Maternal Incarceration: Effects on Caregivers' Mental Health

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Adrian Bravo

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Dr. Danielle Dallaire, Director

Dr. Meghan Sinton

Dr. Graham Ousey

Williamsburg, VA
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Adrian Bravo

Danielle Dallaire, Advisor

Department of Psychology, College of William and Mary

Abstract

The caregivers of incarcerated mothers are an at-risk, understudied population. The goal of the present study was to examine if becoming a recent primary caregiver, particularly for the elderly, has an impact on the caregiver's mental health and parenting behavior, and if an increase in poor parenting behavior is associated with children's anxiety and depression symptoms. Interviewed were 83 mothers incarcerated in jail (61.4% Black), their 6- to 12-year-old children (n = 83, 43 girls, M age = 9.31), and the child's caregiver (n = 83, M age = 49.25, 65.1% grandparents). Caregivers completed the *Psychiatric Diagnostic Screen Questionnaire* (PSQ) and *Parent Behavior Inventory* (PBI). Children completed the *Multidimensional Anxiety Scale for Children* (MASC) and the *Child Depression Inventory* (CDI). Results show that age, mother co-residency, and length of caring did not have an effect on caregiver mental health. Though, younger caregivers who reported that they have cared for the child for more than 6 months with the mother co-residing reported higher drug use. Additionally, younger caregivers who reported that they have cared for the child for more than 6 months with the mother co-residing reported higher hostile/coercive parenting behavior. Furthermore, higher hostile/coercive parenting behavior was positively correlated with the interpersonal problems subscale of the CDI as well as the social anxiety, and physical symptoms subscales of the MASC. This study indicates that future intervention studies may offer additional support for younger caregivers who have cared for the child for more than 6 months and had the mother co-reside.

Maternal Incarceration: Effects on Caregivers' Mental Health

Throughout the past twenty years, there has been a marked increase in the number of individuals being incarcerated, particularly parents (Glaze & Maruschak, 2008). Parental incarceration, mainly maternal incarceration, may have a negative impact on the development of a child. A child who has an incarcerated mother may face many challenges that contribute to that child's risk for depression, anxiety, and anti-social behavior (Sack, Seidler, & Thomas, 1976). Furthermore, caregivers who take care of the child once the mother is incarcerated may encounter difficulties, specifically regarding their mental health. During this stressful time the caregiver's behavior around the child may have a profound impact on the child. Overall, families experiencing incarceration are complex in structure and face unique problems (Phillips et al., 2006). The following literature review examines the difference between maternal and paternal incarceration and the risks affected children face. This literature review also focuses on the caregiver: their role, risks as caregivers, caregiver parenting styles, and grandparent caregivers. Though there is bountiful research on the impact incarceration has on a child, there is scant research on the impact it has on a caregiver's mental health. The main goal of the present study was to examine the mental health risks, in particular depression, anxiety, alcohol and drug dependence, caregivers of children with incarcerated mothers face and if these risks affect elderly caregivers differently than other caregivers. Furthermore, if recently becoming a primary caregiver has an impact on the caregiver's depression and anxiety levels and how these risks affect a caregiver's parenting behavior.

Maternal vs. Paternal Incarceration

Overall, there has been an increase in parental incarceration over the last two decades. An estimated 809,800 prisoners of the 1,518,535 held in the nation's prisons at midyear 2007

were parents of children under the age of 18 (Glaze & Maruschak, 2008). This represents a 79% increase since 1991, when there were only 452,500 incarcerated parents (Schirmer, Nellis, & Mauer, 2009). Due to the rise of parental incarceration, there has been an increase in the number of children affected by incarceration. In 1991, the number of children of incarcerated parents totaled 936,500, while in 2007 the numbers totaled 1,706,600, an 82. 2% increase (Schirmer, Nellis, & Mauer, 2009). In general, this prison population is predominately male. However, there is an increasing population of incarcerated mothers. In 2007, 92% of incarcerated parents in federal and state prisons were male (Glaze & Maruschak, 2008). Minton (2010) found that males account for 87.7% of the jail population where as females accounted for 12.3% of the jail population. However, Minton's statistics did not specifically focus on just parents, but on general jail population. Nevertheless, in both federal/state prisons and local jails, the female rate of incarceration has increased more dramatically than the male rate. Between 1991-2007 the number of mothers incarcerated increased from 29,500 in 1991 to 65,600 in 2007, a 122% increase (Schirmer, Nellis, & Mauer, 2009).

Due to the rise in maternal incarceration, there is an increase in children affected. Maternal incarceration can cause many problems for the child, the most common being displacement from the home. According to Schirmer, Nellis, and Mauer (2009), "while the vast majority of children of male prisoners are living with their mothers, only about a third (37%) of the children of incarcerated women are living with their fathers, most of these children are living with grandparents or other relatives" (p. 5). One reason that children may be living with non-parental caregivers during a maternal incarceration is that mothers reported two and half more times (52%) than fathers (19%) to have lived in single-parent households before incarceration (Glaze & Maruschak, 2008). This statistic may impact who becomes the primary caregiver of

the child while the mother is incarcerated. The prevalence of maternal care can be seen in the daily care of the children before either parent became incarcerated. According to Glaze and Maruschak (2008), "among parents in state prison who had lived with their minor children just prior to incarceration, mothers (77%) were almost three times more likely than fathers (26%) to report that they had provided most of the daily care for their children" (p. 5).

The risk of intergenerational incarceration is another significant difference between maternal and paternal incarceration. Dallaire (2007) determined through reports of incarcerated mothers that their adult children were 2.5 times more likely to be incarcerated than adult children of incarcerated fathers. This demonstrates the importance of research on this population, because it may lead to a decrease in familial incarceration. Incarcerated mothers were significantly more likely (21%) to report higher rates of familial incarceration than incarcerated fathers (8.5%) (Dallaire, 2007). This is a distressing finding that demonstrates that children of maternal incarceration may be in jeopardy of continued risk of incarceration.

Risks Factors for Children

Children who have an incarcerated parent, specifically the mother, face many challenges that put them at risk for problems such as depression, poor academics, stigmatization, and attachment difficulties. Research has found that previously maltreated children living in surrogate kinship situations have been shown to be at greater risk for aggressive behavior, decreased academic achievement, and language deficits (Dubowitz & Sawyer, 1994). Children are at risk of depression when dealing with maternal incarceration due to the loss of their maternal figure. In a study by Block and Potthast (1998), the researchers looked at the Girls Scouts Beyond Bars program, which attempted to enhance prison visiting programs for girls dealing with maternal incarceration. The study interviewed 30 mothers, 40 daughters, and the

child's current caregiver about their experiences with maternal separation due to incarceration. They found that 70% of mothers and 52% of the caregivers reported that the daughters suffered emotional problems such as sadness and depression. Similarly, Wilbur et al. (2007) found that "after consideration of other biopsychosocial risks factors not measured in previous studies, fathers' incarceration remained correlated with children's depressive symptoms and behavior problems" (p. 684). This risk for depression may be a prevalent issue that the caregiver themselves may have to deal with which could potentially lead to a rise in stress for the caregiver. Children of maternal incarceration are also at risk for showing anti-social behavior. Sack, Seidler, and Thomas (1976), found in their study of children of incarcerated parents that most of the children dealt with an increase in antisocial behavior that lead to some form of criminal activity. In a meta-analysis by Murray, Farrington, Sekol, and Olson (2009), the researchers found that children of prisoners have about twice the risk of antisocial behavior and poor mental health compared to children without imprisoned parents. This antisocial behavior may also impact caregivers and their mental health.

Another challenge these children may face is academic problems. According to Johnston (2005), "the development of children's abilities to work and get along with others—including achievement in school and control of emotions—may be significantly impaired by parental crime, arrest, and incarceration" (p. 76). In the Sack, Seidler, and Thomas (1976) study, the researchers found that caregivers reported that more than half of their children had some problems in school, usually a temporary drop in grades or instances of aggressiveness, since the parent's confinement. These problems in school may affect the caregivers themselves because of an increase in stress to help their child succeed. This may be even more complicated if the caregiver does not have a high educational attainment, because they may not be able to help the

child academically. Even teachers recognize behavioral issues from children that have an incarcerated parent. Dallaire, Ciccone, and Wilson (2010) interviewed teachers about their experiences with children with incarcerated parents and their expectations of these children. The teachers noted distinct emotional reactions, such as frustration and distinct behavioral problems, such as acting out, in children with incarcerated parents. These emotions and behaviors can lead to poor academic performance (Dallaire, et al., 2010).

Stigmatization is another critical risk for these children. In a study by Nesmith and Ruhland (2008), the researchers focused on the impact of parental incarceration from the children's own perspectives. The study found that each child faced social challenges arising from having a parent in prison. The main hardship these children faced was deciding whether or not to reveal their secret of an incarcerated parent to a friend (Nesmith & Ruhland, 2008); perhaps due to the fear these children have of stigmatization. According to Phillips and Gates (2010), social stigmatization is a huge problem in society because those that are stigmatized are usually perceived as having negative attributes (Phillips & Gates, 2010). Maternal incarceration could create a stigmatization towards the child and if the child reveals that their mother is incarcerated, perhaps the perceived negative attributes of the mother may be placed upon the child. During school years, children are shunned from groups in which they are not considered members. Children dealing with maternal incarceration may be shunned from certain groups and friends perhaps due to other parents' viewpoints on the child and not wanting their own children to interact with a child who has an incarcerated mother. Children can even be stigmatized by their teachers. Dallaire et al. (2010), found that some teachers have noted that some of their colleagues, once aware of a child's incarcerated parent, have been "unsupportive," "unprofessional" and less expectant of these children.

Attachment problems are an additional risk for children dealing with maternal incarceration. According to Poehlmann (2005), children face drastic separation reactions initially after their mother's incarceration creating attachment problems. "These reactions include crying/sadness or calling for mothers, confusion or lack of understanding, anger/acting out, developmental regressions, indifference/detachment, and fear" (Poehlmann, 2005, p. 686). The study found that (63%) of the children tested held representations of insecure relationships with mothers and caregivers (Poehlmann, 2005). This insecure relationship may have a detrimental effect on the mental health of the caregiver, because the child is not being receptive to their parenting. Though there is plentiful research on the challenges these children may face, there is limited research on the challenges/adversities caregivers face, particularly in their mental health.

The Caregiver

To understand the risks caregivers face, it is important to understand who these individuals are and why they become the primary caregiver of the child during maternal incarceration. Johnston (1995a) focused a study on the care and placement of prisoners' children once they had been arrested. The study researches different types of caregiver situations. According to Johnston, there are five distinct caregiving arrangements: related caregivers who lived with the parent and shared caregiving responsibilities prior to parental incarceration; related caregivers who lived with the children and separately from the parent prior to parental incarceration; related caregivers who did not care for or live with the child prior to parental incarceration; unrelated caregivers who lived with the children and separate from the parent prior to incarceration; and unrelated caregivers who did not care for or live with the children prior to parental incarceration (Johnston, 1995a). The living arrangement may be a risk factor for the

caregiver, in particular if they had no experience or connection in raising this child. Research has also examined who are the primary caregivers that these children are entrusted to.

Once a mother is sent to jail, the caregiver is most often a grandparent. According to Glaze and Maruschak (2008), mothers in state prison most commonly identified the child's grandmother (42%) as the child's current caregiver, while nearly a quarter (23%) identified other relatives as the current caregivers of the child. Additionally, according to Johnston (1995a), "the main caregiver that arises once a mother is in jail is grandparents, mainly the grandmother (60%). The next largest group is the other natural parent (20%), followed by foster caregivers and other relatives (both 10%)" (p. 109). Since grandparents are usually being identified as the primary caregiver once the mother is in jail, it is important to further research the risks these grandparents may face. Another type of caregiver may be a foster parent. In a study by Gebel (1996), when a child goes to foster care they interact with a person they have no connection with, but who could potentially give them better resources. Most non-relative foster mothers are more likely to be employed outside the home than a kinship caregiver (Gebel, 1996). This may contribute to a higher source of income that may perhaps have a positive influence on the development of the child. Though, a drawback is the lack of secure attachment the children may have with these foster parents. It has been found that children placed with foster parents after 12 months of age are significantly less likely to form secure attachment with these new caregivers (Stovall & Dozier, 2000).

Just as important as identifying who these caregivers are, is determining why these caregivers stepped into that role. Jendrek (1994) examined the impact that raising a grandchild has on grandparents, particularly their roles and why they became the primary caregivers. Three categories of grandparents' roles were discovered: custodial, living with the grandchild, and day-

care roles. A majority of these grandparents explained their caregiving role as linked to familial issues, such as drug abuse or financial support. Also, all of these grandparents took it upon themselves to raise these grandchildren due to an impulse to care for them (Jendrek, 1994). Incarceration is another reason caregivers become primary caregivers. According to Dressel and Barnhill (1994), "at any one time an estimated 32,000 older women find themselves caring for their grandchildren over an extended period as a result of their adult daughter's incarceration" (p. 686). This study makes obvious the growing population of caregivers, and thus demonstrates the need for more research on these caregivers and potential risks they may face.

Risks for Caregivers

Caregivers who assume responsibility for a child because of maternal incarceration face many economic risks. According to Glaze and Maruschak (2008), about half of parents in state prisons provided the primary financial support for their minor children. Once their parents are incarcerated these children and their caregivers can be left facing financial issues. Many caregivers of children of maternal incarceration, particularly grandmothers, are unemployed or retired and may have less income to support these children (Minkler & Roe, 1993). Furthermore, Minkler and Roe (1993) found that grandparents who are employed may be forced to quit their jobs, reduce their work hours, and/or exhaust their savings in order to provide for the children. This economic burden may lead to mental health issues because of a rise in stress and having to raise the child. Another issue is that child support may no longer be received because the mother is incarcerated (Arditti, Lambert- Shute & Joest, 2003).

There is also a lack of monetary support from the government for the caregivers. A major reason is the lack of awareness of resource programs and the legal issues behind applying for resources (Hanlon, Carswell, & Rose, 2006). Many caregivers may not be "legal" guardians

of the child and thus do not feel they have the rights to apply for resources under their name. Additionally, some feel that their living situation is not adequate and thus do not want a government official involved, risking the child being taken away.

Other risk factors for the caregivers include a lack of support from other family members and neighborhood crime around their homes. According to Burton (1992), caregivers have to protect the children from neighborhood dangers, specifically drug trade, and keep a constant eye on the children, which can be demanding. Also, caregivers have to face other family issues and the risks of not getting support from overburdened family members (Burton, 1992). Caregivers face many risks and these risks could even be increased with age, due to health issues such as dementia or poor physical health. Other forms of risk factors may include ethnicity, marital status, and educational attainment (Arditti, Lambert- Shute, & Joest, 2003). Of the scant research on the effect maternal incarceration has on caregivers, the majority focuses on older caregivers, specifically grandparents.

Grandparent caregivers may face many health and psychological problems, particularly due to complex circumstances and aging. According to Poehlmann (2003), "when grandparents begin raising their very young grandchildren, the well-being of family members depends on a complex set of circumstances, including reasons for the child's placement, the child's age, the history of relationships and quality of current relationships in the family, patterns of communication, the balance of risks and resources, and supports available in the social context" (p. 167). One of the most prominent health concerns faced by caregivers is depression. This is mainly seen in grandparent caregivers, particularly grandmothers. Minkler, Fuller-Thomson, Miller, and Driver (1997) conducted a study to test the depression levels of grandparents who primarily raised their grandchildren to grandparents who have never raised their grandchildren.

The results showed that grandparents who had the primary responsibility for raising their grandchildren were twice as likely to be categorized as depressed. This depression may lead to poor parenting by the caregiver and may defer attention from the child onto themselves.

Caregiver overburden, the emotional difficulty and worry caregivers face, is an additional risk factor. This caregiver overburden can lead to stress and other health factors like anxiety and depression. It has been found that grandparent caregivers who have poor health and have children who have poor health experience higher caregiver burden (Dowdell, 2004). Compared to other types of caregiving, grandparent-child caregiving has been demonstrated as most vulnerable to depression. Strawbridge, Wallhagen, Shema, and Kaplan (1997) compared three distinct types of caregivers against non-caregivers. The three different caregiver groups were: grandparent-child caregiver, adult-child caregiver, and spouse caregiver. For example, adult-child could consist of an adult taking care of their parent, and a spouse caregiver consists of a person taking care of their spouse. The results showed that grandparent-child caregivers faced the greatest increase in poor mental health than any other group, particularly a rise in depression (Strawbridge, Wallhagen, Shema, & Kaplan, 1997). This rise in depression due to overburden may affect the personal relationship between the caregiver and child, in particular the warmth the caregivers show to the child. Overall, there is limited research on the mental health of all caregivers, not just grandparents, dealing with maternal incarceration. Comparably, there is vast research on the role of caregivers and parenting styles, though few touch upon the impact these styles and roles have on a child who is affected by maternal incarceration.

Parenting and the Role of the Caregiver

The roles of caregivers, particularly grandparents, have a huge impact on the child. According to Johnston (1995a), “these caregivers’ main roles are: providing for children’s

material needs, explaining parental absence, developing and maintaining a caregiver-child relationship, developing and maintaining a caregiver-parent relationship, and working toward family reunification" (p. 110). Since grandparents are most likely to take care of the child during maternal incarceration, research has focused on grandparent roles. Grandparents have a major role in many family structures. For the parents, grandparents can be seen as a source of support when helping with childrearing as well as financial aid. For the children, they can be seen as a source of wisdom and knowledgeable of the family's history. Additionally, grandparents can provide a source of comfort for the children if they are having issues they cannot discuss with their parents. Many children understand the importance of grandparents, though they may have dissimilar views with their grandparents on what exactly are the roles of grandparents.

The roles of grandparents may differ between what the grandparents themselves view as their roles and what the children perceive. The grandparents' viewpoint of what their roles consist of differs by age and sex of the grandparent. In a study by Thomas (1986), the researcher considered age and sex differences in grandparenting satisfaction and in perceived grandparenting responsibilities. Thomas interviewed over 277 grandparents in three age groups (45 to 60, 61 to 69, and 70 to 90). With regards to age, the study found that the two younger groups expressed greater responsibility for their grandchildren's discipline, for their grandchildren's care, and for offering childrearing advice than the oldest grandparents (Thomas, 1986). These age differences may present risks factors for the caregiver depending on their age and their view of their roles. Additionally, the grandparent**s'** viewpoint of their roles in some aspect differs with children's perceptions. In a study by Triadó, Villar, and Solé (2005), the researchers interviewed 145 different grandparent-grandchild dyads on their viewpoints on the role of the grandparent. The study found that "grandparents isolate a component related to acting

as counselors that grandchildren do not perceive as much, whereas the latter put more emphasis on the grandparent role as mediator element between them and their parents" (p. 116). This finding is a cause for concern when dealing with a child population that does not have their mother due to incarceration and might still see their grandparent as a mediator and not a counselor. The children may not confide their emotions with their grandparents because they may still perceive them as mediators and not as counselors. Just as caregivers' roles are important, the caregivers' quality of parenting, both good and poor, may have an impact on the child's development.

Parenting is a complex job that at its simplest form can be broken down by good parenting and poor parenting. Good parenting can be described as warm and attentive caregiving while poor parenting can be described as hostile and neglectful parenting. The difference between the two can have a huge impact on the child. According to Bornstein (2005), positive development encompasses physical, social and emotional, and cognitive domains. Bornstein concluded, "attaining positive development in each element in a domain is important, but overall positive development in the life course presumably depends on the human being's ability to attain and sustain reasonably high levels in all domains" (p. 191). The role of the parents is to provide adequate resources for the child to develop positively. These resources may include financial support, academic support, and a safe home. Knowledge about child development, observing skills, strategies for problem prevention and discipline, supports for emotional and social, cognitive and language development and personal sources of support are vital tools needed for positive parenting (Bornstein, 2005). The usage of these skills can lead to positive child development. It is important to consider the differences between positive and negative parenting and its impact on the caregiver-child relationship.

Mackintosh, Myers, and Kennon (2006) examined the quality of the relationship between children of incarcerated mothers and their kinship caregiver. The researchers examined whether the level of warmth and caring received by a child was correlated with increased internalizing and externalizing problems. The data showed that children who receive less warmth and care were likely to have increased internalizing and externalizing problems. Additionally, caregivers who have children with internalizing and externalizing behavior problems report having more parenting stress, which could lead them to not showing as much warmth or positive care toward the children (Mackintosh, Myers, & Kennon, 2005). Since quality of parenting is critical to a child's emotional development, it is important to view what factors can lead to poor parenting. A mixture of economic issues, poor education, and more specific factors, such as negative family history and poor physical health, may contribute to poor parenting behaviors. Ayoub and Jacewitz (1982) found that the family at risk of parenting problems is a family with multiple problems. "Some problems are specific to the individual parent or child—chronic poor health or intellectual limitation, for example. Other problems have to do with a negative family history—past parental violence, abuse and or time spent in prison by one or both parents" (Ayoub & Jacewitz, 1982, p. 416). In general, there is vast research on caregiver roles and parenting styles, but only scant research on maternal incarceration and its effect on caregiver parenting styles, particularly caregivers' behavior towards the child. Additionally, there is limited research on the effect incarceration has on the caregiver's mental health in particular elderly individuals who recently became primary caregivers.

Recent Primary Caregivers

Becoming a recent primary caregiver can create many risks and problems. In particular, the caregiver can have an increase in financial issues and stress. In a study by Szinovacz,

DeViney, and Atkinson (1999), the researchers looked at the effects of surrogate parenting on grandparents' well-being depending on whether the child recently moved into the home or recently left the home. The researchers took into account depression, life satisfaction, and whether there were some direct or indirect mediators of these two factors. The results demonstrated an increase in depression for grandmothers who recently had children move into the household (Szinovacz, DeViney, & Atkinson, 1999). Thus, becoming a recent primary caregiver may have an impact on the caregiver's mental health due to a rise in stress and new factors.

The Current Study

The current study examines the impact maternal incarceration has on the caregivers' mental health and parenting behavior. The central research questions focus around the relationship between recently becoming a primary caregiver and mental health. Does recently becoming a primary caregiver have an effect on the mental health of that individual with regards to depression and anxiety? Does caregivers' mental health affect their parenting behavior? Because children with incarcerated mothers are at an increased risk for behavioral, social, and academic problems, it is important to understand the impact of caregivers. Particularly because prior research has demonstrated that a child's resilience status was predicted by emotionally responsive parenting attitudes and positive parent mental health (Wyman et al., 1999). The present study expands the knowledge base about the impact of maternal incarceration on the caregiver's mental health, such as depression and anxiety, and their behavior around the child, such as parenting warmth and care. For this study, the caregivers were broken down into three categories: current caregivers with whom the child has not previously lived, current caregivers who the child has lived with but mother co-resided, and current caregivers who child has lived

with but mother did not co-reside. It is hypothesized that current caregivers who the child has not lived with previously, particularly older adults, will experience new stressors due to child caring which leads to an increase in poor mental health, specifically depression and anxiety. Additionally, current caregivers who the child has lived with but mother co-resided, particularly older adults, will have an increase in poor mental health due to becoming the primary caregiver with no assistance once the mother is in jail. Furthermore, accumulated risks factors would also lead to an increase in poor mental health for older caregivers who the child has not lived with previously both, as well as current caregivers who the child has lived with but mother co-resided. Consequently, this increase in poor mental health may lead to poor parenting behavior around the child, such as neglect and hostility. As a result, an increase in poor mental health and poor parenting lead to an increase in internalizing problems for the child, such as anxiety and depression.

Method

Participants

Participants included incarcerated mothers (*n* = 83), their child (*n* = 83), and children's caregivers (*n* = 83). The mothers ranged from 24 to 50 years of age (*M* = 32.73). Of the mothers, over half (*n* = 51, 61.4%) were African American, 30 (36.1%) were white, and 2.5% were of mixed ethnicity. Mothers' educational attainment varied from "some high school" (*n* = 29, 34.9%) to "some college" (*n* = 23, 27.7%). The majority of the incarcerated mothers were single (n = 52, 62.7 %) and only 15 mothers reported being married. The mothers ranged from having 1 biological child to 7 biological children (*M* = 2.95, *SD* = 1.38).

Caregivers ranged from 27 to 70 years of age (*M* = 49.25, *SD* = 10.59). The majority of caregivers were female (*n* = 61, 73.5%). Of the 83 caregivers, grandparents were well

represented 65.1% (*n* = 54). Biological fathers made up 19.3% of the caregiver population (*n* = 16), followed by other kin family members like an aunt or uncle (11%), 2 caregivers were step-parents. Over half of the caregivers (*n* = 55, 66.3%) were African American, 26 (31.3 %) were white, one caregiver was of mixed ethnicity, and one caregiver was Native American. In regards to educational attainment, most caregivers (75.9%) were high school graduates and above. Of the caregivers, 32.5% (*n* = 27) were married while 16 (19.3%) were single and 14 (16.9%) were divorced. Nine (10.8%) were widowed and 17 (20.5%) were separated.

Child participants ranged from 6 to 12 years of age (*M* = 9.31, *SD* = 1.67). Of the child participants, there were 40 females and 43 males. The majority were African American (*n* = 52, 62.7%), followed by white (*n* = 20, 24.1%). Ten of these children were of mixed race and one child was Native American. The children's grade levels ranged from grade 1 to grade 7 (*M* = 3.72, *SD* = 1.67). Nearly half the children (*n* = 35, 42.2%) were diagnosed by a mental health professional with either a physical or mental illness, the most common being ADHD.

Procedure

The study was conducted through the recruitment of incarcerated mothers from Southeast Virginia jails, including Virginia Peninsula Regional Jail, Henrico West County Jail, Henrico East County Jail, Western Tidewater Regional Jail and Riverside Regional Jail. Eligibility criteria included: the mothers having a child between 7-12 years of age and no history of children abuse or neglect. Mothers gave consent for researchers to contact their children and caregiver. Caregivers were then mailed information about the study and asked to participate. Upon contact from the caregiver, an interview was arranged at a suitable location for the caregiver, such as their home or a local library.

The interviews were conducted by trained research assistants, faculty, project staff, and graduate students interviewed the mothers at jail, and both graduate and undergraduate students interviewed the caregivers and children. The mother, child, and caregivers were interviewed individually to ensure confidentiality and reduce potential respondent bias. All the interviews began with an explanation of the informed consent, the amount of compensation received and the nature of the study. Additionally, they were informed that they could quit at anytime during the study and that all questions were voluntary.

At the end of the interview the caregivers, mothers, and children were given time to ask any questions about the study and given contact information in case of further questions. Additionally, the caregivers were given a resource sheet that had details and contact information of various groups and organizations that provide resources for families. Some of these programs include: Health clinics, Alcoholics Anonymous, and Narcotics Anonymous. Caregivers received $50 for their participation. Children received $10 plus additional money that they won from a game (M = $3.59, SD = $2.24) along with a small toy for their participation.

Measures

For mother interviews, the mothers were asked information about: demographics, their feelings and behaviors; things their children may have experienced since their incarceration; and their child's feelings, behaviors, and school work. For children interviews, the children were asked information regarding their feelings and behaviors. However, for purposes of this study besides mother demographic information, only caregiver and child data was used.

Demographics: Demographics for the mother, child, and caregiver were collected through the Child and Family Demographic Interview (see Appendix A). Mothers and caregivers gave information about their age, ethnicity, educational attainment, marital status.

Additionally, mothers and caregivers reported the age, gender, ethnicity, grade level of the child, as well as whether the child had a physical or mental illness. Demographic statistics are represented in Table 1.

Caregiver Risks Factors: Risks factors, particularly age and recently becoming a primary caregiver, were determined through reported information in the Child and Family Demographic Interview and the History of Separation Interview (see Appendix A). For caregivers, from the Child and Family Demographic Interview, risks factors were measured as: marital status, *0= Married, 1= Single, divorced, separated, or widowed*; ethnicity, *0= White, 1= Not White*; educational attainment, *0= High School graduate (including GED), 1= Did not finish High School*; employment, *0=Employed, 1= Not employed*; and number of children in the home, *0= 1-3 children, 1= 4 or more children*. For all of these risk factor measures, *0= not at risk, and 1= at risk* for each particular risks factor. Risks due to aging was coded as *0= Adult, under age of 55, 1= Elderly, over age of 56*. A total of the amount of risks factors was calculated, with 5 being the most risks a caregiver could have.

The History of Separation Interview measured how long the child has been in the care of the caregiver as well as how long the child has been living in the home. Depending on their responses the caregivers were then grouped into three categories: *1: current caregivers who the child has not lived with previously, 2: current caregivers who the child has lived with but mother co-resided and 3: current caregivers who child has lived with but mother did not co-reside.* These categories were determined by the caregiver's response to two questions: question 1, *How long in (years or months) has the child lived in this home with you?;* and question 2, *Indicate how many adults lived in the homes in the last 12 months including yourself:*. For a caregiver to have been placed in category 1, their answer in variable 1 must have been: *6 months or less*. For

a caregiver to have been placed in category 2, the caregiver must have answered: *that the mother did live in home in the last 12 months and for how long*. If mother had been entered, the amount of time the caregiver was alone raising the child once the mother was put in jail was calculated and must have been: *6 months or less.* For a caregiver to have been placed in category 3, their answer in variable 1 must have been: *more than 6 months*.

Caregiver Mental Health: The caregivers were administered the Psychiatric Diagnostic Screen Questionnaire (PSQ) (Zimmerman & Mattia, 2001a). The questionnaire is a self-report scale that screens for the most common DSM-IV axis I disorders. The test contains roughly 125 items that are answered either yes or no and range from a period of past two weeks or past six months (see Appendix B). The questionnaire contains 13 subscales: major depressive disorder [MDD], for example: *During the past two weeks…Did you feel sad or depressed?*; bulimia, for example: *During the past 2 weeks…Did you often feel you could not control how much you were eating during an eating binge?*; post-traumatic stress disorder [PTSD], for example: *During the past two weeks…Did thoughts about a traumatic event frequently pop into your mind?*; panic disorder, for example: *During the past two weeks…Did you get very scared because your heat was beating fast?*; agoraphobia, for example: *During the past six months…Did you feel fearful, anxious, or nervous driving or riding in a car?*; social phobia, for example: *During the past six months…Did you worry about embarrassing yourself while eating in front of other people?*; generalized anxiety disorder [GAD], for example: *During the past six months…Were you a nervous person on most days?*; obsessive-compulsive disorder [OCD], for example: *During the past two weeks…Did you count things obsessively and excessively?*; alcohol abuse/dependence, for example: *During the past six months…Did you think that you were drinking too much?*; drug abuse/dependence, for example: *During the past two weeks…Did you think you had a drug*

problem?; somatization, hypochondriasis, and psychosis. For this study, somatization, hypochondriasis, and psychosis were not coded. Additionally, any question regarding suicide was not included. The scales were coded using the manual which sums up the number of item endorsements. From the results, the caregiver could be either borderline, critical, or show no symptoms of the scaled disorder.

Zimmerman and Mattia (2001b) found this questionnaire to be highly reliable (test-retest correlation coefficients were .80 or higher. Sheeran and Zimmerman (2004) found the PSQ to have high convergent validity with other measures. The researchers found, "high correlations were found between each of the respective diagnostic measures: Beck anxiety Inventory, Agoraphobia subscale of the Social Phobia and Anxiety Inventory correlation was 0.65 ($p <$ 0.01), and the Whitely Index and physical symptom scale correlation was 0.62, ($p < 0.01$)" (p. 54).

Caregiver Parenting Style: Caregivers completed the Parental Modernity Inventory (PMI) (Schaefer & Edgerton, 1985). The PMI assesses whether the parent has a progressive or traditional parenting style. The questionnaire has 30 items with two subscales measured (see Appendix C). The questionnaire is based on 5 point Likert scale with higher values indicating a stronger degree of reliance or representativeness. For each particular question, the interviewee may respond as: *1= Strongly Disagree, 2= Mildly Disagree, 3= Not sure, 4= Mildly Agree, 5= Strongly Agree*. Of the two subscales, the Progressive Parenting measures democratic belief values. For example: *6: Children should be allowed to disagree with their parents if they feel their own ideas are better.* On the other hand, the Traditional Parenting measures authoritarian belief values. For example: *3. Children should always obey the teacher.* The overall answers for each question are summed up and each question falls under a different scale. Questions 1-4, 7-

10, 12, 14, 16-19, 22, 24-26, 28, and 30 measure Traditional Parenting Beliefs, while questions 6, 11, 13, 15, 20, 23, 27 and 29 measure Progressive Parenting Beliefs.

Multiple tests have found this inventory to be moderately reliable. According to Vogel and colleagues (2011), they reported Cronbach's alpha coefficients of .59 and .58 for the adapted Traditional Beliefs and Progressive Beliefs subscales. With regards to validity, the scale has demonstrated high concurrent validity. Schaefer and Edgerton (1985) found that the scores on the PMI correlated with parents and teachers on child verbal intelligence at .55 combines.

Caregiver Parenting Behavior: Caregivers completed the Parent Behavior Inventory (PBI) (Lovejoy, Weis, O'Hare, & Rubin, 1999). The PBI assesses parent/caregiver behavior directed towards the child. There questionnaire has 20 items with two subscales measured (see Appendix D). An interviewee may respond for each particular question with*: 0= not at all true (I do not do this), 1= a little true, 2= somewhat true, 3= moderately true, 4= quite a bit true, 5= very true (I often do this)*. The questions were scored on a 5-point Likert scale with higher values indicating a stronger degree of relevance or representativeness. Of the two subscales, the Supportive/Engaged subscale measures warmth and attention a parent administers to their child. For example: *I have pleasant conversations with my child*. The Hostile/Coercive subscale measures aggression and negligence a parent administers to their child. For example: *I grab or handle my child roughly.*

Lovejoy et al. (1999) found "this inventory to be reliable (test-retest reliability coefficients were .69 and .74 the Hostile/Coercive and Supportive/Engaged scales" (p. 539). There inventory was also found to be valid. External validity was tested against three different measures: Positive and Negative Affect Schedule (PANAS), Eyberg Child Behavior Inventory

(ECBI), and the Parenting Stress Index—Short Form (PSI—SF). The researchers found a significant correlation for all three of the measures (Lovejoy et al., 1999).

Children's Depressive Symptoms: To examine symptoms of depression, the child completed the Child Depression Inventory (CDI) (Kovacs, 1992). The CDI measures the extent and severity of depressive symptoms in children aged 7 to 17. The inventory contains 27 questions in which each question the child is given three sentences and then they choose which statement most accurately describes their emotion in last two weeks (see Appendix E). According to Kovacs, "the three choices for each item correspond to three levels of symptomatology: *0 (absence of symptom), 1 (mild or probably symptom), or 2 (definite symptom)*. The test touches upon various depressive symptoms such as hopelessness and low self-evaluation. The scale has five subscales: negative mood, for example: *Things bother me all the time, Things bother me many times, Things bother me once in a while*; interpersonal problems, for example: *I have plenty of friends, I have some friends but I wish I had more, I do not have any friends*; ineffectiveness, for example: *I do most things O. K. , I do many things wrong, I do everything wrong*; anhedonia, for example: *I feel like crying every day, I feel like crying many days, or I feel like crying once in a* while; and negative self-esteem, for example: *I can never be as good as other kids, I can be as good as other kids if I want to, I am just as good as other kids.* The scale was scored by adding up the number from each response to attain a total CDI score. For each subscale there are particular questions that assess that subscale, thus by adding up those numbers gets the subscales total.

The CDI has been found to be very reliable (Cronbach's alpha was .86 for internal consistency) (Kovacs, 1992). According to Helsel and Matson (1984), "the data further validated the consistently high internal reliability of the CDI. Additionally, Pearson product-

moment correlations on item to total score were in the high range and statistically significant for all 27 items" (p. 292). With regards to validity, studies have shown the CDI to be very valid with regards to construct and discriminant validity (Carey et al, 1987; Romano & Nelson, 1988).

Children's Symptoms of Anxiety: To test anxiety, the child was administered the Multidimensional Anxiety Scale (MASC) (March, Parker, Sullivan, Stallings, & Conners, 1997). The MASC assesses a child's anxiety level with regards to different types of anxiety. The scale has 39 items (see Appendix F). The children are asked to answer the questions with: *0= never true about me, 1= rarely true about me, 2= sometimes true about me, 3= often true about me.* The scale measures four factors: physical symptoms (tense/restless and somatic/autonomic), for example: *I feel tense or uptight*; social anxiety (humiliation/rejection and public performance fears), for example: *I worry about being getting called on in class*; harm avoidance (perfectionism and anxious coping), for example: *I try do everything exactly right*; and separation anxiety, for example: *I get scared when my parents go away*. The scale was scored by "adding the numbers of each question in the white boxes for each column, and writing the sum in the appropriate box at the bottom of the sheet. Then adding the subscale values together to get the values for the various MASC scales scores, as well for the value for the total MASC score" (March, 1997, p. 7).

This scale is valid and reliable through various validity tests (construct, factorial, discriminant) and reliability tests (internal, mean inter-item correlations, test-retest reliability) (March, 1997). According to Baldwin and Dadds (2007), "internal reliability estimates ranged from 0.73 (separation/panic) to 0.89 (total score) for child report and from 0.70 (harm avoidance) to 0.90 (total score) for parent report. These reliability estimates indicate a moderate to strong internal reliability across all subscales and reporters" (p. 255). With regards to convergent

validity, the MASC was correlated with the Spence Children's Anxiety Scale (SCAS) scales (r = 0.76) (Baldwin & Dadds, 2007).

Results

Descriptive Statistics:

The caregivers were categorized into different groups based on age, length of time they had been caring for the child, and mother's co-residency. In addition, six groups were formed based on combinations of caregiver age (younger/older), the length of time the caregiver cared for the child (more than or less than 6 months), and mother's co-residency (yes or no).

Groups based on caregiver age. The caregivers were categorized into two age groups. Caregivers under the age of 55 were categorized as the Younger Caregiver group (n = 60, 73.2%), whereas caregivers over the age of 55 were categorized as the Older Caregiver group (n = 22, 26.8%).

Groups based on length of time caregivers have cared for the children. The caregivers were categorized based upon the length of time they have cared for the child. Caregivers who reported that they have cared for the child for less than 6 months were placed in the New Caregiver group (n = 12, 14.6%). Caregivers who reported that they have cared for the child for more than 6 months were placed in the Prior Caregiver group (n = 70, 85.4%).

Groups based on mother's co-residency. The caregivers were categorized based upon whether the mother co-resided. For mother co-residency, caregivers who reported the mother co-residing less than 6 months were placed in the Solo Caregiver group (n = 59, 72%), while caregivers who reported the mother co-residing more than 6 months in last year, were placed in the Co-Caregiver group (n = 23, 28%).

Groups based on length of caring and mother co-residency. Groups of caregivers were formed by examining combinations based on length of time caregiver cared for the child, and mother's co-residency. These groups were: New Solo Caregiver (*n* = 10, 12.2%), Prior Co-Caregiver (*n* = 23, M = 28%), Prior Solo Caregiver (*n* = 49, 59.8%). The group New Solo group could not exist thus only three groups were analyzed.

Groups based on age, length of caring, and mother co-residency. Groups of caregivers were formed by examining combinations based on caregiver age, length of time caregiver cared for the child, and mother's co-residency. These groups were: New Younger Solo Caregiver (*n* = 10, 12.2%), Prior Younger Co-Caregiver (*n* = 15, M = 18.3%), Prior Younger Solo Caregiver (*n* = 29, 35.4%), Prior Older Co-Caregiver (*n* = 8, 9.8%), Prior Older Solo Caregiver (*n* = 20, 24.4%). The New Older Solo Caregiver group had only one participant, thus that participant's data were excluded.

Hypothesis 1a: Main Effects of Caregiver Age, Length of Caring, and Mother Co-Residency on Caregiver Mental Health

The first hypothesis stated that current caregivers with whom the child has not lived with previously (New Caregiver Group), particularly older adults, will experience new stressors due to child caring which would leads to an increase in poor mental health, specifically depression and anxiety. Additionally, current caregivers with whom the child has lived with but the mother co-resided (Prior Co-Caregivers), particularly older adults, will have an increase in poor mental health due to becoming the primary caregiver with no assistance once the mother is in jail. To begin, the main effects of caregiver age, length of time caregiver has cared for the child, and mother's co-residency were examined.

Main effects of caregiver age. To examine the differences in mental health based on caregiver age a series of t-tests and correlations were conducted. Using the age categories Younger and Older, no significant differences emerged on any of the PSQ subscales (see Table 3). Additionally, there were no significant correlations between age and any of the PSQ subscales (see Table 2).

Main effects of length of time caregiver had cared for the child. To examine the differences in mental health based on length of time the caregiver has cared for the child a series of t-tests were conducted. Using the time length categories New and Prior, no significant differences emerged on any of the PSQ subscales (see Table 4).

Main effects of mother's co-residency. To examine the differences in mental health based mother's co-residency a series of t-tests were conducted. Using the categories Solo and Co-Caregiver, no significant differences emerged on any of the PSQ subscales (see Table 5).

Interactive effects of length of time the caregiver has cared for the child and mother's co-residency. A series of 2 x 2 ANOVAs were conducted to examine the interactions between the length of caregiving and mother's co-residential status on the caregivers' mental health. The group New Solo group could not exist thus only three groups were analyzed. Presence of drug use differed significantly across the three groups, F (2, 79) = 3.62, p = .03. Post hoc comparisons using the Tukey HSD test indicated that the mean score for Prior Co-Caregiver group (M = .56, SD = 1.61) was significantly higher than the Prior Solo Caregiver group (M = .00, SD = .00). There were also two marginally significant differences. First, alcohol use differed among the three groups (2, 79) = 2.88, p = .06. Post hoc comparisons using the Tukey HSD test indicated that the mean score for Prior Co-Caregiver group (M = .65, SD = 1.30) was marginally significantly higher than Prior Solo Caregiver group (M = .18, SD = .69).

Another marginally significant difference was found between OCD levels and the types of caregiver, F (2, 79) = 2.45, p = .09. Post hoc comparisons using the Tukey HSD test indicated that the mean score for New Solo Caregiver group (M = 1.50, SD = 2.41) was marginally significantly higher than Prior Solo Caregiver group (M = .51, SD = 1.15). No significant differences emerged on any other subscale of the PSQ (see Table 6).

Hypothesis 1b: Interactive Effects of Caregiver Age, Length of Caregiving, Mother's Co-Residency

A series of 3 x 2 ANOVAS were conducted comparing the groups of caregivers created on age, length of caregiving, and co-residency status on mental health. Presence of drug use differed significantly across the five groups, F (4, 77) = 3.28, p = .01. Post hoc comparisons using the Tukey HSD test indicated that the mean score for Prior Younger Co-Caregiver group (M = .86, SD = 1.95) was significantly higher than Prior Younger Solo Caregiver group (M = .00, SD = .00). There was also a significant difference between Prior Younger Co-Caregiver (M = .86, SD = 1.95) and Prior Older Solo Caregiver group (M = .00, SD = .00). No significant differences emerged on any other subscale of the PSQ (see Table 7).

Hypothesis 2: Age X Type of Caregiver and Risks Factors

The second hypothesis stated that accumulated risks factors would lead to an increase in poor mental health for older caregivers with whom the child has not lived with previously, as well as current caregivers with whom the child has lived with but the mother co-resided.

Main effects of caregiver age. To examine the differences in risks factors based on caregiver age, a series of t-tests and correlations were conducted. Using the age categories Younger and Older, no significant differences emerged with regards to risks factors (see Table

3). Additionally, there were no significant correlations between age and risks factors (see Table 2).

Main effects of length of time caregiver had cared for the child. To examine the differences in risks factors based on length of time the caregiver had cared for the child, a series of t-tests were conducted. Using the time length categories New and Prior, significant differences emerged on in the scores for New caregivers (M = 2.91, SD = .99) and Prior caregivers (M = 2.00, SD = 1.10) conditions; t (80) = -2.69, p = .00 (see Table 4).

Main effects of mother's co-residency. To examine the differences in risks factors based mother's co-residency, a series of t-tests were conducted. Using the categories Solo and Co-Caregiver, no significant differences emerged with regard to risks factors (see Table 5).

Interactive effects of length of time the caregiver has cared for the child and mother's co-residency. A one-way ANOVA was used to test for risks factors among the three groups of caregivers (see Table 6). Presence of risks factors differed significantly across the three groups, F (2, 79) = 4.19, p = .01. Post hoc comparisons using Tukey HSD test indicated that the mean score for New Solo Caregiver (M = 3.00, SD = 1.05) was significantly higher than Prior Solo (M = 1.91, SD = 1.05). The Prior Co-Caregiver group was not significantly different from the other two groups with regards to risks factors (see Table 6).

Interactive effects of age, length of time the caregiver has cared for the child, and mother's co-residency. A one-way ANOVA was used to test for risks factors among the five groups of caregivers (see Table 7). Presence of risks factors differed significantly across the five groups, F (4, 77) = 4.07, p = .00. Post hoc comparisons using Tukey HSD test indicated that the mean score for New Younger Solo Caregiver (M = 3.00, SD = 1.05) was significantly different than Prior Younger Solo Caregiver (M = 1.58, SD = 1.01).

Hypothesis 3: Age X type of Caregiver and Parental Behavior & Modernity

Hypothesis three stated that those caregivers who had an increase in poor mental health may have an increase in poor parenting behavior. Parenting style was operationalized by parental beliefs (progressive vs. traditional) and parental behavior (hostile/coercive vs. supportive/engaged).

Mental health and parenting style. To examine the differences in parenting styles (beliefs and behaviors) based on caregiver mental health, a series of correlations were conducted (see Table 2). With regards to parental beliefs there was a significant negative correlation between progressive parental beliefs and panic disorder, r (82) = -.24 p < .05. Additionally, there was a significant positive correlation between traditional parental beliefs and obsessive-compulsive disorder, r (82) = .22, p < .05.

With regards to parental behavior, there was a significant negative correlation between supportive/engaged parental behavior and post-traumatic stress disorder, r (81) = -.25 p < .05. Additionally, there was a significant negative correlation between supportive/engaged parental behavior and panic disorder, r (82) = -.21 p < .05. Furthermore, there was a significant negative correlation between supportive/engaged parental behavior and agoraphobia, r (82) = -.22 p < .05. There was also a significant negative correlation between supportive/engaged parental behavior and social phobia, r (82) = -.24 p < .05. Moreover, there was a significant negative correlation between supportive/engaged parental behavior and PSQ total score, r (82) = -.23 p < .05.

Main effects of caregiver age. To examine the differences in parental beliefs and parental behavior based on caregiver age a series of correlations were conducted. Using the age categories Younger and Older, no significant differences emerged with regards to parental

beliefs or parental behavior (see Table 3). Additionally, there were no significant correlations between age and parenting styles (see Table 2).

Main effects of length of time caregiver had cared for the child. To examine the differences in parental beliefs and parental behavior based on length of time the caregiver had cared for the child a series of t-tests were conducted. Using the length categories New and Prior, no significant differences emerged with regards to parental beliefs or parental behavior (see Table 4).

Main effects of mother's co-residency. To examine the differences in parental beliefs and parental behavior based on mother's co-residency, a series of t-tests were conducted. Using the mother's co-residency categories Solo and Co-Caregiver, no significant differences emerged with regards to parental beliefs or parental behavior (see Table 5).

Interactive effects of length of time the caregiver has cared for the child and mother's co-residency. A one-way ANOVA was used to test for differences in parental beliefs and parental behavior among the three groups of caregivers. There were no significant differences between the three groups for parental beliefs or parental behavior (see Table 6).

Interactive effects of age, length of time the caregiver has cared for the child, and mother's co-residency. A one-way ANOVA was used to test for differences in parental beliefs and parental behavior among the five groups of caregivers (see Table 7). There were no differences in parenting beliefs with regards to the five groups. However, with regards to self-reported parental behavior there were significant differences among the five groups. Presence of hostile and coercive parenting behavior differed significantly across the five categories, F (4, 77) = 2. 61, p = .041 (see Figure 1). Post hoc comparisons using the Tukey HSD test indicated that

the mean score for Prior Younger Co-Caregiver (M = 23.26, SD = 14.23) was marginally different than New Younger Solo Caregiver (M = 14.00, SD = 5.22).

Risks factors and parenting style. To examine the differences in parenting style (beliefs and behaviors) based on risks factors a series of correlations were conducted (see Table 2). With regards to parenting beliefs there was a significant positive correlation between total risks and traditional parenting beliefs, r (82) = .40 p <.01. Additionally, a Pearson product-moment correlation coefficient was computed to assess the relation between total risks and parenting behavior (see Table 2). There was a significant positive correlation between total risks and hostile/coercive parental behavior, r *(82)* = .27 p < .05.

Hypothesis 4: Mental Health, Hostile/Coercive Parenting Behavior, CDI, and MASC

Hypothesis four stated that an increase in poor mental health and poor parenting (hostility and neglect) would correlate with children's internalizing symptoms. Children's internalizing symptoms was operationalized as depression symptoms and anxiety levels.

Mental health and children's internalizing symptoms. To examine the differences in children's internalizing symptoms (depression and anxiety) based on caregiver mental health a series of correlations were conducted (see Table 2). With regards to depression symptoms, there was a significant negative correlation between interpersonal problems and obsessive-compulsive disorder, r (82) = -.23 p < .05. Additionally, there was a significant positive correlation between negative mood and drug abuse, r (82) = .26 p < .05. There were no significant correlations between anxiety levels and children's internalizing symptoms.

Parenting style and children's internalizing symptoms. To examine the differences in children's internalizing symptoms (depression and anxiety) based on caregiver parenting style (beliefs and behavior), a series of correlations were conducted (see Table 2). With regards to

parenting beliefs, there were no significant correlations for either anxiety levels or depression symptoms. However, there was a significant positive correlation between parental behavior of hostility/coercion and child depression interpersonal problems, r (82) = .24 p < .05. Additionally, there was a significant positive correlation between parental behavior of hostility/coercion and child social anxiety, r (79) = .22 p < .05. Furthermore, there was a significant positive correlation between parental behavior of hostility/coercion and child physical anxiety symptoms, r (77) = .24 p < .05.

Main effects of caregiver age. To examine the differences in children's internalizing symptoms based on caregiver age, a series of correlations were conducted. Using the age categories Younger and Older, no significant differences emerged with regards to children's internalizing symptoms (see Table 3). Additionally, there were no significant correlations between age and children's internalizing symptoms (see Table 2).

Main effects of length of time caregiver had cared for the child. To examine the differences in children's internalizing symptoms based on length of time caregiver had cared for the child, a series of t-tests were conducted. Using the categories New and Prior, no significant differences emerged with regards to children's internalizing symptoms (see Table 4).

Main effects of mother's co-residency. To examine the differences in children's internalizing symptoms based on mother's co-residency a series of t-tests were conducted (see Table 5). Using the mother's co-residency categories Solo and Co-Caregiver, there was a significant difference, with regards to children's negative mood reports, in the scores for Solo Caregiver (M = 1.74, SD = 1.72) and Co-Caregiver (M = 2.86, SD = 2.98) conditions; t (80) = -2.12, p = .03.

Interactive effects of length of time the caregiver has cared for the child and mother's co-residency. A one-way ANOVA was used to test for children's internalizing symptoms and differences among the three groups of caregivers. There were no significant differences between the three groups and children's internalizing symptoms (see Table 6).

Interactive effects of age, length of time the caregiver has cared for the child, and mother's co-residency. A one-way ANOVA was used to test for children's internalizing symptoms and differences among five groups of caregivers (see Table 7). There were no significant differences between the five groups and children's internalizing symptoms.

Risks factors and children's internalizing symptoms. To examine the differences in children's internalizing symptoms (depression and anxiety) based on risks factors, a series of correlations were conducted (see Table 2). There were no significant correlations between depression symptoms and risks factors. There were also no significant correlations between anxiety levels and risks factors.

Discussion

Previous research has focused on the impact maternal incarceration has on children; however this study illuminates the effects maternal incarceration has on caregivers. The results of the present analyses indicate that an interaction of age, mother co-residency, and length of time the caregiver has cared for the child are linked to caregiver drug use and hostile/coercive parenting behavior. Younger caregivers who reported that they have cared for the child for more than 6 months with the mother co-residing reported higher drug use. This may be detrimental to the child because witnessing drug use may lead to drug use by the child themselves (Brook, Whiteman, & Gordon, 1983). Furthermore, children that are susceptible to drug use are linked to delinquency (Huizinga, Loeber, Thornberry, & Cothern, 2000). This is a problem because

children of incarcerated parents are already susceptible to intergenerational incarceration (Dallaire, 2007).

With regards to parental behavior, younger caregivers who reported that they have cared for the child for more than 6 months with the mother co-residing reported higher hostile/coercive parenting behavior. Furthermore, higher hostile/coercive parenting behavior was positively associated with the interpersonal problems subscale of the Child Depression Inventory (CDI) as well as the social anxiety and physical symptoms subscales of the Multidimensional Anxiety Scale (MASC). This finding supports previous research that demonstrated that poor parenting behavior has negative effects on children's internalizing symptoms. In a study by Ge, Best, Cogner and Simons (1996), the researchers assessed parenting practices observed when children were in 7th, 8th, and 9th grades and then measured adolescent adjustment problems at 10th grade. The researchers found that parents of 10th grades with co-occurring problems, such as depression symptoms and conduct problems, demonstrated the lowest levels of warmth and disciplinary skills and the highest levels of hostility when the children were in 7th, 8th, and 9th grades (Ge, Best, Cogner, & Simons, 1996). Similar results were found in studies with a younger age group (Schwartz et al., 2011). However, perhaps children's internalizing symptoms may lead the caregivers to exhibit more hostile behavior.

Caregivers were also seen to be affected by risks factors, such as unemployment and poor educational attainment. Specifically, presence of risks factors were higher with younger caregivers who have cared for the child for less than 6 months without the mother co-residing. Furthermore, these risks factors were positively correlated with hostile/coercive parental behavior. The present study is consistent with findings by McLoyd (2008) which indicate that risk factors, mainly economic hardship, diminish supportive, consistent and involved parenting.

Research has indicated that risks factors create more caregiver stress (Bowers & Meyers, 199). This stress may make the caregiver exhibit poor parenting behaviors, such as neglect and hostility, which could affect the child (Mackintosh, Myers, & Kennon, 2005).

Although many of this study's hypotheses received support, individually, age, mother co-residency, and length of time the caregiver has cared for the child had minimal effects on caregiver mental health. The only finding suggested a marginal difference in obsessive-compulsive disorder levels in new caregivers with which the mother did not co-reside. However, caregiver drug use and poor parenting behavior are affected by an interaction of these three variables, including mother co-residency. These findings further illuminate previous research on co-residency and parenting. According to Hamilton (2005), "associations between extended families and adolescent well-being is not as straightforward as often assumed and that their impact varies with outcome of interest, the relationship to the child, and other characteristics within the family" (p. 266).

One of the main strengths of the study was the relatively large sample of participants in the study and the range of different backgrounds and caregiving relationships they have with the children. These differences allowed for a more expanded view of caregivers who have cared for a child for different lengths of time. Additional strengths of the study included the use of several subscales to thoroughly examine different aspects of mental health on these caregivers and whether age, mother co-residency, and length of time caregiving had an effect. Furthermore, the use of two subscales for parental behavior allowed examination of both positive and negative parenting behavior and its association with children's internalizing symptoms. Moreover, children reported their own symptoms of anxiety and depression and research has shown that

children are thought to be the most valid reporters of their internal experiences (Achenbach, McConaughy, & Howell, 1987).

However, there were some limitations to the study. The caregivers that participated in this study all volunteered to participate, which may represent a positive caregiving experience due to a stable family situation. Individuals that did not participate may have a more unstable home situation, and could have been afraid to participate due to reservations about giving information that might be given to government agencies, such as child services. Thus, by having volunteer participants, the results may be skewed to more positive than negative findings. Another limitation was the lack of distribution in age among the caregivers, specifically with older adults above the age of 65. The mean age for the total population was 49.25 and there were only five participants over the age of 65, thus few older adults were represented and conclusions about the elderly could not be accounted for. Finally, there was a lack of fathers that participated. Biological fathers only made up 19.3% of the caregiver population (n = 16) thus a comparison between grandparent and father caregiving could not be fully analyzed. From these limitations, further research should incorporate a more diverse sample size which allows for more comparisons between age and types of caregivers.

The results of this study have several implications. Younger caregivers who reported that they have cared for the child for more than 6 months with the mother co-residing may be at more risks for drug use and poor parenting behavior. Interventions could be created with a focus towards this population, such as support groups for drug use and parenting classes that promote more supportive/engaged parenting. An additional implication is the role risks factors play on caregiver parenting behavior. Once the mother is incarcerated, the children will likely depend on the new primary caregiver for all of their needs which may lead to caregiver stress that may be

compounded by risks factors (Bowers & Meyers, 199). The abundance of more resources for these caregivers may help decrease stress. Further research may look at the relationship the caregiver and mother had before she went to jail and how this also affects the caregiver's parenting behavior. Further research could also look at the difference in maternal incarceration between jail and prison, and the impact this has on caregiver mental health and parenting behavior. Additionally, future research is needed in longitudinal studies of this population which can help with causality.

Perhaps the most important lesson to be learned from this study is the affect of being a young caregiver who has cared for the child for more than 6 months with whom the mother co-resided has on the caregiver's parenting behavior and drug use once the mother is incarcerated. This link to poor parenting and drug use may lead the child to more internalizing symptoms. Maternal incarceration is a growing problem that will continue to have an impact on the development of children and place them at risk for negative psychosocial outcomes (Schirmer, Nellis, & Mauer, 2009). From a prevention perspective, it is critically important to better understand the potential impact of being a young caregiver who has cared for the child for more than 6 months with whom the mother co-resided has on children's internalizing symptoms. Future interventions may help reduce and prevent poor caregiver parenting which may lead to a more positive development for children dealing with maternal incarceration.

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Appendix A

Child and Family Demographic Interview & History of Separation Interview

To begin, we'd like to learn a little more about this child.

1. What is the child's full name: _____ _____ _____
(first name) (middle initial) (last name)

2. This child is a (circle one): BOY GIRL

3. How old (in years) is this child: _____

4. What is this child's birth date: _____/_____/_____
(month) (day) (year)

5. What grade level in school is this child in (or most recently completed): _____

6. Has this child ever repeated any grades: NO YES (If yes, which grades and why):

7. What is your relation to this child (circle one):
Biological Parent Step Parent Grandparent (maternal or paternal)
Adoptive Parent Foster Parent Other (specify): _____

8. What is this child's ethnicity or race: White Black Asian Native American
Other (please describe): _____

9. Is this child Hispanic: YES NO

Now, we'd like to learn a little more about you and the people who live in the home with this child.

19. What is your age (in years):_____

20. What is your gender (circle one): MALE FEMALE

21. What best describes your marital status: SINGLE, never been married MARRIED
DIVORCED WIDOWED
OTHER (please describe): _____

22. What is your ethnicity or race: White Black Asian Native American
Other (please describe): _____

23. Are you Hispanic: YES NO

24. Of the last 12 months, how many of those months did this child live with you? _____

24. Which of the following best describes your highest level of education (that is, how far you got in school):

8th grade or less	Some High School	High School Graduate
Completed my GED	Some College	College Graduate
Completed Trade or Technical School		Some education after College
Masters Degree	Doctorate Degree (e.g., MD, Ph.D., JD)	

25. Starting with yourself, please indicate what adults (that is, people over the age of 18), have lived in this child's home for any part of the past year (12 months, or for however long the child has lived here with you):

Person (please list first name)	Age	Relation to child	How long lived there?
1. (caregiver)			
2.			
3.			
4.			
5.			

List additional people here:

26. In total, how many children (that is, people under the age of 18) have lived in this home in the past 12 months: _____

Now we'd like to figure out your family's income from the last year (previous 12 months).

27. Were you employed at all over the last year? YES NO

Now we'd like to learn a little more about this child's family and their relationship with you and his or her mother and father, starting with you:

1. How long (in years or months) has the child lived in this home with you?

2. How long (in years or months) has this child been in your care?

Appendix B

Psychiatric Diagnostic Screen Questionnaire

This form asks you about emotions, moods, thoughts, and behaviors. For each question, check the box in the Yes column if it describes how you have been acting, feeling, or thinking. If the item does not apply to you, check the box in the No column. Please answer every question.

Yes	No	DURING THE PAST 2 WEEKS…
		1. …did you feel sad or depressed?
		2. …did you feel sad or depressed for most of the day, nearly every day?
		3. …did you get less joy or pleasure from almost all of the things you normally enjoy?
		4. …were you less interested in almost all of the activities you are usually interested in?
		5. …was your appetite significantly *smaller* than usual nearly every day?
		6. …was your appetite significantly *greater* than usual nearly every day?
		7. …did you sleep at least 1 to 2 hours *less* than usual nearly every day?
		8. …did you sleep at least 1 to 2 hours *more* than usual nearly every day?
		9. …did you feel very jumpy and physically restless, and have a lot of trouble sitting calmly in a chair, nearly every day?
		10. …did you feel tired out nearly every day?
		11. …did you frequently feel guilty about things you have done?
		12. …did you put yourself down and have negative thoughts about yourself nearly every day?
		13. …did you feel like a failure nearly every day?
		14. …did you have problems concentrating nearly every day?
		15. …was decision making more difficult than normal nearly every day?
		~~16. …did you frequently think of dying in passive ways like going to sleep and not waking up?~~
		~~17. …did you wish you were dead?~~
		~~18. …did you think you'd be better off dead?~~
		~~19. …did you have thoughts of suicide, even though you would not really do it?~~
		~~20. …did you seriously consider taking your life?~~
		~~21. …did you think about a specific way to take your life?~~
		22. Have you ever experienced a traumatic event such as combat, rape, assault, sexual abuse, or any other extremely upsetting event?
		23. Have you ever witnessed a traumatic event such as rape, assault, someone dying in an accident, or any other extremely upsetting incident?
Yes	**No**	**DURING THE PAST 2 WEEKS…**
		24. …did thoughts about a traumatic event frequently pop into your mind?
		25. …did you frequently get upset because you were thinking about a traumatic event?
		26. …were you frequently bothered by memories or dreams of a traumatic event?
		27. …did reminders of a traumatic event cause you to feel intense distress?
		28. …did you try to block out thoughts or feelings related to a traumatic event?

		29. …did you try to avoid activities, places, or people that reminded you of a traumatic event?
		30. …did you have flashbacks, where it felt like you were reliving a traumatic event?
		31. …did reminders of a traumatic event make you shake, break out into a sweat, or have a racing heart?
		32. …did you feel distant and cutoff from other people because of having experienced a traumatic event?
		33. …did you feel emotionally numb because of having experienced a traumatic event?
		34. …did you give up on goals for the future because of having experienced a traumatic event?
		35. …did you keep your guard up because of having experienced a traumatic event?
		36. …were you jumpy and easily startled because of having experienced a traumatic event?
Yes	**No**	**DURING THE PAST 2 WEEKS…**
		46. …was your weight, or the shape of your body, one of the most important things that affected your opinion of yourself?
		37. …did you often go on eating binges (eating a very large amount of food very quickly over a short period of time)? IF NO GO TO 47
		38. …did you often feel you could not control how much you were eating during an eating binge?
		39. …did you go on eating binges during which you ate so much that you felt uncomfortably full?
		40. …did you go on eating binges during which you ate a large amount of food even when you didn't feel hungry?
		41. …did you eat alone during an eating binge because you were embarrassed by how much you were eating?
		42. …did you go on eating binges and then feel disgusted with yourself afterward?
		43. …were you very upset with yourself because you were going on eating binges?
		44. …to prevent gaining weight from an eating binge did you go on strict diets or exercise excessively?
		45. …to prevent weight gain from an eating binge did you force yourself to vomit or use laxatives or water pills?
Yes	**No**	**DURING THE PAST 2 WEEKS…**
		47. …did you worry obsessively about dirt, germs, or chemicals?
		48. …did you worry obsessively that something bad would happen because you forgot to do something important- like locking the door turning off the stove, or pulling out the electrical cords of appliances?
		49. …were there things you felt compelled to do over and over (for at least ½ hour per day) that you could not stop doing when you tried?
		50. …were there things you felt compelled to do over and over even though they interfered with getting other things done?
		51. …did you wash and clean yourself or things around you obsessively and excessively?
		52. …did you obsessively and excessively check things or repeat actions over and

		over again?
		53. …did you count things obsessively and excessively?
Yes	**No**	**DURING THE PAST 2 WEEKS…**
		54. …did you get very scared because your heart was beating fast?
		55. …did you get very scared because you were short of breath?
		56. …did you get very scared because you were feeling shaky or faint?
		57. …did you get sudden attacks of intense anxiety or fear that came on from out of the blue, for no reason at all?
		58. …did you get sudden attacks of very intense anxiety or fear during which you thought something terrible might happen, such as your dying, going crazy, or losing control?
		59. …did you have sudden, unexpected attacks of anxiety during which you had three or more of the following symptoms: heart racing or pounding, sweating, shakiness, shortness of breath, nausea, dizziness, or feeling faint?
		60. …did you worry a lot about having unexpected anxiety attacks?
		61. …did you have anxiety attacks that caused you to avoid certain situations or to change your behavior or normal routine?
Yes	**No**	**DURING THE PAST 2 WEEKS…**
		62. …did things happen that you knew were true, but that other people told you were your imagination?
		63. …were you convinced that other people were watching you, talking about you, or spying on you?
		64. …did you think that you were in danger because someone was plotting to hurt you?
		65. …did you think that you had special powers other people didn't have?
		66. …did you think that some outside force or power was controlling your body or mind?
		67. …did you hear voices that other people didn't hear, or see things that other people didn't see?
Yes	**No**	**DURING THE PAST 6 MONTHS…**
		68. …did you regularly avoid any situations because you were afraid they'd cause you to have an anxiety attack?
		69. …did any of the following make you feel fearful, anxious, or nervous because you were afraid you'd have an anxiety attack in the situation? a. going outside far away from home b. being in crowded places c. standing in long lines d. being on a bridge or in a tunnel e. traveling in a bus, train, or plane f. driving or riding in a car g. being home alone h. being in wide-open spaces (like a park)
		70. …did you almost always get very anxious as soon as you were in any of the above situations?
		71. …did you avoid any of the above situations because they made you feel anxious or fearful?

Yes	No	DURING THE PAST 6 MONTHS…
		72. …did you worry a lot about embarrassing yourself in front of others?
		73. …did you worry a lot that you might do something to make people think that you were stupid or foolish?
		74. …did you feel very nervous in situations where people might pay attention to you?
		75. …were you extremely nervous in social situations?
		76. …did you regularly avoid any situations because you were afraid you'd do or say something to embarrass yourself?
		77. …did you worry a lot about doing or saying something to embarrass yourself in any of the following situations? a. public speaking b. eating in front of other people c. using public restrooms d. writing in front of others e. saying something stupid when you were with a group of people f. asking a question when in a group of people g. business meetings h. parties or other social gatherings
		78. …did you almost always get very anxious as soon as you were in any of the above situations?
		79. …did you avoid any of the above situations because they made you feel anxious or fearful?
Yes	**No**	**DURING THE PAST 6 MONTHS…**
		80. …did you think that you were drinking too much?
		81. …did anyone in your family think or say that you were drinking too much, or that you had an alcohol problem?
		82. …did friends, a doctor, or anyone else think or say that you were drinking too much?
		83. …did you think about cutting down or limiting your drinking?
		84. …did you think that you had an alcohol problem?
		85. …because of your drinking did you have problems in your marriage; at your job; with your friends or family; doing household chores; or in any other important area of your life?
Yes	**No**	**DURING THE PAST 6 MONTHS…**
		86. …did you think that you were using drugs too much?
		87. …did anyone in your family think or say that you were using drugs too much, or that you had a drug problem?
		88. …did friends, a doctor, or anyone else think or say that you were using drugs too much?
		89. …did you think about cutting down or limiting your drug use?
		90. …did you think you had a drug problem?
		91. …because of your drug use did you have problems in your marriage; at your job; with your friends or family; doing household chores/ or in any other important area of your life?
Yes	**No**	**DURING THE PAST 6 MONTHS…**

		92. …were you a nervous person on most days?
		93. …did you worry a lot that bad things might happen to you or someone close to you?
		94. …did you worry about things that other people said you shouldn't worry about?
		95. …were you worried or anxious about a number of things in your daily life on most days?
		96. …did you often feel restless or on edge because you were worrying?
		97. …did you often have problems falling asleep because you were worrying about things?
		98. …did you often feel tension in your muscles because of anxiety or stress?
		99. …did you often have difficulty concentrating because your mind was on your worries?
		100. …were you often snappy or irritable because you were worrying or feeling stressed out?
		101. …was it hard for you to control or stop your worrying on most days?
Yes	**No**	**DURING THE PAST 6 MONTHS…**
		102. …have you had a lot of stomach and intestinal problems such as nausea, vomiting, excessive gas, stomach bloating, or diarrhea?
		103. …have you been bothered by aches and pains in many different parts of your body?
		104. Do you get sick more than most people?
		105. Has your physical health been poor most of your life?
		106. Are your doctors usually unable to find a physical cause for your physical symptoms?
Yes	**No**	**DURING THE PAST 6 MONTHS…**
		107. …did you often worry that you might have a serious physical illness?
		108. …was it hard to stop worrying that you have a serious physical illness?
		109. …did your doctor say you didn't have a serious illness but it was still hard to stop thinking about it?
		110. …did you worry so much about having a serious illness that it interfered with your activities or it caused you problems?
		111. …did you visit the doctor a lot because you were worried that you had a serious physical illness?

Appendix C

Parental Modernity Inventory

Here are some statements other parents have made about rearing and educating children. For each one, please circle the answer that best indicates how you feel <u>in general</u>, not just about your own child.

		Strongly Disagree	**Mildly Disagree**	**Not Sure**	**Mildly Agree**	**Strongly Agree**
1.	Since parents lack special training in education, they should not question the teacher's teaching methods.	1	2	3	4	5
2.	Children should be treated the same regardless of differences among them.	1	2	3	4	5
3.	Children should always obey the teacher.	1	2	3	4	5
4.	Preparing for the future is more important for a child than enjoying today.	1	2	3	4	5
5.	Children will not do the right thing unless they must.	1	2	3	4	5
6.	Children should be allowed to disagree with their parents if they feel their own ideas are better.	1	2	3	4	5
7.	Children should be kept busy with work and study at home and at school.	1	2	3	4	5
8.	The major goal of education is to put basic information into the minds of the children.	1	2	3	4	5
9.	In order to be fair, a teacher must treat all children alike.	1	2	3	4	5
10.	The most important thing to teach children is absolute obedience to whoever is in authority.	1	2	3	4	5
11.	Children learn best by doing things themselves rather than listening to others.	1	2	3	4	5
12.	Children must be carefully trained early in life or their					

	natural impulses will make them unmanageable.	1	2	3	4	5
13.	Children have a right to their own point of view and should be allowed to express it.	1	2	3	4	5
14.	Children's learning results mainly from being presented basic information again and again.	1	2	3	4	5
15.	Children like to teach other children.	1	2	3	4	5
16.	The most important thing to teach children is absolute obedience to parents.	1	2	3	4	5
17.	The school has the main responsibility for a child's education.	1	2	3	4	5
18.	Children generally do not do what they should unless someone sees to it.	1	2	3	4	5
19.	Parents should teach their children that they should be doing something useful at all times.	1	2	3	4	5
20.	It's all right for a child to disagree with his/her parents.	1	2	3	4	5
21.	Children should always obey their parents.	1	2	3	4	5
22.	Teachers need not be concerned with what goes on in a child's home.	1	2	3	4	5
23.	Parents should go along with the game when their child is pretending something.	1	2	3	4	5
24.	Parents should teach their children to have unquestioning loyalty to them.	1	2	3	4	5
25.	Teachers should discipline all the children the same.	1	2	3	4	5
26.	Children should not question the authority of their parents.	1	2	3	4	5
27.	What parents teach their child at home is very important to his/her school success.	1	2	3	4	5
28.	Children will be bad unless they are taught what is right.	1	2	3	4	5

29.	A child's ideas should be seriously considered in making family decisions.	1	2	3	4	5
30.	A teacher has no right to seek information about a child's home background.	1	2	3	4	5

Appendix D

Parent Behavior Inventory

For this next questionnaire, please think about how you and your child generally get along. Tell us how well the statement describes the way you usually act with your child.

0 ***not at all true (I do not do this)*** **1** ***a little true*** **2** ***somewhat true***
3 ***moderately true*** **4** ***quite a bit true*** **5** ***very true (I often do this)***

____ I have pleasant conversations with my child.

____ When my child asks for help or attention, I ignore him/her or make him/her wait until later.

____ I threaten my child.

____ I try to teach my child new things.

____ I lose my temper when my child doesn't do something I ask him/her to do.

___ My child and I hug and/or kiss each other.

____ I spank or use physical punishment with my child.

____ I laugh with my child about things we find funny.

____ When my child misbehaves, I let him/her know what will happen if s/he doesn't behave.

____ I demand that my child does something (or stop doing something) right away.

____ I listen to my child's feelings and try to understand them.

____ I complain about my child's behavior or tell my child I don't like what s/he is doing.

____ I comfort my child when s/he seems scared, upset, or unsure.

____ I hold or touch my child in an affectionate way (e.g., loving or caring)

____ I offer to help, or help my child with things s/he is doing.

____ I grab or handle my child roughly.

____ I thank or praise my child.

____ I say mean things to my child that can make him/her feel bad.

____ When I am disappointed in my child's behavior, I remind him/her about what I've done for him/her.

____ My child and I spend time playing games, doing crafts, or doing other activities.

Appendix E

Child Depression Inventory

I am going to read you three sentences. Choose the one that best describes you in the past two weeks.

Item 1

- ☐ I am sad once in a while.
- ☐ I am sad many times.
- ☐ I am sad all the time.

Item 2

- ☐ Nothing will ever work out for me.
- ☐ I am not sure if things will work out for me.
- ☐ Things will work out for me O.K.

Item 3

- ☐ I do most things O.K.
- ☐ I do many things wrong.
- ☐ I do everything wrong.

Item 4

- ☐ I have fun in many things.
- ☐ I have fun in some things.
- ☐ Nothing is fun at all.

Item 5

- ☐ I am bad all the time.
- ☐ I am bad many times.
- ☐ I am bad once in a while.

Item 6

- ☐ I think about bad things happening to me once in a while.
- ☐ I worry that bad things will happen to me.
- ☐ I am sure that terrible things will happen to me.

Item 7

- ☐ I hate myself.
- ☐ I do not like myself.
- ☐ I like myself.

Item 8

- ☐ All bad things are my fault.

☐ Many bad things are my fault.
☐ Bad things are not usually my fault.

~~Item 9~~

~~☐ I do not think about killing myself.~~
~~☐ I think about killing myself but I would not do it.~~
~~☐ I want to kill myself.~~

Item 10

☐ I feel like crying every day.
☐ I feel like crying many days.
☐ I feel like crying once in a while.

Item 11

☐ Things bother me all the time.
☐ Things bother me many times.
☐ Things bother me once in a while.

Item 12

☐ I like being with people.
☐ I do not like being with people many times.
☐ I do not want to be with people at all.

Item 13

☐ I cannot make up my mind about things.
☐ It is hard to make up my mind about things.
☐ I make up my mind about things easily.

Item 14

☐ I look O.K.
☐ There are some bad things about my looks.
☐ I look ugly.

Item 15

☐ I have to push myself all the time to do my schoolwork.
☐ I have to push myself many times to do my schoolwork.
☐ Doing schoolwork is not a big problem.

Item 16

☐ I have trouble sleeping every night.
☐ I have trouble sleeping many nights.
☐ I sleep pretty well.

Item 17

- ☐ I am tired once in a while.
- ☐ I am tired many days.
- ☐ I am tired all the time.

Item 18

- ☐ Most days I do not feel like eating.
- ☐ Many days I do not feel like eating.
- ☐ I eat pretty well.

Item 19

- ☐ I do not worry about aches and pains.
- ☐ I worry about aches and pains many times.
- ☐ I worry about aches and pains all the time.

Item 20

- ☐ I do not feel alone.
- ☐ I feel alone many times.
- ☐ I feel alone all the time.

Item 21

- ☐ I never have fun at school.
- ☐ I have fun at school only once in a while.
- ☐ I have fun at school many times.

Item 22

- ☐ I have plenty of friends.
- ☐ I have some friends but I wish I had more.
- ☐ I do not have any friends.

Item 23

- ☐ My schoolwork is alright.
- ☐ My school work is not as good as before.
- ☐ I do very badly in subjects I used to be good in.

Item 24

- ☐ I can never be as good as other kids.
- ☐ I can be as good as other kids if I want to.
- ☐ I am just as good as other kids.

Item 25

- ☐ Nobody really loves me.
- ☐ I am not sure if anybody loves me.
- ☐ I am sure that somebody loves me.

Item 26

- ☐ I usually do what I am told.
- ☐ I do not do what I am told most times.
- ☐ I never do what I am told.

Item 27

- ☐ I get along with people.
- ☐ I get into fights many times.
- ☐ I get into fights all the time.

Appendix F

Multidimensional Anxiety Scale

This questionnaire asks about times when you feel worried or nervous. If a sentence is true about you a lot of the time, circle 3. If it is true about you some of the time, circle 2. If it is true about you once in a while, circle 1. If a sentence is not ever true about you, circle 0.
Let's do two practice examples first.

	Never true about me	**Rarely true about me**	**Sometimes true about me**	**Often true about me**
Example A: I'm scared of dogs	0	1	2	3
Example B: Thunderstorms upset me	0	1	2	3
1. I feel tense or uptight	0	1	2	3
2. I usually ask permission	0	1	2	3
3. I worry about other people laughing at me	0	1	2	3
4. I get scared when my parents go away	0	1	2	3
5. I keep my eyes open for Danger	0	1	2	3
6. I have trouble getting my Breath	0	1	2	3
7. The idea of going away to camp scares me	0	1	2	3
8. I get shaky or jittery	0	1	2	3
9. I try to stay near my mom or Dad	0	1	2	3
10. I'm afraid that other kids will make fun of me	0	1	2	3
11. I try hard to obey my parents and teachers	0	1	2	3
12. I get dizzy or faint feelings	0	1	2	3
13. I check things out first	0	1	2	3
14. I worry about getting called on in class	0	1	2	3
15. I'm jumpy	0	1	2	3
16. I'm afraid other people will think I'm stupid	0	1	2	3
17. I keep the light on at night	0	1	2	3
18. I have pains in my chest	0	1	2	3

19. I avoid going to places without my family	0	1	2	3
20. I feel strange, weird, or unreal	0	1	2	3
21. I try to do things other people will like	0	1	2	3
22. I worry about what other people think of me	0	1	2	3
23. I avoid watching scary movies and TV shows	0	1	2	3
24. My heart races or skips beats	0	1	2	3
25. I stay away from things that upset me	0	1	2	3
26. I sleep next to someone from my family	0	1	2	3
27. I feel restless and on edge	0	1	2	3
28. I try to do everything exactly right	0	1	2	3
29. I worry about doing something stupid or embarrassing	0	1	2	3
30. I get scared riding in the car or on the bus	0	1	2	3
31. I feel sick to my stomach	0	1	2	3
32. If I get upset or scared, I let someone know right away	0	1	2	3
33. I get nervous if I have to perform in public	0	1	2	3
34. Bad weather, the dark, heights, animals, or bugs scare me	0	1	2	3
35. My hands shake	0	1	2	3
36. I check to make sure things are safe	0	1	2	3
37. I have trouble asking other kids to play with me	0	1	2	3

38. My hands feel sweaty or cold	0	1	2	3
39. I feel shy	0	1	2	3

Table 1
Background Characteristics of Mothers, Caregivers, and Children

Variable	Range or Percentage	M	SD
Caregiver Demographics			
Age of Caregivers (years)	27-70	49.25	10.59
Caregiver Gender		--	--
Male	22 (26.5%)		
Female	61 (73.5%)		
Caregiver Ethnicity		--	--
Caucasian	26 (31.3%)		
American	55 (66.3%)		
Native American	1 (1.2%)		
Other	1 (1.2%)		
Caregiver Relation to Child		--	--
Biological Parent	16 (19.3%)		
Step Parent	2 (2.4%)		
Grandparent	54 (65.1%)		
Other	11 (13.3%)		
Caregiver Educational Attainment		--	--
8th grade or less	4 (4.8%)		
Some high school	16 (19.3%)		
High school grad	22 (26.5%)		
Completed GED	8 (9.6%)		
Some college	16 (19.3%)		
College Grad	10 (12%)		
Post Grad	7 (8.4%)		
Child Demographics			
Age of Children (years)	6-12	9.31	1.67
Child Gender		--	--
Male	43 (51.8%)		
Female	40 (48.2%)		
Child Ethnicity		--	--
Caucasian	20 (24.1%)		
African- American	52 (62.7%)		
Native American	1 (1.2%)		
Other	10 (12%)		
Child Grade Level	1-7	3.72	1.67
Mother Demographics			
Age of Mothers (years)	24-50	32.73	5.72
Mother Ethnicity		--	--
Caucasian	30 (36.1%)		
African- American	51 (61.4%)		
Other	2 (2.4%)		
Mother Educational Attainment		--	--
8th grade or less	1 (1.2%)		
Some high school	29 (34.9%)		
High school grad	10 (12%)		
Completed GED	12 (14.5%)		
Some college	23 (27.7%)		
College Grad	3 (3.6%)		
Post Grad	5 (6%)		
Biological Children	1-7	2.95	1.38

Table 2

Correlations Among Total Risks, PSQ, PMI, PBI, CDI, & MASC

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Demographic Variables																												
1. Age	.13	.02	-.00	-.12	-.04	-.02	-.02	.20	.02	-.19	.02	-.04	.13	-.02	.19	-.15	-.09	.07	.19	.06	-.04	.04	.06	.09	.18	.10	.16	.12
2. Total Risks	---	.10	.10	.09	.14	-.07	- .09	.06	-.06	.02	-.02	.07	.10	.40**	.27*	.02	.02	.02	.08	–.13	-.17	-.06	-.09	.13	-.04	-.01	-.09	-.01
PSQ																												
3. Major Depressive Disorder		---	.24*	.36*	.34**	.47**	.28**	.19	.00	.13	.62**	.69**	-.05	.12	.16	-.14	.11	.09	.08	.04	.12	.11	.20	-.01	.09	.06	.06	.13
4. Post-Traumatic Stress Disorder			---	.10	.37**	.41**	.25*	.28**	.15	.18	.38**	.60**	.02	-.01	-.04	-.25*	.15	-.04	.11	-.08	-.10	.01	.05	-.03	.10	.10	-.02	.08
5. Eating Disorder				---	.50**	.36**	.52**	.40**	.07	.27*	.41**	.60**	-.07	-.00	.15	-.06	.04	-.04	.01	.04	.03	.03	.09	.04	-.13	.07	-.06	.03
6. Obsessive-Compulsive Disorder					---	.50**	.33**	.52**	.15	.32**	.42**	.67**	.05	.22*	-.09	-.06	.05	-.23*	.12	-.20	-.07	-.09	.02	.09	.15	.13	.04	.13
7. Panic Disorder						---	.52**	.49**	.06	.16	.63**	.77**	-.24*	.03	-.03	-.21*	.07	-.05	.07	-.04	-.06	-.00	.10	.02	.16	.16	.02	.15
8. Agoraphobia							---	.56**	.09	.19	.42**	.64**	-.09	-.14	.07	-.22*	07	.00	-.03	-.01	-.02	.00	.10	.07	.03	.19	.04	.13
9. Social Phobia								---	.28**	.43**	.39**	.64**	-.17	.02	.00	-.24*	-.02	-.06	-.06	-.14	.04	-.07	.01	.06	.05	-.00	-.00	.04
10. Alcohol Dependency									---	.41**	.04	.21	.07	-.15	-.01	-.12	.00	.07	.07	.03	.10	.06	.10	-.01	.00	.13	.10	.07
11. Drug Dependency										---	.30**	.40**	.09	.05	-.00	-.06	.26*	-.04	-.12	-.06	.14	.05	.04	-.10	-.11	.01	-.02	.03
12. General Anxiety Disorder											---	.80**	-.19	-.06	-.05	-.11	.09	-.04	-.03	-.09	.02	-.02	.21	.01	.01	.05	.05	.11
13. PSQ_Total												---	-.10	.03	.03	-.23*	.13	-.04	.04	-.06	.01	.02	.16	.02	.09	.13	.04	.15
PMI																												
14. Progressive													---	-.10	.08	.09	-.14	.07	-.11	-.06	-.03	-.08	-.05	.07	-.00	.02	-.03	.00
15. Traditional														---	.09	.03	-.01	-.10	.00	-.11	-.13	.09	-.04	.06	-.02	.09	-.04	.01
PBI																												
16. PBI- Hostile/Coercive															---	-.10	.02	.24*	.12	.18	.11	.17	.24*	-.06	.22*	.15	.13	.20
17. PBI- Supportive/ Engaged																---	-.08	.05	-.11	.10	-.02	-.00	-.00	.18	.02	.09	.07	.08
CDI																												
18. Negative Mood																	---	.34**	.30**	.44**	.53**	.70**	.37**	-.05	.44*	.29*	.32**	.37**
19. Interpersonal Problems																		---	.37**	.68**	.59**	.74**	.36**	-.09	.29**	.29**	.28**	.31**
20. Eneffectiveness																			---	.54**	.40**	.67**	.21*	-.05	.29**	.16	.18	.22*
21. Anhedonia																				---	.60**	.88**	.45**	-.08	.33**	.38**	.38**	.37**
22. Negative Self-Esteem																					---	.80**	.36**	-.22*	.32**	.15	.26*	.24*
23. CDI_Total																						---	.48**	-.12	.46**	.36**	.40**	.42**
MASC																												
24. Physical Symptoms																							---	.23*	.57**	.60**	.74**	.83**
25. Harm Avoidance																								---	.32**	.29**	.48**	.55**
26. Social Anxiety																									---	.58**	.75**	.81**
27. Separation/Panic																										---	.69**	.82**
28. Anxiety Disorders Index																											---	.86**
29. MASC_Total																												----

Note. *p < .05; **p < .01 PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.

Table 3
Risk Factors, PSQ, PMI, PBI, CDI, and MASC by Caregiver Age

	Caregiver Age			
	Younger Caregiver	Older Caregiver	*t*	*df*
Risks Factors	2.06 (1.20)	2.31 (.89)	-.89	80
PSQ Variables				
Major Depressive Disorder	4.70 (3.32)	5.59 (3.63)	-1.05	80
Post-Traumatic Stress Disorder	2.55 (3.67)	2.00 (2.82)	.64	79
Eating Disorder	1.14 (2.23)	1.81 (2.03)	.30	80
Obsessive-Compulsive Disorder	.96 (2.04)	.81 (1.73)	1.15	80
Panic Disorder	1.15 (2.21)	.68 (1.64)	.90	80
Agoraphobia	.56 (1.61)	.59 (1.73)	-.05	80
Social Phobia	.85 (1.93)	.22 (.68)	1.46	80
Alcohol Dependency	.30 (.94)	.27 (.76)	.12	80
Drug Dependency	.21 (1.02)	.00 (.00)	.98	80
General Anxiety Disorder	3.11 (3.25)	3.40 (3.36)	-.35	80
PSQ_Total	16.36 (15.76)	15.45 (11.73)	.24	80
PM I Variables				
Progressive Beliefs	3.91 (.54)	3.82 (.58)	.58	80
Traditional Beliefs	3.75 (.60)	3.89 (.66)	-.92	80
PBI Variables				
Hostile/Coercive	17.95 (9.32)	20.54 (9.18)	-1.12	80
Supportive/Engaged	46.45 (5.12)	44.04 (7.02)	1.69	80
CDI Variables				
Negative Mood	2.00 (2.25)	2.22 (2.06)	-.41	80
Interpersonal Problems	.83 (1.26)	1.09 (1.15)	-.83	80
Ineffectiveness	1.15 (1.54)	1.63 (1.81)	-1.20	80
Anhedonia	3.33 (2.84)	3.81 (2.83)	-.68	80
Negative Self-Esteem	.93 (1.72)	1.38 (1.74)	-1.04	80
CDI_Total	8.26 (7.35)	10.15 (7.95)	-1.01	80
MASC Variables				
Physical Symptoms	11.61 (7.54)	13.62 (7.49)	-1.02	75
Harm Avoidance	17.93 (5.14)	18.91 (4.67)	-.77	77
Social Anxiety	10.39 (6.10)	11.80 (5.87)	-.91	77
Separation/Panic	10.75 (5.38)	11.35 (6.46)	-.40	76
Anxiety Disorders Index	13.08 (5.42)	15.33 (6.33)	-1.55	77
MASC_Total	50.49 (18.80)	54.95 (19.21)	-.92	76

Note. $*p < .05$; $**p < .01$. PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.

Table 4
Risk Factors, PSQ, PMI, PBI, CDI, and MASC by Caregiver Length of Caring of the Child

	Caregiver Length			
	New Caregiver	Prior Caregiver	*t*	*df*
Risks Factors	2.91 (.99)	2.00 (1.10)	-2.69**	80
PSQ Variables				
Major Depressive Disorder	5.00 (2.86)	4.92 (3.51)	-.06	80
Post-Traumatic Stress Disorder	2.50 (4.10)	2.39 (3.36)	-.10	79
Eating Disorder	.75 (1.35)	.95 (2.05)	.33	80
Obsessive-Compulsive Disorder	1.25 (2.26)	.50 (1.16)	-1.75	80
Panic Disorder	1.58 (2.60)	.92 (1.98)	-1.00	80
Agoraphobia	.41 (1.44)	.60 (1.68)	.35	80
Social Phobia	1.16 (1.69)	.60 (1.71)	-1.05	80
Alcohol Dependency	.08 (.28)	.32 (.95)	.87	80
Drug Dependency	.00 (.00)	.18 (.95)	.67	80
General Anxiety Disorder	3.16 (3.04)	3.20 (3.32)	.03	80
PSQ_Total	17.75 (16.20)	15.84 (14.57)	-.41	80
PM I Variables				
Progressive Beliefs	3.76 (.59)	3.91 (.54)	.86	80
Traditional Beliefs	4.09 (.34)	3.73 (.64)	-1.87	80
PBI Variables				
Hostile/Coercive	14.83 (6.14)	19.30 (9.62)	1.55	80
Supportive/Engaged	47.25 (4.33)	45.55 (5.94)	-.94	80
CDI Variables				
Negative Mood	2.33 (1.55)	2.01 (2.29)	-.46	80
Interpersonal Problems	.75 (.86)	.92 (1.28)	.46	80
Ineffectiveness	1.15 (1.54)	1.63 (1.81)	-.31	80
Anhedonia	1.41 (1.31)	1.25 (1.68)	1.05	80
Negative Self-Esteem	.52 (.69)	1.15 (1.83)	1.16	80
CDI_Total	7.66 (2.96)	8.96 (8.04)	.55	80
MASC Variables				
Physical Symptoms	10.30 (6.17)	12.44 (7.73)	.86	75
Harm Avoidance	18.75 (3.30)	18.09 (5.27)	-.41	77
Social Anxiety	10.83 (5.81)	10.76 (6.12)	-.03	77
Separation/Panic	11.41 (5.36)	10.81 (5.72)	-.33	76
Anxiety Disorders Index	12.75 (4.61)	13.85 (5.91)	.61	77
MASC_Total	51.21 (16.91)	51.77 (19.31)	.09	76

Note. *$p < .05$; **$p < .01$. PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.

Table 5
Risk Factors, PSQ, PMI, PBI, CDI, and MASC by Mother's Co-Residency

	Mother Co-Residency			
	Less than 6 months	More than 6 months	*t*	*df*
Risks Factors	2.10 (1.12)	2.21 (1.16)	-.41	80
PSQ Variables				
Major Depressive Disorder	8.21 (3.47)	8.18 (3.54)	.04	75
Post-Traumatic Stress Disorder	5.58 (5.12)	5.90 (4.91)	-.25	75
Eating Disorder	1.14 (2.23)	1.81 (2.03)	-.06	75
Obsessive-Compulsive Disorder	1.40 (1.86)	1.13 (1.48)	.59	75
Panic Disorder	2.14 (2.40)	2.90 (2.61)	-1.22	75
Agoraphobia	2.14 (3.03)	2.18 (2.66)	-.04	75
Social Phobia	2.85 (3.96)	2.45 (3.55)	.41	75
Alcohol Dependency	.58 (1.57)	1.27 (2.07)	-1.58	75
Drug Dependency	2.25 (2.55)	2.36 (2.47)	-.17	75
General Anxiety Disorder	5.85 (3.47)	5.90 (3.02)	-.06	75
PSQ_Total	34.75 (17.88)	35.54 (17.09)	-.17	73
PM I Variables				
Progressive Beliefs	3.83 (.56)	4.02 (.49)	-1.36	80
Traditional Beliefs	3.83 (.60)	3.67 (.65)	1.04	80
PBI Variables				
Hostile/Coercive	17.57 (7.55)	21.39 (12.53)	-1.68	80
Supportive/Engaged	46.06 (5.12)	45.13 (5.37)	.66	80
CDI Variables				
Negative Mood	1.74 (1.72)	2.86 (2.98)	-2.12*	80
Interpersonal Problems	.76 (1.16)	1.26 (1.35)	-1.66	80
Ineffectiveness	1.28 (1.65)	1.26 (1.60)	.06	80
Anhedonia	3.15 (2.71)	4.26 (3.03)	-1.60	80
Negative Self-Esteem	.90 (1.52)	1.44 (2.16)	-1.27	80
CDI_Total	7.87 (7.03)	11.08 (8.36)	-1.76	80
MASC Variables				
Physical Symptoms	11.31 (6.85)	14.07 (8.78)	-1.48	75
Harm Avoidance	18.39 (4.43)	17.69 (6.39)	.56	77
Social Anxiety	10.25 (5.93)	12.04 (6.22)	-1.20	77
Separation/Panic	10.36 (5.38)	12.21 (6.14)	-1.32	76
Anxiety Disorders Index	13.16 (5.32)	14.95 (6.54)	-1.27	77
MASC_Total	50.11 (17.78)	55.46 (21.27)	-1.14	76

Note. $*p < .05$; $**p < .01$. PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.

Table 6

Risk Factors, PSQ, PMI, PBI, CDI, and MASC by Caregiver Length of Caring of the Child and Mother's Co-Residency

Type of Caregiver:	New Solo Caregiver (n = 10)	Prior Co-Caregiver (n = 23)	Prior Solo Caregiver (n = 49)	F	p
Risks Factors	3.00 (1.05)	2.21 (1.16)	1.91 (1.05)	4.19*	.01*
PSQ Variables					
Major Depressive Disorder	5.20 (3.11)	4.60 (3.38)	5.04 (3.52)	.15	.85
Post-Traumatic Stress Disorder	2.70 (4.44)	1.91 (2.99)	2.58 (3.48)	.32	.72
Eating Disorder	.90 (1.44)	.78 (1.44)	1.00 (2.26)	.09	.90
Obsessive-Compulsive Disorder	1.50 (2.41)	.43 (1.16)	.51 (1.15)	2.45[t]	.09[t]
Panic Disorder	1.90 (2.76)	.82 (2.05)	.93 (1.93)	1.03	.36
Agoraphobia	.50 (1.58)	.21 (1.04)	.75 (1.87)	.84	.43
Social Phobia	1.10 (1.72)	.69 (2.14)	.59 (1.49)	.36	.69
Alcohol Dependency	.00 (.00)	.65 (1.30)	.18 (.69)	2.87[t]	.06[t]
Drug Dependency	.00 (.00)	.56 (1.61)	.00 (.00)	3.62*	.031*
General Anxiety Disorder	3.40 (3.16)	2.82 (3.39)	3.32 (3.27)	.20	.81
PSQ_Total	19.10 (17.41)	14.73 (15.67)	16.16 (14.72)	.30	.74
PM I Variables					
Progressive Beliefs	3.85 (.52)	4.02 (.49)	3.83 (.55)	.92	.40
Traditional Beliefs	4.05 (.37)	3.67 (.65)	3.78 (.63)	1.35	.26
PBI Variables					
Hostile/Coercive	14.00 (5.22)	21.39 (12.5)	18.30 (7.78)	2.35	.10
Supportive/Engaged	47.80 (4.26)	45.13 (5.37)	45.71 (6.16)	.76	.47
CDI Variables					
Negative Mood	2.00 (1.49)	2.86 (2.98)	1.69 (1.78)	2.32	.10
Interpersonal Problems	.70 (.82)	1.26 (1.35)	.77 (1.22)	1.37	.25
Ineffectiveness	1.40 (1.42)	1.26 (1.60)	1.26 (1.70)	.03	.97
Anhedonia	2.80 (1.54)	4.26 (3.03)	3.22 (2.90)	1.37	.26
Negative Self-Esteem	.30 (.48)	1.44 (2.16)	1.03 (1.63)	1.56	.21
CDI_Total	7.20 (2.89)	11.08 (8.36)	8.01 (7.62)	1.58	.21
MASC Variables					
Physical Symptoms	10.15 (6.59)	14.07 (8.78)	11.54 (6.95)	1.22	.30
Harm Avoidance	19.10 (2.64)	17.69 (6.29)	18.24 (4.74)	.27	.76
Social Anxiety	10.10 (5.02)	12.04 (6.22)	10.28 (6.17)	.71	.49
Separation/Panic	11.30 (5.20)	12.21 (6.14)	10.15 (5.46)	1.04	.35
Anxiety Disorders Index	12.40 (4.29)	14.95 (6.54)	13.32 (5.55)	.90	.40
MASC_Total	50.58 (15.09)	55.46 (21.27)	18.41 (2.71)	.64	.52

Note. [t]Marginal difference near $p < .05$; *$p < .05$; **$p < .01$. Category 1 = *Cared < 6 months and mother not co-resided*, Category 2 = *Cared > 6 months and mother co-resided*, Category 3 = *Cared > 6 months and mother not co-resided*. PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.

Table 7
Risk Factors, PSQ, PMI, PBI, CDI, and MASC by Age X Type of Caregiver

Age X Type of Caregiver	Group 1 (n = 10)	Group 3 (n = 15)	Group 4 (n = 29)	Group 5 (n = 8)	Group 6 (n = 20)	F	p
Risks Factors	3.00 (1.05)	2.13 (1.24)	1.58 (1.01)	2.37 (1.06)	2.40 (.94)	4.07**	.005**
PSQ Variables							
Major Depressive Disorder	5.20 (3.11)	4.93 (3.51)	4.31(3.42)	4.00 (3.25)	6.10 (3.49)	.99	.41
Post-Traumatic Stress Disorder	2.70 (4.44)	2.13 (3.54)	2.57 (3.52)	1.50 (1.69)	2.60 (3.53)	.20	.93
Eating Disorder	.90 (1.44)	1.13 (1.68)	1.03 (2.57)	.12 (.35)	.95 (1.79)	.38	.81
Obsessive-Compulsive Disorder	1.50 (2.41)	.60 (1.40)	.41 (1.11)	.12 (.35)	.65 (1.22)	1.45	.22
Panic Disorder	1.90 (2.76)	1.26 (2.46)	.82 (1.98)	.00 (.00)	1.10 (1.88)	1.05	.38
Agoraphobia	.50 (1.58)	.33 (1.29)	.65 (1.75)	.00 (.00)	.90 (2.07)	.52	.71
Social Phobia	1.10 (1.72)	.73 (2.57)	.96 (1.86)	.62 (1.06)	.05 (.22)	1.03	.39
Alcohol Dependency	.00 (.00)	.66 (1.39)	.13 (.51)	.62 (1.18)	.25 (.91)	1.45	.22
Drug Dependency	.00 (.00)	.86 (1.95)	.00 (.00)	.00 (.00)	.00 (.00)	3.29*	.01*
General Anxiety Disorder	3.40 (3.16)	3.06 (3.76)	3.27 (3.31)	2.37 (2.72)	3.40 (3.29)	.15	.95
PSQ_Total	19.10 (17.41)	16.73 (18.08)	15.24 (15.33)	11.00 (9.66)	17.50 (11.83)	.40	.80
Parental Modernity							
Progressive	3.85 (.52)	3.92 (.57)	3.84 (.55)	4.20 (.25)	3.81 (3.88)	.79	.53
Traditional	4.05 (.37)	3.80 (.53)	3.66 (.61)	3.43 (.83)	3.97 (.63)	1.94	.11
Parental Behavior Inventory							
Hostile/Coercive	14.00 (5.22)	23.26 (14.23)	16.27 (6.72)	17.87 (8.21)	21.25 (8.43)	2.61*	.04*
Supportive/Engaged	47.80 (4.26)	44.73 (6.29)	46.96 (4.85)	45.87 (3.27)	43.90 (7.44)	1.29	.27
CDI Variables							
Negative Mood	2.00 (1.49)	3.40 (3.43)	1.34 (1.39)	1.87 (1.64)	2.20 (2.16)	2.34	.06
Interpersonal Problems	.70 (.82)	1.13 (1.50)	.68 (1.31)	1.50 (1.06)	.90 (1.11)	.87	.48
Ineffectiveness	1.40 (1.42)	1.06 (1.62)	.86 (1.27)	1.62 (1.59)	1.85 (2.08)	1.27	.28
Anhedonia	2.80 (1.54)	4.46 (3.35)	3.00 (3.00)	3.87 (2.47)	3.55 (2.79)	.84	.50
Negative Self-Esteem	.30 (.48)	1.28 (2.37)	.94 (1.72)	1.75 (1.83)	1.15 (1.52)	.90	.46
CDI_Total	7.20 (2.89)	11.33 (9.48)	6.87 (7.18)	10.62 (6.27)	9.65 (8.11)	1.20	.31
MASC Variables							
Physical Symptoms	10.15 (6.59)	15.28 (9.31)	10.80 (6.61)	11.82 (7.74)	12.64 (7.49)	1.04	.39
Harm Avoidance	19.10 (2.64)	18.06 (6.67)	17.48 (5.15)	17.00 (5.90)	19.32 (3.96)	.56	.68
Social Anxiety	10.10 (5.02)	12.53 (5.96)	9.25 (5.90)	11.12 (7.01)	11.73 (6.40)	.89	.47
Separation/Panic	11.30 (5.20)	12.80 (5.89)	9.70 (4.68)	6.85 (2.42)	6.54 (1.54)	.73	.57
Anxiety Disorders Index	12.40 (4.29)	15.20 (6.06)	12.29 (5.26)	14.50 (7.80)	14.78 (5.75)	1.00	.41
MASC_Total	50.48 (15.09)	58.01 (21.26)	47.28 (17.59)	50.70 (21.85)	53.96 (19.29)	.86	.49

Note. *p < .05; **p < .01. Group 1 = New Younger Solo, Group 3 = Prior Younger Co-Caregiver, Group 4 = Prior Younger Solo, Group 5 = Prior Older Co-Caregiver, Group 6 = Prior Older Solo. Due to group 2 only containing one participant, their data was not included in the results nor was it tested. PSQ= Psychiatric Screen Questionnaire, PMI = Parental Modernity Inventory, PBI = Parental Behavior Inventory, CDI = Child Depression Inventory, MASC = Multidimensional Anxiety Scale for Children.