depressive symptoms, as reported on the BDI-II, were not significantly correlated with observed emotional or instrumental caretaking behaviors in boys, r =.00, $p > .05$, and $r = .27$, $p > .05$, respectively or in girls $r = -.12$, $p > .05$, and $r = -.11$, $p > .05$, respectively.

Hypothesis 4: Children of mothers with a history of depression will have higher rates of internalizing symptoms (as reported by both parent and child self-report) than children of mothers without a history of depression.

Adolescent Internalizing Symptoms. Means and standard deviations of adolescents' self- and parent-reported internalizing symptoms as measured by the Anxiety/Depression subscale of the CBCL and YSR are reported in Table 4 by maternal diagnostic group (children of mothers with and without a history of depression). Consistent with the hypothesis, the groups differed significantly according to both mother- and adolescent self-reports as measured by the anxiety/depression scales on the CBCL and YSR, $t\ (48.25) = -2.79, p = .007; t(67) = -2.61, p = .011,$ respectively.

The mean T scores for the anxiety/depression scales for the adolescents of mothers with a history of depression on the CBCL and YSR are approximately one-half standard deviation higher than the scores for the adolescents of mothers with no history of depression, reflecting medium effects for maternal depression history. This indicates that, as expected, the adolescents whose mothers had a history of depression were experiencing higher levels of symptoms (T = 58.68 and 57.27 on CBCL and YSR,

respectively) than those adolescents whose mothers had no history of depression (T = 54.19 and 54.25 on CBCL and YSR, respectively) at an effect size of at least $\boldsymbol{d}$ = .5, or a medium effect (Cohen, 1988).

Correlations of Maternal Depressive Symptoms and Parenting Style with Adolescent Internalizing Symptoms. Correlations were used to further test the relationship between maternal depressive symptoms and parenting behaviors with adolescent adjustment (see Table 7). Mothers' current depressive symptoms were significantly and positively associated with higher levels of adolescents' current anxiety/depression symptoms on the CBCL and YSR (r =.33, $p < .01$; $r = .25$, $p < .05$, respectively). Correlations were used to determine the degree to which mothers' self reported hostile/intrusive and withdrawn parenting behaviors were related to adolescents' self-reported and parent-reported symptoms of anxiety/depression symptoms. Mothers' report of hostile/intrusive parenting was significantly and positively related to her report of adolescent internalizing symptoms ($r = .40$, $p < .01$), but unrelated to adolescent-self report of these symptoms ($r = .16$, $p > .05$). Mothers' reports of withdrawn parenting, however, were significantly and positively associated with higher levels of adolescents' current anxiety/depression symptoms on the CBCL and YSR (r =.44, $p < .001$; $r = .41$, $p < .001$, respectively).

Hypothesis 5: Differences in internalizing symptoms between children of mothers with and without a history or depression will be accounted for by their level of emotional and instrumental caretaking.

Correlations of Adolescent Caretaking Behaviors with Adolescent Internalizing Symptoms. Correlations were used to test the relationship between adolescents' emotional and instrumental caretaking behaviors and their level of anxiety and depression symptoms (see Table 7). There was a positive and significant relationship between adolescents' own reports of their anxious/depressed symptoms and their observed level of emotional and instrumental caretaking ($r = .28, p < .05; r = .29, p < .05$, respectively). In contrast, mothers' reports of their children's anxious/depressed symptoms showed a negative relationship with observed emotional caretaking that approached significance ($r = -.20, p < .10$) and was not correlated with instrumental caretaking.

Tests of Caretaking Behaviors as Mediators and Independent Predictors of Adolescent Adjustment. The correlations among the predictor variables (mothers' depressive symptoms, maternal withdrawal, maternal intrusiveness), mediators (emotional and instrumental caretaking), and outcome (anxiety/depression symptoms) were examined to determine if they met criteria for testing mediation as outlined by Baron and Kenny (1986). Correlations involving maternal depressive symptoms, hostile/intrusive parenting, and emotional caretaking and mothers' reports of adolescent adjustment did not meet the criteria needed to test for mediation. Only maternal withdrawn behavior, instrumental caretaking, and adolescent self-report of adjustment met criteria to test for mediation. Specifically, a series of significant correlations was found between mothers' current symptoms on the BDI and mothers' reports of their withdrawn parenting ($r = .50$, $p < .001$), mothers' reports of their withdrawn parenting and observations of adolescents' instrumental caretaking behavior ($r = .34$, $p < .01$), and

adolescents' observed instrumental caretaking and adolescents' reports of anxiety/depression on the YSR ($r = .29$, $p < .05$). Additionally, tests for independent effects as outlined by Kraemer et al. (2001) were conducted.

The correlational analyses outlined above were followed by two separate sets of multiple regression analyses were conducted predicting adolescent anxiety/depression symptoms. A series of four equations were used to examine the effects of mothers' current depressive symptoms, mothers' withdrawn parenting, observed instrumental caretaking, and observed emotional caretaking on adolescents' anxiety/depression symptoms. In all cases, the overall equations were significant (see Table 8 for F and p values). In Model 1, these variables were used to predict mothers' reports adolescent adjustment, whereas and in Model 2 these same variables were used to predict adolescents' own reports of their adjustment.

Model 1. In the first equation, mothers' current depressive symptoms were entered and found to be a significant predictor of mothers' reports of adolescents' anxiety/depression symptoms on the CBCL ($\beta = .33$, $p = .01$). In the second equation, mothers' self-reports of withdrawn parenting were added. Mothers' withdrawn parenting was a significant predictor of adolescents' anxiety/depression symptoms ($\beta = .36$, $p = .01$); however, mothers' depressive symptoms were no longer significant and remained non-significant in the subsequent equations. Instrumental and emotional caretaking were added and entered separately in equations 3a and 3b. When instrumental caretaking was entered, it approached significance as a predictor ($\beta = -.19$, $p = .10$) and withdrawn parenting remained significant. However, when emotional caretaking was entered, it was

found to be a unique significant predictor (β = -.24, *p = .03*) in addition to withdrawn parenting. Finally, in the fourth equation, instrumental and emotional caretaking were entered together and only withdrawn parenting remained as a significant predictor of adolescent adjustment. Emotional caretaking was no longer a significant predictor due to its strong correlation (*r* = .69) with instrumental caretaking, creating a problem of multicollinearity between the two types of caretaking behaviors.

Model 2. As before, in the first equation, mothers' current depressive symptoms were entered and found to be a significant predictor of adolescents' self-reports of their anxiety/depression symptoms on the YSR (β = .25, *p = .04*). In the second equation, mothers' self-reports of withdrawn parenting were added. Mothers' withdrawn parenting was a significant predictor of adolescents' anxiety/depression symptoms (β = .38, *p = .00*); and as with the analyses using the CBCL as the dependent variable, mothers' depressive symptoms became non-significant and remained so in the subsequent equations. When instrumental caretaking was entered on its own (equation 3a), it was not found to be a significant predictor (β = .18, *p* = .14), but withdrawn parenting remained significant. However, when emotional caretaking was entered (equation 3b), it was found to be a unique significant predictor (β = .23, *p = .04*) in addition to withdrawn parenting. However, the criteria for mediation were not met since the relationship between withdrawn parenting and adolescents' reports of their own adjustment did not change significantly (the β decreased only from .38 to .32). Finally, in the fourth equation, instrumental and emotional caretaking were entered together and only withdrawn parenting remained as a significant predictor. As with the analyses predicting

anxiety/depression symptoms on the CBCL, emotional caretaking was no longer a significant predictor due to its strong correlation with instrumental caretaking.

CHAPTER IV

DISCUSSION

The present study was designed to replicate and extend past research on the role of caretaking within families. Although caretaking has been studied in multiple populations (e.g., children of mothers with a history of sexual abuse, Burkett, 1991; children of divorce, Jurkovic et al., 2001; children of alcoholic parents, Bekir et al., 1993), this is the first known study to examine caretaking in children of parents with a history of depression. Moreover, most of the previous studies have relied solely on the use of retrospective self-reports of caretaking behaviors to predict adult adjustment rather than examining caretaking behaviors and childhood adjustment concomitantly. The present study addressed both of these limitations by using direct observation of caretaking behavior and gathering parent- and child self-reports of adolescent adjustment concurrently. Unexpectedly, adolescents' caretaking behaviors were not related to mothers' diagnostic history of depression or to mothers' current depressive symptoms. However, the results of the correlational analyses indicated that both adolescents' instrumental and emotional caretaking behaviors were related to greater symptoms of anxiety/depression in the adolescents, and that maternal withdrawn parenting was correlated specifically with adolescents' instrumental caretaking. The overall findings from the regression analyses indicate that mothers' withdrawn parenting style and adolescents' emotional (but not instrumental) caretaking are separate, independent sources of risk for internalizing symptoms in children of mothers with a history of

depression. Further, the findings suggest that adolescents' emotional caretaking is related differently to mothers' as compared with adolescents' reports of adolescents' anxiety/depression symptoms.

Contrary to the hypotheses, adolescents' observed caretaking behaviors were not related to mothers' diagnostic history of depression or to her current level of depressive symptoms. At least two interpretations are possible for the failure to confirm this hypothesis. First, it is possible that maternal depression is simply not associated with greater caretaking in adolescents. Perhaps parental depression does not elicit caretaking behaviors in children because these offspring are too consumed with the responsibility of caring for themselves and do not have the time or resources to care for their parents. Second, it is possible that no differences were found in adolescents' caretaking behavior because the mothers in the current study were recruited for the presence or absence of a history of depression and not for the presence of a current depressive episode. Even when considering mothers' current levels of depressive symptoms, the mean BDI score for the mothers with a history of depression was approximately 13, which falls in the "minimal depression" range according to Beck and colleagues (1996). Therefore, the present study may be limited in its ability to test this hypothesis as there was limited variability in the range of current maternal depressive symptoms. Future research, in which currently depressed parents and their children are also included, is needed to further examine the link between caretaking behaviors and parental depression.

While the hypothesis that caretaking would be related to parental depression (i.e., history of and current depressive symptoms) was not supported, there was mixed support for the hypothesis that caretaking would be related to negative parenting, specifically

hostile/intrusive and withdrawn parenting. Specifically, maternal withdrawn parenting was significantly correlated with adolescents' observed instrumental caretaking but not emotional caretaking (maternal hostility/intrusiveness was not related to either type of caretaking). This pattern of associations could be because these mothers were not in current episode their symptoms of depression may be less obvious and observable to their children. Mothers' negative parenting styles, however, which are highly correlated with depressive symptoms, may be manifestations of their depression that persist even out of episode and may be more readily observable to their children. Further, maternal withdrawal may be more likely to elicit caretaking behavior from adolescents than maternal hostile/intrusive parenting because it elicits greater feelings of sympathy, responsibility, and guilt.

Although both emotional and instrumental caretaking behaviors were not significantly related to hostile/intrusive parenting styles and instrumental caretaking was not related to withdrawn parenting, emotional caretaking was significantly and positively related to mothers' reports of their own withdrawn parenting. The relationship between maternal withdrawal and adolescents' increased engagement in emotional caretaking suggests that adolescents' may be more likely to try to meet the parental needs of a mother who is needy and withdrawn as compared to a more hostile/intrusive parent who may be critical of the child's attempts to help solve problems or offer emotional support. The findings from this study suggest that parenting styles should continue to be tested in future research as it proves to be an important manifestation of depression that affects the way these children respond to and interact with their parents.

Unexpectedly, and contrary to previous research on caretaking behavior, gender was not related to either emotional or instrumental caretaking. That is, there was not a significant difference between the levels of emotional or instrumental caretaking in girls versus boys. One possible explanation for this lack of differences is that this sample consisted of mothers only and not fathers. Although research suggests that girls are more likely to assume a caretaking role (e.g., reference), perhaps sons are equally likely to demonstrate caretaking roles in response to their mothers; i.e., there may be an interactive effect between parent and child gender. This scenario may be especially true of boys in households with single mothers where the boys are expected to be the "man of the house." Unfortunately, the sample size in the present study was not large enough to test this interactive effect. Future studies should make sure to include both mothers and fathers as well as sons and daughters to test this hypothesis.

As hypothesized children of mothers with a history of depression had increased anxiety and depression symptoms as reflected in both parent- and child self-report. The picture of the relationship between caretaking and child adjustment, however, was less clear. When using child self-reports of anxiety/depression symptoms, there was a significant and positive association with both emotional and instrumental caretaking. That is, when children were observed doing more caretaking behaviors, they reported higher levels of internalizing symptoms. In contrast, when using mothers' reports of their children's adjustment, there was a negative association with emotional caretaking that approaches significance and no association with instrumental caretaking. This trend is consistent with other research (Welch et al., 1996) in which the adolescents reported elevated symptoms of anxiety and depression, but their parents seemed to "miss" the

problems that their children were experiencing and did not report that their children were distressed.

The elevated anxiety/depression symptoms seen in children of parents with a history of depression as compared to children of parents without a history of depression were not accounted for by the adolescents' caretaking behaviors. That is, the relationship between mothers' history of depression or mothers' level of current depressive symptoms and increased internalizing symptoms was not accounted for by the adolescents' observed emotional or instrumental caretaking behaviors.

When looking at the role that caretaking behaviors plays in predicting the adjustment of these children along with other maternal predictors (i.e., current depressive symptoms and withdrawn parenting), emotional caretaking and withdrawn parenting were the only two factors that remain as significant predictors of adolescent adjustment, explaining approximately 15% of the total variance (see Table 8). Because these models are comprised of variables that span multiple methods and multiple informants, this proves to be a stringent test. Therefore, although support for caretaking as a mediator of parental depression and child adjustment was not met, these results suggest that both withdrawn parenting and emotional caretaking function as separate and unique risk factors for adolescents of parents with a history of depression.

Limitations

This study had several limitations regarding the characteristics of its sample and design that should be addressed. As noted above, mothers were only included in the study if they had a history of depression and not if they were in a current depressive

episode. Further research is needed to test the extent that caretaking is related to parental depression status and depressive symptoms when looking at more severe cases. Additionally, fathers were not included within the present study. Inclusion of fathers in future research would be useful to better understand the effect that parent-child gender matching has on caretaking behaviors.

One limitation of the study design is that caretaking was measured using direct observation only. Although this is an improvement compared to studies that relied solely on adults' retrospective reports of child caretaking, further improvement could be made by measuring caretaking using multiple methods and informants (e.g., child self reports and parent reports). Also, a larger sample size and multiple measurements of the involved constructs would have allowed us to create latent variables and to detect smaller effects. Specifically, a larger sample size is needed to test whether child gender and marital status moderate the effects of withdrawn parenting on child outcomes. Finally, the conclusions that may be drawn are also limited by the cross-sectional design of this study. Longitudinal research is needed to determine the direction of effects of maternal depressive symptoms and negative parenting on caretaking and adolescent adjustment.

Implications for future research

The findings from this research suggest that it is critical to examine the specific risk factors that affect children of parents with a history of depression. Doing so, better informs researchers and clinicians on how to intervene to ameliorate the effects these risk factors have on mental health. In particular, the findings that withdrawn parenting and emotional caretaking are significant predictors of anxiety and depression symptoms may

implicate important behaviors to target in a preventative intervention for families struggling with depression. Parents should be educated about the effects that their negative parenting styles have on their children's well-being and should be taught positive parenting skills, focused on warmth and structure. Children would need to learn that their parent's depression is not their fault and they are not responsible for "fixing" their parent's depression. Instead, they would need to learn alternative and healthier strategies for coping with depression in their families.

REFERENCES

Achenbach, T. M. (1991). *Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profiles.* Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Anderson, C. A., & Hammen, C. (1993). Psychosocial outcomes of children of unipolar depressed, bipolar, medically ill, and normal women: A longitudinal study. *Journal of Consulting and Clinical Psychology, 61*, 448-454.

Baron, R.M., & Kenny, D.A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology, 51, 1173-1182.*

Barnett, B. & Parker, G. (1998). The parentified child: Early competence or childhood deprivation? *Child Psychology and Psychiatry Review, 3,* 146-155.

Beck, A. T., Streer, R. A., Ball, R., & Ranieri, W. F. (1996). Comparison of Beck Depression Inventories – IA and –II in psychiatric outpatients. *Journal of Personality Assessment, 67*, 588-597.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory - II*. San Antonio, TX: Psychological Corporation.

Bekir, P., McLellan, T., Childress, A., & Gariti, P. (1993). Role reversals in families of substance abuse misusers: A transgenerational phenomenon. *The International Journal of Addictions, 28*, 613-630.

Broszrmenyi-Nagy, I. & Spark, G. M. (1973). *Invisible Loyalties: Reciprocity in Intergenerational Family Therapy*. Hagerstown MD: Harper & Row.

Burkett, L. P. (1991). Parenting behaviors of women who were sexually abused as children in their families of origin. *Family Process, 30*, 421-434.

Chase, N. D. (Ed). (1999). *Burdened children: Theory, research, and treatment of parentification*. Thousand Oaks, CA: Sage.

Compas, B. E., Worsham, N. L., Epping-Jordan, J. E., Grant, K. E., Mireault, G., Howell, D. C., Malcarne, V. L. (1994). When mom or dad has cancer: Markers of psychological distress in cancer patients, spouses, and children. *Health Psychology*, *13*, 507-515.

Compas, B.E., Connor-Smith, J.K., & Jaser, S. S. (2004). Temperament, stress reactivity, and coping: Implications for depression in childhood and adolescence. *Journal of Clinical Child and Adolescent Psychology, 33,* 21-31.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Progress, problems, and potential in theory and research. *Psychological Bulletin, 127*, 87-127.

Connor-Smith, J. K., Compas, B. E., Wadsworth, M. E., Thomsen, A. H., & Saltzman, H. (2000). Responses to stress in adolescence: Measurement of coping and involuntary stress responses. *Journal of Consulting and Clinical Psychology, 68*, 976-992.

Cummings, M. E., & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 35*, 73-112.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (2001). *Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition (SCID-I/P)*. New York: Biometrics Research, New York State Psychiatric Institute.

Frances, V., & Frances, A. (1976). The incest taboo and family structure. *Family Process, 15,* 235-244.

Gelfand, D. M., & Teti, D. M. (1990). The effects of maternal depression on children. *Clinical Psychology Review, 10*, 329-353.

Goodman, S. H. & Gotlib, I. H. (1999). Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review, 106*, 458-490.

Gordon, D., Burge, D., Hammen, C., & Adrian, C. (1989). Observations of interactions of depressed women with their children. *American Journal of Psychiatry, 146*, 50-55.

Grant, K. E. & Compas, B. E. (1995). Stress and anxious-depressed symptoms among adolescents: Searching for mechanisms of risk. *Journal of Consulting and Clinical Psychology, 63*, 1015-1021.

Grant, K. E., Compas, B. E., Stuhlmacher, A. F., Thurm, A. E., McMahon, S. D., & Halpert, J. A. (2003). Stressors and child and adolescent psychopathology: Moving from markers to mechanisms of risk. *Psychological Bulletin, 129,* 447-466.

Hamilton, E. B., Jones, M., & Hammen, C. (1993). Maternal interaction style in affective disordered, physically ill, and normal women. *Family Process, 32*, 329-340.

Hammen, C., Brennan, P. A., & Shih, J. H. (2004). Family discord and stress predictors of depression and other disorders in adolescent children of depressed and nondepressed women. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*, 994-1002.

Hammen, C., Shih, J. H., & Brennan, P. A. (2004). Intergenerational transmission of depression: Test of an interpersonal stress model in a community sample. *Journal of Consulting and Clinical Psychology, 72,* 511-522.

Hammen, C. (2000). Interpersonal factors in an emerging developmental model of depression. In S. L. Johnson, A. M. Hayes, T. M. Field, N. Schneiderman, & P. M. McCabe (Eds.), *Stress, coping, and depression* (pp. 71-88). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Hankin, B. L., Abramson, L. Y., Moffitt, T. E., Silva, P. A., McGee, R., & Angell, K. E. (1998). *Journal of Abnormal Psychology, 107*, 128-140.

Hankin, B. L., & Abramson, L. Y. (2001). Development of gender differences in depression: An elaborated cognitive vulnerability-transactional stress theory. *Psychological Bulletin, 127*, 773-796.

Hops, H., Biglan, A., Sherman, L., Arthur, J., Friedman, L., & Osteen, V. (1987). Home observations of family interactions of depressed women. *Journal of Consulting and Clinical Psychology, 55*, 341-346.

Jaser, S. S., Langrock, A. M., Keller, G., Merchant, M. J., Benson, M. A., Reeslund, K., Champion, J. E., Compas, B. E. (2005). Coping with the stress of parental depression II: Adolescent and parent reports of coping and adjustment. *Journal of Clinical Child and Adolescent Psychology, 34*, 193-205.

Johnston, J. R. (1990). Role diffusion and role reversal: Structural variations in divorced families and children's functioning. *Family Relations*, *39*, 405-413.

Jones, R. & Wells, M. (1996). An empirical study of parentification and personality. *American Journal of Family Therapy, 24*, 145-152.

Jurkovic, G. J. (1997). *Lost Childhoods: The Plights of the Parentified Child*. Brunner/Mazel, Philadelphia.

Jurkovic, G. J., Thirkield, A., & Morrell, R. (2001). Parentification of adult children of divorce: A multidimensional analysis. *Journal of Youth and Adolescence, 30*, 245-257.

Kabat, R. (1996). A role reversal in the mother-daughter relationship. *Clinical Social Work Journal, 24*, 255-269.

Kashy, D. A., & Kenny, D. A. (1990). Analysis of family research designs: A model of interdependence. *Communication Research, 17*, 462-482.

Kerig, P. K. (2001). Introduction and overview: conceptual issues in family observational research. In (P. K. Kerig & K. M. Lindahl (Eds.), *Family Observational Coding Systems* (pp. 1-22). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H., Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III psychiatric disorders in the United States. *Archives of General Psychiatry, 51*, 8-19.

Kessler, R. C., & McLeod, J. D. (1984). Sex differences in vulnerability to undesirable life events. *American Sociological Review, 49,* 620-631.

Kraemer, H. C., Stice, E., Kazdin, A., Offord, & D., Kupfer (2001). How Do Risk Factors Work Together? Mediators, Moderators, and Independent, Overlapping, and Proxy Risk Factors. *American Journal of Psychiatry, 158*, 848-856.

Langrock, A. M., Compas, B. E., Keller, G., & Merchant, M. J. (2002). Coping with Stress of Parental Depression: Parents' Reports of Children's Coping and Emotional/Behavioral Problems. *Journal of Clinical Child and Adolescent Psychology*, *31*, 312-324.

Lerner, R. M., & Steinberg, L. (Eds.). (2004). *Handbook of adolescent psychology* (2nd ed.). New Jersey: John Wiley & Sons, Inc.

Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal Depression and parenting behavior: A meta-analytic Review. *Clinical Psychology Review, 20*, 561-592.

Melby, J. N., & Conger, R. D. (2001). The Iowa family interaction rating scales: Instrument summary. In P. K. Kerig & K. M. Lindahl (Eds.), *Family Observational Coding Systems* (pp. 1-22). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Melby, J. N., Conger, R. D., Book, R., Rueter, M., Lucy, L., Repinski, D., Rogers, S., Rogers, B., & Scaramella, L., (1998). *The Iowa Family Interaction Rating Scales (5th ed.)*. Unpublished manuscript, Institute for Social and Behavioral Research, Iowa State University, Ames, Iowa.

Minuchin, S., Montalvo, B., Guerney, B. G., Rosman, B., & Schumer, F. (1967). *Families of the slums: An exploration of their structure and treatment*. New York: Basic Books.

Sroufe, L. A., Jacobvitz, D., Mangelsdorf, S., DeAngelo, E., & Ward, M. J. (1985). Generational boundary dissolution between mothers and their preschool children: A relationship systems approach. *Child Development, 56,* 317-332.

Stein, J. A., Riedel, M., & Rotheram-Borus, M. J. (1999). Parentification and Its Impact on Adolescent Children of Parents with AIDS. *Family Process, 38, 2,* 193-207.

Weissman, M. M., Warner, V., & Fendrich, M. (1990). Applying impairment criteria to children's psychiatric diagnosis. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*, 789-795.

Welch, A., Wadsworth, M., & Compas, B.E. (1996). Children's adjustment to parental cancer: Comparison of parents' and children's perspectives. *Cancer, 77*, 1409-1418.

Wethington, E., McLeod, J. D., & Kessler, R. C. (1987). The importance of life events for explaining sex differences in psychological distress. In Barnett, R. C., Biener, L., & Baruch, G. K. (Eds), *Gender and Stress* (pp. 144-156). New York: The Free Press.