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Children's Adaptive Psychological Functioning In The Face Of Adversity

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DEDICATION

To my sister Stephanie, thank you for your unconditional support. To my parents, whose encouragement throughout the years has helped me reach this point in my life.

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CHAPTER 1 INTRODUCTION

This chapter will begin with an overview of the child welfare system and discuss early studies related to child outcomes of children involved with foster care. Then a brief overview of trauma and the affect it has on child outcomes will be presented followed by a discussion of the debates and policies related to kinship care. The issue of resilience as it relates to children involved with the child welfare system will be discussed. Then the research questions are presented followed by a discussion of the significance of this research.

Overview

Since the introduction of foster homes in the late 1800s (Cox & Cox, 1985), the number of foster homes in use has increased exponentially, and currently there are over 300,000 homes (U.S. Department of Health and Human Services, 2009). Nationwide, it has been estimated that 500,000 to 800,000 children spend time in foster care every year (Dozier & Lindhiem, 2006; Dozier, Lindhiem, & Ackerman, 2007; Kernan & Lansford, 2004) and that children three years old and younger are at highest risk to experience maltreatment[1] (Administration for Children and Families, 2008). The contemporary child welfare system is arguably the most widely used intervention for maltreated children (Lawrence, Carlson, & Egeland, 2006). Yet there is little evidence that it is a successful intervention (Dozier & Bick, 2007).

[1] *Maltreatment* relative to foster children refers to physical, sexual, emotional abuse or neglect, or exposure to interpersonal violence (Coie & Doge, 1998; Colt, Tremblay, Nagin, Zoccolillo, & Vitaro, 2002; Crick, Casas, & Nelson, 2002; Tremblay, 2000). Maltreatment has also been defined within the literature as a type of trauma (O'Dougherty Wright & Masten, 2006).

The first large scale studies of foster children and mental health problems reported frequent internalizing disorders[2] such as anxiety and or depression (Shah, 1974; Swire & Kavaler, 1977). The first longitudinal study that focused on externalizing disorders[3] of foster care children found that nearly half (46%) of their sample had behavioral issues when they exited the system after one year, and this rate increased to 54% when the children remained in care for five years or longer (Fanshel, Finch, & Grundy, 1989; Fanshel & Shin, 1978). More recent studies indicate that maltreated children experience internalizing disorders at rates ranging from 20% to 63% (Kendall-Tackett, Williams, & Finkelhor, 1993; McCrae, 2009; Spinazzola et al., 2005) and approximately 55% of maltreated children will have more than one diagnosis which may include externalizing disorders (Bruskas, 2008; Lawson, 2009; McCrae, 2009). Other studies suggest that 30% to 80% of foster children have psychological, behavioral, and or special needs (Lawrence, et al., 2006; McCrae, 2009; Scarborough, Lloyd, & Barth, 2009). By comparison, estimates of mental health problems in children among the general population range from 16% to 22% (Kerker & Dore, 2006). Earlier research underscored that even when foster children are compared to other children with similar socioeconomic and demographic characteristics, foster children are sill at greater risk to exhibit emotional or behavioral problems (Halfon, Berkowitz, & Klee, 1992; Landsverk & Garland, 1999).

Developmental researchers purport that foster care children are more likely to experience poor outcomes because of the presence of multiple risk factors that disrupt the

[2] *Internalizing Disorders* are defined as "problems that negatively impact the child's internal psychological world rather than the external environment" (Maughan & Cicchetti, 2002).
[3] *Externalizing Disorders* refer to "problems that are manifested in an outward behavior and result in the child negatively acting on his or her external environment" (Fite, Stoppelbein, Greening, & Dhossche, 2008, p. 64).

potential for positive developmental outcomes (Lawrence, et al., 2006). Issues such as poverty, disrupted or disturbed attachment[4] relationships, history of maltreatment, and foster placement heighten the risk for maladaptive responses by children (Lawrence, et al., 2006; Rutter, 1987). Therefore, not only do pre-existing vulnerabilities (e.g. history of maltreatment) increase the risk for problematic outcomes, the entrance into foster care itself may serve to exacerbate those issues already present. For example, maltreatment is a vulnerability shared by many children entering foster care that poses a risk for poor developmental outcomes. While some children enter foster care for other reasons (e.g. another sibling is already in care or parental rights were terminated for another child), it has been estimated that approximately 72% of children who enter foster care have suffered some form of maltreatment (U.S. Department of Health and Human Services, 2009). Early exposure to trauma[5] also may be a pre-existing vulnerability for children that, in turn, may heighten their risk for poorer outcomes.

Trauma

The effect of trauma on infants and toddlers has become of heightened interest to researchers (Cicchetti, 2004; Lieberman, 2004; Malik, 2008, p. 19; Mongillo, 2009) given the potential impact it has on subsequent development (Gaensbauer, 2002). Negative outcomes for children who experience trauma include internalizing disorders, such as depression, posttraumatic stress disorder (PTSD) and anxiety (Graham-Bermann et al., 2008; Schore, 2001); externalizing disorders, which may include oppositional

[4] *Attachment* refers to "the infant's perception of the availability of the caregiver if a need for comfort or protection should arise, and the organization of the infant's responses to the caregiver in light of those perceptions of availability" (Fite, et al., 2008, p. 64).

[5] Trauma occurs when "a person experiences, witnesses, or is confronted with actual or threatened death, serious injury, or threat to the physical integrity of self or others" (Weinfeild, Sroufe, Egeland, & Carlson, 1999, p. 69)

defiant disorder or conduct disorder (Fisher, Gunnar, Dozier, Bruce, & Pears, 2006); other problems such as relational disturbances (Schore, 2001); and poor academic performance (Shonk & Cicchetti, 2001; Stone, 2007).

The trauma of maltreatment is of particular relevance given the high likelihood of a foster child experiencing abuse or neglect prior to entering the system. Empirical research has found that, compared to their peers, maltreated children display higher rates of physical (Leslie, Gordon, Granger, & Gist, 2002; Pears & Fisher, 2005), cognitive (Pears & Fisher, 2005; Zima et al., 2000), and socioemotional problems (Cicchetti, 2004; Lansford et al., 2002; Zima, et al., 2000). Therefore, many children in foster care are at risk for developing pathological responses as a consequence of exposure to maltreatment. In addition, these children also have to contend with other risk factors such as poverty, disrupted or disturbed attachment relationships, and foster placement (Lawrence, et al., 2006; Rutter, 1987) that may further compromise their development (Kerker & Dore, 2006). In sum, removing children from their families and placing them in foster homes has been linked to negative developmental consequences that place children at higher risk for social, emotional, and academic problems (Fisher, et al., 2006; Lawrence, et al., 2006)

The Kinship Care Debate

Some researchers suggest that the potential negative consequences associated with foster care can be decreased by placing children with their relatives (Metzger, 2008; Rubin et al., 2008), although there is contradictory evidence regarding the outcomes associated with kin placements (Cuddeback, 2004; Winokur, Holtan, & Valentine, 2009). Despite the ongoing debates over kinship care *vs*. foster care, there is clear evidence of

policymaker support for the use of kinship placements (Children's Defense Fund, 2009). One of the most significant changes in child welfare legislation during the last decade was the passage of the Fostering Connections to Success and Increasing Adoptions Act of 2008 (Children's Defense Fund, 2009). The act mandates a number of changes that affect relatives who care for children removed from their biological parents. These changes include: (1) a requirement to notify relatives when a child is removed from home; (2) stricter rules regarding placement of siblings or sibling visitations; (3) the provision of funding for kinship navigator programs; (4) the provision of subsidized payments to relatives who become licensed foster parents; and (5) provisions allowing states to waive non-safety related licensing standards for relatives as appropriate ("Fostering Connections to Success and Increasing Adoptions Act of 2008," 2008). In essence, this legislation makes it easier for relatives to qualify to have biologically related children placed in their homes.

This is noteworthy as this policy, along with the Adoption Assistance and Child Welfare Act (AACW) of 1980 and the Adoption and Safe Families Act of 1997, have been translated into social work practice emphasizing the use of kinship placements (R. Hegar & Scannapieco, 1994; Vericker, Macomber, & Geen, 2008). The AACW of 1980 was designed to help alleviate problems associated with the foster care system and to promote prevention, reunification, and permanency. This act introduced the term "reasonable efforts," which required that states make reasonable efforts to prevent a child's removal from their home or to reunite the children with their parents as quickly as possible. As a result, many families have been offered services to help prevent the removal of the children from the home even if maltreatment had occurred. If the child

was unable to remain with his or her biological parents, then placement with a relative was sought. It also required that all foster care agencies provide reunification and preventative programs ("Adoption Assistance and Child Welfare Act of 1980," 1980). The Adoption and Safe Families Act of 1997 attempted to correct issues with the AACW Act of 1980 and required that the safety of the child be considered when making any removal, placement, or reunification decisions regarding the child. This act also clarified the term "reasonable efforts," required shorter time limits for making decisions about permanent placements, and focused more on placement with relatives ("Adoption and Safe Families Act of 1997," 1997).

This strong preference for kinship care placements has been considered to be detrimental to children in some circumstances, particularly for minority children (Harris & Skyles, 2008). According to Harris and Skyles (2008), African American children are twice as likely to be placed with relatives. These relatives tend to be over the age of 60, live in poverty, have low levels of education (Harris & Skyles, 2008), have more mental health problems, and possess fewer supportive resources - all of which have been associated with poorer outcomes for children (Rubin, et al., 2008). However, in a review of outcome studies on kinship care completed in the late 1990s by Scannapieco, there was some evidence that supported the idea of kinship care over traditional foster care. This review found that kinship care placements were more stable over time (Scannapieco, 1999). Additionally, some studies on kinship care reported that children placed with kin had fewer behavioral problems than those in foster homes (Keller et al., 2001; Rubin, et al., 2008). Despite mixed evidence on the outcomes of these placements, policymakers and social work practitioners seem to be operating under the assumption that kinship care

is superior to non-related care (Harris & Skyles, 2008; Rubin, et al., 2008), which may have serious consequences for the health and welfare of young children involved in the foster care system.

Resilience

While many children within the foster care population do poorly, there is evidence that some children do relatively well (Fisher, et al., 2006). What is particularly noteworthy within the body of literature regarding children in foster care is the relative absence of literature related to resilience[6], with less than fifty articles referencing the topic. Resilience research attempts to identify the particular mechanisms that allow some individuals to experience poor outcomes and others to remain relatively unscathed by their repeated exposure to adverse events or situations (Riley & Masten, 2005; Werner, 2006). While resilience in children has been a topic of research for the past thirty years (Gordon Rouse, 1998; Richardson, 2002) there is a notable gap in knowledge regarding resilient children within the foster care system.

Previous studies suggest that resilient foster children share some factors in common. These include secure attachment and supportive adults (Beeghly & Cicchetti, 1994; Jaffee, 2007; Lawson, 2009); intelligence, positive self-esteem; emotional regulatory skills (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Riley & Masten, 2005); and a supportive, caring, consistent environment (Schore, 2003; Werner & Smith, 1982). Conversely, the absence of the above mentioned factors seem to mitigate resilient responses in children (Lawson, 2009). Although previous research has enumerated the

[6] *Resilience:* refers to "a pattern of positive adaptation in the context of past or present adversity" (American Psychiatric Association, 2000, p. 467)

negative early childhood outcomes associated with placement within the foster care system (Dozier & Bick, 2007; Fisher, et al., 2006; Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007), little consideration has been given to children who are resilient despite seemingly insurmountable barriers. This is significant, as resilience may help explain the differential outcomes foster care children exhibit.

Research Questions

The goal of this study is to better understand the factors that contribute to the development of pathological responses in young children. Using data available from the *National Survey of Child and Adolescent Well-Being* (NSCAW), the following research questions will be addressed:

1. How does history of maltreatment and placement characteristics contribute to emotional and behavioral outcomes?
2. How does attachment and emotional regulation contribute to emotional and behavioral outcomes?
3. What factors contribute to change in emotional and behavioral problems over time for young children?

Significance of the Study

The purpose of this study is to examine the direct effects of placement into foster care on children's exhibition of internalizing and externalizing disorders as well as identify the most salient contributors to emotional and behavioral outcomes in young children. Focusing on young children, age three and younger, is significant given that these children are more likely than any other age group to be victims of maltreatment

(Administration for Children and Families, 2008). This study will examine what factors appear to support outcomes that are better than what is expected given children's exposure to certain risks. While the study does not measure resilience directly, it can identify factors that contribute to lower levels of emotional or behavioral problems. Identifying what variables (i.e. emotional support, emotional regulation, etc.) appear to contribute to resilient psychological outcomes is significant to social work and its long history of utilizing a strength-based perspective when working with clients. The ability to understand successful adaptation despite exposure to risks is fundamental to an understanding of the etiology, prevention and treatment of the development of pathological responses in children.

Further, this study contextualizes children's experiences. This is particularly relevant to social workers who value the importance of examining the external environment in which a child is raised to help determine how best to intervene. This may highlight the importance of early interventions. Interventions may help caregivers recognize and respond appropriately to children's need for comfort even when they are displaying contradictory behaviors that indicate otherwise (Dozier & Bick, 2007). Moreover, such early interventions may help decrease disorders of attachment (Dozier, et al., 2007; Fisher, et al., 2006), which in turn, may support resilient responses.

This study also provides a systematic way of examining the effects of foster care placement and maltreatment on such behaviors. Currently, the foster care literature suggests that many of the children who enter care will experience extremely poor outcomes that may impact them well into adulthood (Barber & Delfabbro, 2003; Cicchetti, 2004; Dozier & Bick, 2007; Fanshel & Shin, 1978). However, it is has been

difficult to determine whether the maladaptive responses seen in children are the consequence of maltreatment or of foster care placement (Lawrence, et al., 2006). Are these poorer outcomes the result of maltreatment, foster care placement, or both? This is a significant question that needs to be addressed, as it may help determine the most appropriate way to intervene (e.g. placement into foster care *vs*. kinship care or early intervention services), inform future policies, and help determine where best to allocate funding resources.

CHAPTER 2 LITERATURE REVIEW

Introduction

This chapter begins with a general overview of the trauma of maltreatment and the impact it has on internalizing and externalizing disorders. Then, issues specifically related to maltreatment and foster care are discussed. Finally, the protective factor of attachment is reviewed.

Trauma of Maltreatment

Given the potential impact trauma has on subsequent development (Gaensbauer, 2002), the impact of trauma on infants and toddlers has become of increasing interest to researchers (Cicchetti, 2004; Lieberman, 2004; Malik, 2008; Mongillo, 2009). This interest has accelerated over the last quarter of the 20th century, primarily by researchers interested in developmental psychopathology (Fonagy, 2003).

Studies by Terr (1979), Chemtob et al. (2008), Levendosky et al., (2006), McDonald et al. (2007) and others suggest significant psychiatric and developmental repercussions for young children exposed to trauma. The literature on trauma also suggests that there is an important need to process trauma with another individual because of the "disorganizing impact of trauma on early personality development" (Lieberman, 2004, p. 338) and children's ability to recover from trauma is largely dependent upon their caregiver's ability to respond sensitively to this need (Lieberman, 2004). Moreover, without the opportunity to process or learn how to cope with the outcomes of the traumatic experience, the trauma can impact the mastery of developmental tasks as well as alter the course of subsequent development (Lieberman,

2004). This process can be best understood through a developmental psychopathology framework whereby the resulting symptoms from trauma exposure are considered distortions or obstructions in stage-specific developmental processes (Lieberman, 2004). Without an opportunity to process the traumatic experience, exposure can influence the acquisition of current stage-specific developmental tasks as well as the course of subsequent development (Lieberman, 2004), which is why trauma is understood as a causal factor in the development of psychopathology in young children.

What is most relevant to this study is the response of young children to the trauma of maltreatment, an issue that is important because of the likelihood of abuse or neglect prior to entering the foster care system. While some children enter foster care for reasons other than maltreatment (e.g. another sibling already in care or the termination of parental rights for another child), it has been estimated that approximately 72% of children who enter foster care have suffered some form of maltreatment (U.S. Department of Health and Human Services, 2009). The negative sequela of the trauma of maltreatment on children appears to have a substantial impact on the development of internalizing and externalizing disorders (Calkins & Fox, 2002; Cicchetti, 2004; Manly, Kim, Rogosch, & Cicchetti, 2001).

Empirical research has found that compared to their peers, maltreated children display higher rates of physical (Leslie, et al., 2002; Pears & Fisher, 2005), cognitive (Pears & Fisher, 2005; Zima, et al., 2000), and socioemotional problems (Cicchetti, 2004; Lansford, et al., 2002; Zima, et al., 2000). Even when controlling for poverty, which is associated with poor childhood outcomes (Cicchetti, 2004; Werner & Smith, 1982), maltreated children compared to nonmaltreated children from similar socioeconomic

backgrounds had significantly greater maladaptive functioning (Cicchetti, 2004). In a study by Cicchetti and Rogosch (1997) maltreated children displayed greater deficits than nonmaltreated children on six of the seven indicators of adaptive functioning. The study reported that 41% of maltreated children compared to 20% of nonmaltreated children were placed in the low adaptive functioning pattern group at the three-year mark of a longitudinal study (Cicchetti & Rogosch, 1997).

Factors that contribute to variations in emotional and behavioral outcomes.

There are a number of factors that contribute to variations in emotional and behavioral outcomes found in maltreated children, such as type of maltreatment, onset, chronicity, and severity, and characteristics of the child and perpetrator (Kaplow & Widom, 2007; Zielinski & Bradshaw, 2006). For example, studies have suggested links between specific internalizing disorders and type of maltreatment. There is evidence that neglect, physical, and sexual abuse is associated with an increased risk of depression (Fergusson, Boden, & Horwood, 2008; Widom, Dumont, & Czaja, 2007) and post-traumatic stress disorder (Banyard, Williams, & Siegel, 2001; Lansford, et al., 2002; Whiffen & Macintosh, 2005; Widom, 1999). In addition, physical and sexual abuse has been found to be associated with an increased risk for attempted suicide for young people (Amand, Bard, & Silvosky, 2008; Fergusson, et al., 2008). Fergusson et al. (2008) reported suicide attempts by 11-21% of individuals who were physically or sexually abused as children compared to 1-3% of controls.

There are also specific links between externalizing disorders and type of maltreatment. A study conducted by Levendosky, Leahy, Bogat, Davidson and von Eye

(2006) examined the association between domestic violence and infant externalizing behaviors. This study also assessed the influence of maternal functioning on the relationship between domestic violence and infant externalizing behaviors. The study found that domestic violence exposure had a negative effect on maternal parenting and child externalizing behavior. There also were direct and indirect risk and protective factors linked to the behavioral problems observed in these children, which included domestic violence, maternal parenting, maternal mental health, and social support. Study mothers who were currently involved in violent relationships were less likely to be responsive, warm, and sensitive to the needs of their infants. This was particularly noteworthy since it suggests that parenting behaviors, which have been linked to attachment problems, are of great importance when considering the emergence of externalizing disorders in young children.

Other studies found that being physically abused or neglected as a child increased the risk of delinquent behavior as an adolescent (Smith & Thornberry, 1995; Widom, 1989). A study by Windom (1989) indicated that abused or neglected children were more likely to be arrested as a juvenile, 31% arrested compared to 19% of community-matched controls. Subsequent studies have found similar effects on criminal behavior (Banyard, et al., 2001; Landsford, Miller-Johnson, Berlin, Bates, & Pettit, 2007; Stouthamer-Loeber, Loeber, Homish, & Wei, 2001). There has also been evidence that sexual abuse is associated with early sexual encounters, promiscuity, and later prostitution (Miner, Flitter, & Robinson, 2006; Noll, Trickett, & Putnam, 2003; Paolucci, Genuis, & Violato, 2001).

Chronicity and severity of maltreatment has been found to be a predictor of aggressive behaviors (Bolger & Patterson, 2001). Children who are exposed to severe maltreatment for longer periods of time are more likely to develop pathogenic outcomes[7] that extend well into adulthood (Cloitre, Stoval-McClough, Miranda, & Chemtob, 2004; Lenneke, Alink, Cicchetti, Kim, & Rogosch, 2009). Age of onset of maltreatment also has specific ramifications for children (Manly, et al., 2001). Early onset of maltreatment has been associated with poor self-esteem and social problems with peers (Bolger, Patterson, & Kupersmidt, 1998) and was found to predict more symptoms of anxiety and depression (Kaplow & Widom, 2007).

Recently, research in this area has examined the ecological environments of maltreated children and the risks associated with poor outcomes related to contextual factors, such as socioeconomic status, large family size, and the larger impoverished community. All of these are factors that place children at heightened risk for maltreatment (Banyard, 2003; Cicchetti, Toth, & Maughan, 2000; Korbin, 2003). This research on ecological environments suggest the need to consider the interactive effects of varying risk factors (Sameroff, Seifer, Baldwin, & Baldwin, 1993; Sameroff, Seifer, Zax, & Barocas, 1987). Further, the field of developmental psychopathology proposed that child psychopathology cannot be studied within a linear model. Rather, it requires an integrative approach that assesses the contributions of both biological and environmental factors (Cacioppo, Berntson, Sheridan, & McClintock, 2000). This literature suggests that the race and gender of a child (McCabe, Rodgers, Yeh, & Hough, 2004) has direct effects on behavioral outcomes, as does exposure to domestic violence (Mohr, Noone

[7] Mental health disorders

Lutz, Fantuzzo, & Perry, 2000), poverty (Sameroff, et al., 1987; Werner, 2006), and neighborhood problems (Leventhal & Brooks-Gunn, 2000).

One specific factor that contributes to childhood behavioral outcomes is emotional regulation[8], which has been found to impact the expression of internalizing and externalizing disorders (Calkins & Fox, 2002). Maltreated children have more difficulty in regulating their emotional response to trauma exposure (Maughan & Cicchetti, 2002). Developmental literature suggests that emotional regulation is acquired as children become sensitive to context, participate, and observe interpersonal exchanges (Maughan & Cicchetti, 2002). These early experiences with caregivers serve as a forum through which emotional regulation is learned (Maughan & Cicchetti, 2002). This is a particularly salient issue in the emergence of maladaptive or pathogenic responses in young children, as their internal emotional experiences and the subsequent expression of those emotions are influenced by caregivers who shape children's understanding and perceptions of their environment (Bocknek, Brophy-Herb, & Banerjee, 2009; Lieberman, 2004; Maughan & Cicchetti, 2002). In other words, emotion regulation skills develop within the context of children's relationships with their primary caregivers. If maltreated children do not have access to relationships that help them learn to manage difficult emotions (Lawrence, et al., 2006), then it follows that these children would be at greater risk for emotional dysregulation[9]. Disturbed relational patterns with adults pose a significant danger to children's ability to process and manage emotions (Maughan & Cicchetti, 2002; Schore, 2001). When children have difficulty regulating their emotional response, it may

[8] *Emotional Regulation:* "the process by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (O'Dougherty Wright & Masten, 2006, p. 19).

[9] Emotional dysregulation refers to a "child's biological tendency to react to stressors with high degrees of emotional lability, including anger, irritability, fear, or sadness" (Gross, 1998, p. 275).

jeopardize or impair functioning, which, in turn, supports the development of psychopathology (Calkins & Fox, 2002; Lenneke, et al., 2009).

Not surprisingly then, attachment relationships have been identified as one of the primary factors that help explain the differential outcomes of children exposed to maltreatment (Beeghly & Cicchetti, 1994; Lenneke, et al., 2009; MacDonald et al., 2008; Schechter & Willheim, 2009). Young children exposed to maltreatment were less likely to have access to caregivers that provide protection support, consistency, and sensitivity in times of danger and stress – all components of a secure attachment (Bowlby, 2003/1988). Secure attachment occurs when an infant is able to seek out a caregiver when distressed and the caregiver is able to consistently provide the reassurance the infant needs (Ainsworth, 1964). When this pattern is disrupted, the infant is at risk for developing disturbances of attachment (Ainsworth, 1964; Carlson, Cicchetti, Barnett, & Braunwald, 1989; Cassidy et al., 2005; Goldberg, Benoit, Blokland, & Madigan, 2003; van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). These children often lacked coherent, organized strategies to seek out and obtain the support and reassurance needed when they become distressed or anxious (Ainsworth, Belehar, Waters, & Wall, 1978). Without access to supportive adults, these young children lack appropriate models that help them learn to manage their emotions (Robinson et al., 2009).

While there are a number of individual factors that may contribute to the development of internalizing and externalizing disorders, researchers have recognized that it is often the association of multiple risk factors that poses the most danger (Anctil, CMcCubbin, O'Brien, & Pecora, 2007; Lawrence, et al., 2006; Sameroff & Feil, 1985; Sameroff, et al., 1987). The use of cumulative risk models (Sameroff & Feil, 1985)

provides another way of conceptualizing differential outcomes of maltreated children (Lawrence, et al., 2006). The *Rochester Longitudinal Study* was one of the first research projects to assess interactive effects of risk (Sameroff, et al., 1993). It was found that while parental psychopathology was related to poor childhood outcomes, a stronger predictor of negative child outcomes was socioeconomic status. More significantly, the interactive effects of biological contributions and environmental factors were superlative to any other predictors (Sameroff, et al., 1993).

The concept of resilience was applied to maltreated children to help determine what factors contribute to the divergent outcomes witnessed in maltreated children (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Haskett, Nears, Ward, & McPherson, 2005). *Resilience* refers to "a pattern of positive adaptation in the context of past or present adversity" (O'Dougherty Wright & Masten, 2006, p. 19). Resilience research assesses what factors promote or inhibit resilient responses within young children. However, determining which indicators best measure resilience has been problematic for researchers (Atkinson, Martin, & Rankin, 2009; Kaufman, Cook, Amy, Jones, & Pittinsky, 1994; Walsh, Dawson, & Mattingly, 2010). Distinguishing between what is abnormal and normal relative to different developmental stages can be difficult.

Despite an increased interest in the ecological environment (Banyard, 2003; Cicchetti, et al., 2000) and the protective factors within that context that promote resilience in maltreated children, there is little agreement regarding the rates of resilience in maltreated children and how resilience protects children from poor outcomes (Haskett, et al., 2005). Haskett et al. (2005) suggest that conflicting results regarding rates of resilience and how resilience protects children have to do with the challenge of defining

and measuring resilience. They argue that researchers need to consider the difference between factors that define resilience, factors that are related to resilience, what data sources to use, and what scoring criteria to use to indicate resilience. The conflicting results within the literature are related to decisions researchers have made regarding the above-mentioned factors (Haskett, et al., 2005).

In a study conducted by Kaufman et al. (1994), resilient outcomes were examined based on how resilience was defined. Although, Kaufman et al. (1994) utilized a small sample (56 maltreated children), their findings lend support to Haskett et al.'s supposition that differing definitions of resilience produce the conflicting results noted in the literature. Kaufman et al. (1994) measured resilient functioning in three different domains: social competence, clinical/mental health symptoms, and academic achievement. The researchers found that 45% of maltreated children were not resilient in any one domain. However, some of the children were found to be resilient in one domain. Fourteen percent of the children were resilient in social competence, 27% were considered resilient in mental health, and 38% were resilient academically. However, if they defined resilience as high functioning in all three domains, only 5% of all the children would have met their standard of resilience (Kaufman, et al., 1994).

Existing studies suggest that resilient children have some factors in common: secure attachment and supportive adults (Beeghly & Cicchetti, 1994; Jaffee, 2007; Lawson, 2009); intelligence, positive self-esteem; emotional regulatory skills (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Riley & Masten, 2005); and a supportive, caring, consistent environment (Schore, 2003; Werner & Smith, 1982). A primary developmental task of young infants and toddlers is the development of attachment

relationships with parents (Bowlby, 1988). Other important tasks are understanding and coping with emotionally arousing stimuli (Haskett, et al., 2005). Caregivers assist with this process by providing responsive, sensitive care that helps children to regulate their emotional responses.

Without warm and caring relationships, distortions in affective processing can occur, which may be why maltreated children tend to show deficits in their ability to communicate affective states (Haskett, et al., 2005). This was supported by Cicchetti and Rogosch (1997) who found that resilience in maltreated children was predicted by positive self-esteem, ego overcontrol (regulation and expression of impulses), and ego resilience (ability to modify level of ego control based on situation). Essentially, children who "adopted a more reserved, controlled, and rational way of interacting and relating, in concert with their belief in the efficacy of the self, may be more attuned to what is necessary for adapting successfully" (p. 813). In their 1994 study, Herrenkohl et al. suggest, like Cicchetti and Rogsch, that supporting positive self-image and internal self-control may encourage resilience in children. Given the relatively small sample size for Herrenkohol et al., caution should be used when interpreting the findings. However, their study has helped inform research on resiliency and maltreated children by identifying possible protective factors for further investigation.

Farber and Egeland (1987) followed 267 maltreated and nonmaltreated infants through age adolescence. Factors such as attachment, self-regulation, impulse control, and peer relations were assessed over time. Rates of competence varied throughout the study, demonstrating that adjustment is fluid over time. These findings were supported by a three-year prospective longitudinal study (Bolger & Patterson, 2003) on maltreated

children. They found that 8% of the maltreated children had a positive adjustment in one domain (social preference, externalizing and internalizing problems, and academics) during at least one year of the study (Bolger & Patterson, 2003).

There are limitations to each study. The sample sizes in both the Kaufman et al. (1994) and Herrenkohl et al. (1994) studies are small, which makes it problematic to generalize to larger populations. Cicchetti and Rogosch (1997) conducted their study on children while away at camp. The environments between camp and home are distinctly dissimilar. Thus, it is possible that the study by Cicchetti and Rogosch would have yielded different results had the study been completed while the children were at home. None of the studies examine the impact of parental influence on the children, which has been identified as a significant factor in the cultivation of resilience. Despite converging evidence on the problematic outcomes of maltreatment, there continues to be conflicting evidence as to the processes by which maltreatment exerts influence on pathways to adaptation or maladjustment (Manly, et al., 2001). Resilience may be one mechanism that helps account for the disparate results within the literature. Resilience may moderate the effects of maltreatment. However, despite limitations, the studies help underscore the importance of examining multiple factors that influence socioemotional outcomes of maltreated children. In addition, these studies suggest that resilience itself is a factor that influences the expression of internalizing and externalizing disorders and that it is important to consider the fluidity of outcomes at different points in time.

The most widely used intervention to combat maltreatment is the contemporary child welfare system, but its effectiveness is largely debated (Lawrence, et al., 2006). Moreover, the removal of children from families of origin has been linked to a number of

problematic outcomes and it has been difficult to disentangle the effect of maltreatment *vis a vis* that of foster care (Kerker & Dore, 2006; Lawrence, et al., 2006). There are several reasons why it has been difficult to differentiate between the effects of maltreatment and those of placement into foster care: (1) studies that have addressed this issue tend to have small sample sizes, which makes it difficult to generalize the information; (2) the use of cross-sectional data and the failure to included baseline information on current functioning prohibits longitudinal analysis; and (3) several studies are retrospective in nature and rely on the person to recall specific information about early childhood functioning (Lawrence, et al., 2006).

Maltreatment and Foster Care

It has been estimated that approximately 72% of children who enter foster care have suffered some form of maltreatment (U.S. Department of Health and Human Services, 2009). Therefore, many children in foster care are at heightened risk for developing pathological responses as a consequence of exposure to maltreatment. Although children may enter foster care with preexisting conditions that increase the likelihood of developing mental health issues, these children also have to contend with other risk factors that may further compromise their development (Kerker & Dore, 2006). Foster care children who are separated from their primary caregivers (Dozier & Bick, 2007; Harden, 2004), may experience placement instability (Barber & Delfabbro, 2003; Dozier & Bick, 2007; Harden, 2004), the loss of siblings or other family members (Pecora, Roller White, Jackson, & Wiggins, 2009), and experience differences in foster parents' level of commitment to them (Dozier & Lindhiem, 2006; Harden, 2004; Pecora,

Roller White, et al., 2009). Consequently, these children may be particularly vulnerable to psychological disturbances (Kerker & Dore, 2006; Zielinski & Bradshaw, 2006).

Like maltreated children, there is evidence that foster children have poor emotional and behavioral outcomes: approximately 30% to 80% of children who enter the foster care system have some emotional or behavioral problem (Barth, Wildfire, & Green, 2006; Kerker & Dore, 2006; Lawrence, et al., 2006; McCrae, 2009). It also has been reported that over half of children in foster care may experience one or more mental health disorders, such as depression, post traumatic stress disorder (Bruskas, 2008) or conduct disorder (Lewis, et al., 2007) and that foster care children have poorer mental health outcomes as compared to the general population (Kerker & Dore, 2006). By comparison, estimates of mental health problems in children among the general population range from 16% to 22% (Kerker & Dore, 2006). Earlier studies suggested that even when foster children were compared to other children with similar socioeconomic and demographic characteristics, foster children were still at greater risk to exhibit emotional or behavior problems (Halfon, et al., 1992; Landsverk & Garland, 1999).

A recent study that focused exclusively on foster children analyzed data from the National Survey of Child and Adolescent Well-Being (Stahmer et al., 2005). Their study focused on four questions: (1) what are the prevalence rates of developmental and behavioral problems; (2) what patterns of these problems exist; (3) what percentage of children utilizes early intervention services; (4) and how does service use relate to other factors. Stahmer and colleagues restricted their sample to children 6 years or younger in age, which led to a sample size of 2,813 children. The analysis examined developmental

and behavioral needs across 5 domains: cognition, behavior, communication, social, and adaptive functioning and service use. Logistic regression was employed to examine the relationship between variables related to demographic characteristics, history of maltreatment, and level of child welfare involvement; developmental or behavioral problems; and service use. It was found that 46% of the children had behavioral or social skill scores that would qualify them for early intervention services (Stahmer, et al., 2005). While the study focuses primarily on the need for mental health treatment, the study is relevant as it lends support to the idea that foster children are at higher risk for exhibiting internalizing and externalizing disorders and, consequently, need early intervention services.

Another important factor that may contribute to the problematic outcomes for young foster children is the type of placement (Harris & Skyles, 2008; Rubin, et al., 2008; Winokur, et al., 2009). The merits of kinship placement over foster care placement are debated, in part, because of conflicting evidence that exists within the empirical literature on this topic (Harris & Skyles, 2008; Metzger, 2008; Rubin, et al., 2008; Winokur, et al., 2009). There is considerable evidence that suggests kinship placements are more stable over-time than foster care placements (Chamberlain et al., 2006; Rubin, et al., 2008; Winokur, et al., 2009). Stability in placement has been found as one factor that contributes to better outcomes for children involved in the child welfare system (Fisher, Burraston, & Pears, 2005; Lewis, et al., 2007; Newton, Litrownik, & Landsverk, 2000). However, there is concern that relatives have similar parenting methods as the birth parents that may place children at risk for further harm (True, 2005) and these children continue to have more behavior problems than their peers residing in similar

socioeconomic conditions who are not involved in the child welfare system (Cicchetti, 2004; Lansford, et al., 2002). Additionally, children placed with relatives face further challenges. These relatives tend to have their own problems related to physical and mental health, tend to be single, older, have less education, and have fewer resources than foster parents (Dolan, Casanueva, Smith, & Bradley, 2009; Ehrle & Geen, 2002).

Winokur et al. (2009) conducted a systematic review of the literature on the of placement type. Their review included only randomized experimental and quasi-experimental studies that compared children placed in kinship care and those placed in foster homes. Sixty-two studies met their eligibility criteria, although the reviewers admit that most of the studies were poorly constructed and had methodological challenges. However, the reviewers suggest that "practitioners and policy makers benefit more from examining poor evidence than no evidence at all" (p. 11). Overall, the review found that children in kinship care had fewer internalizing and externalizing behaviors, more stable placements, and more adaptive behaviors than children in foster care. However, these findings are greatly limited by the methodological and design weaknesses noted by the authors. The primary problem with the studies was that many of them did not have baseline measures. Therefore, it was difficult to know if children placed in kinship care differed substantially from those children who were placed in foster care (Winokur, et al., 2009). Given, that the authors acknowledge significant problems with many of the studies examined it is difficult to conclude with any real certainty that kinship care decreases the risk of children exhibiting internalizing or externalizing disorders. Their review of the literature points to the need for further investigation in this area.

Lawrence et al. (2006) conducted a study to evaluate the direct effects of foster care on behavioral problems using longitudinal data. Participants included 46 children in foster care, 46 maltreated children who remained in the care of their parents and 97 children who were neither maltreated nor in foster care. Baseline measures were taken to determine current functioning and developmental adaptation in the areas of attachment, problem solving, and parent-child interaction. The study found that foster care placement may lead to an increase in externalizing problems, as assessed by teachers, which continued after exiting the system and increased again during adolescence. While this study used a small sample, which makes it difficult to generalize findings, it also provided information on the effects of maltreatment *vis a vis* placement into foster care. This study underscores the importance of collecting baseline information in order to distinguish between the effects associated with foster care placement and those stemming from maltreatment. It also points to the need for a large-scale systematic examination of the direct effects of foster care placement relative to other risk factors, such as maltreatment.

Attachment as a Protective Factor for Foster Children

Attachment has been found to influence behavioral outcomes for foster care children (Dozier & Bick, 2007; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008; Fisher, et al., 2006). Maltreated children are much more likely to exhibit insecure attachment patterns, specifically disorganized attachment (Main & Weston, 1982). This relationship was first hypothesized by Main and Weston (1982) and confirmed in two studies shortly thereafter (Carlson, et al., 1989; Lyons-Ruth, Connell, Zoll, & Stahl, 1987). Disorganized attachment has been described as contradictory behavior patterns

that do not allow a child to seek comfort and reassurance when distressed (Main & Solomon, 1990). Children with a disorganized attachment are at risk for several problematic outcomes, such as internalizing disorders, externalizing disorders, and, in some instances, disassociation (Dozier & Bick, 2007; Putnam, 1985; van IJzendoorn, et al., 1999). Conversely, secure attachment has been recognized as a protective factor as children age and tends to promote social competence, fewer behavioral problems, and academic achievement (Davies, 2004).

Caregivers have an important role with regard to maltreated children's regulatory capabilities (Bocknek, et al., 2009; Dozier, Highley, Albus, & Nutter, 2002; Lieberman, 2004; Maughan & Cicchetti, 2002). So it is not surprising that the loss of a primary caregiver threatens a child's ability to adequately regulate their emotions (Dozier, Highley, et al., 2002). When children have not yet developed a secure attachment with their new caregiver, it may make it difficult for children to accept or trust efforts by this new person to soothe them. These children then lose that opportunity to use this new person as a means to help them develop a way of managing negative emotions (Dozier et al., 2006). Thus, secure attachment is conceived as a factor that promotes emotional regulation, which in turn decreases the risk for developing internalizing or externalizing disorders (Dozier & Bick, 2007).

Dozier et al. (2006) conducted an evaluation of a program designed to target foster children's dysregulation both directly and indirectly. Dysregulation refers to the breakdown of a system's normal functioning and may occur at a behavioral, emotional, or neuroendoctrine level. Prior to the intervention she found that children in foster care were dysregulated at all levels. For example they had atypical cortisol patterns, which

have been associated with several disorders such as conduct disorder, substance use, and depression. Infant-parent dyads were randomly assigned to two treatment groups: the experimental intervention - attachment and biobehavioral catch-up (ABC), where they received 10 weekly videotaped sessions aimed at helping foster parents behave in ways associated with secure attachment - or the control intervention - developmental education for families (DEF). Once the interventions were complete, daytime production of cortisol was assessed for infants in the ABC group and compared to children in the DEF control group. Results showed that children in the ABC intervention had more typical production of cortisol and fewer reported behavioral problems than those in the control group. The findings of Dozier and colleagues (2006) are important because they suggest that stable caregiving systems support regulation, while disruptions in placements are connected to dysregulation (Dozier, et al., 2006). While the sample is very small, it is not difficult to see that attachment, placement stability, and emotional regulation are inextricably linked and can impact the expression of internalizing or externalizing disorders.

A study by Oosterman and Schuengel (2008) specifically focused on the effects of attachment relationships on internalizing and externalizing disorders. The purpose of the study was to (1) examine the links between parental sensitivity, (2) the development of attachment disorders, and (3) to examine the relationship between attachment and emotional and behavioral problems in foster children. The sample included 61 foster children and their respective caregivers from the Netherlands. The child-parent dyads were observed twice within three weeks. Results indicated that attachment disorders significantly predicted externalizing disorders. Sensitivity of the caregiver was associated with security of attachment; higher sensitivity was linked to higher levels of security of

attachment. However, caregiver sensitivity was not associated with disorders of attachment (Oosterman & Schuengel, 2008).

There were several weaknesses associated with Oosterman & Schuengel's (2008) study. The study had a small sample and included foster children placed at birth. Children placed at birth may be a significantly different subtype of foster children. Including these children in the analysis may inflate the importance of attachment security. The authors note that 97% of their sample had experienced one or more placements. However, the study does highlight the association between attachment security and internalizing and externalizing behaviors in foster children. This is noteworthy, since attachment security is linked to emotional regulation, placement stability, and externalizing behaviors (Dozier, et al., 2006; Oosterman & Schuengel, 2008). The presence of externalizing behaviors is one of the strongest predictor of placement instability (Barber & Delfabbro, 2003; Lindhiem & Dozier, 2007; Oosterman & Schuengel, 2008). This study serves as further corroboration regarding the interconnectedness between multiple factors that support or suppress the development of pathological responses in young children. It also underscores the difficulties researchers face when attempting to tease out the particular factors that contribute to the development of internalizing and externalizing disorders, as many of the factors can function as either a risk or a protective factor.

Weaknesses in the Literature

Based on the research presented herein, it is clear that there are several weaknesses within the current literature. First, it has been difficult to disentangle the

direct effects of foster care placement relative to those of maltreatment (Lawrence, et al., 2006). Second, factors such as attachment, emotion regulation, placement stability, and externalizing disorders are interconnected (Barber & Delfabbro, 2003; Dozier, et al., 2006; Lindhiem & Dozier, 2007; Oosterman & Schuengel, 2008), which makes it important to address all of these issues when examining outcomes related to internalizing and externalizing disorders. This has not been done heretofore in a nationally representative sample of foster children. This review of the literature underscores the need for research that systematically assesses the complex and varied pathways that result in the adaptive or maladaptive outcomes of young children and the national NSCAW data provides a unique opportunity to address these issues.

CHAPTER 3: THEORIES OF PSYCHOLOGICAL FUNCTIONING IN THE FACE OF ADVERSITY

Previous research studies of psychological functioning of vulnerable children have been conceptualized using two theoretical frameworks; attachment theory and resilience theory. In this chapter, I present the assumptions made in attachment theory and their application to the foster care population. Then I review the assumptions made in resilience theory. Finally, the conceptual model and hypotheses to be utilized in this study are presented.

Attachment Theory

Attachment theory has framed a number of studies that have investigated the early childhood outcomes of foster children (Bernier, Ackerman, & Stovall-McClough, 2004; Cole, 2005; Dozier, Highley, et al., 2002; Dozier, et al., 2008; Fisher, et al., 2006). Attachment theory suggests that infants are born with an innate desire to attach to primary caregivers (Bowlby, 2003/1988). From an evolutionary perspective, this idea has validity (Bowlby, 1969). According to Bowlby, even young animals are "hardwired" to seek the shelter of their parent in the face of danger that threatens their very survival. Seeking the protection of a parent helps ensure the survival of their species. Similarly, when an infant perceives him or herself to be in danger there is a corresponding desire for self-preservation, which propels the infant to seek the shelter of a close caregiver who is able to provide protection (Bowlby, 1969/1982, 1988/2003). When a caregiver is available and responsive to an infant's need to seek reassurance from perceived threats, the caregiver provides the infant with an abiding sense of security (Ainsworth, 1979;

Bowlby, 1969/1982, 1988/2003). These ideas first articulated by Bowlby and Ainsworth underlie attachment theory and provide a basis from which to understand deviations from normal development.

Maltreatment and disruptions in care represent catastrophic deviations from the formation of the caregiver-child relationships that are the basis for emotional regulation in young children (Dozier et al., 2009). The attachment literature on children in foster care suggests that because these children are often exposed to maltreatment prior to entering the foster system coupled by the loss of their parent when they are placed in care, these experiences undermine a child's ability to seek protection (Dozier & Lindhiem, 2006).

This history of stressful experiences between an infant and a caregiver provides the infant with a mental template for future interactions (Bowlby, 1969/1982). Ainsworth's research on parenting and attachment suggested that infants develop strategies to elicit protection from a caregiver. She suggested that infants could be classified into three categories based on their strategy for seeking protection: secure, avoidant, and resistant (Ainsworth, et al., 1978). Over the past 30 years, Ainsworth's initial findings have been replicated (van IJzendoorn & Kroonenberg, 1988). Caregivers who are consistently responsive to infants' need for comfort enables infants to form expectations that these primary caregivers will be accessible when needed (Bowlby, 1969/1982). Seeking close proximity to a caregiver when distressed is referred to as *secure attachment* behavior and is desirable (Ainsworth, et al., 1978). *Secure attachment* occurs when an infant is able to seek out a caregiver when distressed or anxious and the caregiver consistently provides the reassurance the infant needs (Ainsworth, et al., 1978).

However, Mary Ainsworth (1964) noted exceptions to this behavior and found that some infants when anxious or distressed appeared to avoid or reject their parents instead of seeking comfort and reassurance. She concluded that these infants could not rely on reassurance from their primary caregivers when upset and, therefore, become avoidant or resistant (Ainsworth, 1964). *Avoidant attachment* occurs when the caregiver is consistently rejecting to the infant's need for comfort, and, consequently, the infant turns away from the caregiver when distressed rather than seeking closer proximity for comfort (Ainsworth, et al., 1978). In the *Strange Situation Procedure*, these children are unsmiling, somewhat playful in the parent's absence, and unresponsive or ignore the parent upon his or her return (Ainsworth, et al., 1978).

Resistant attachment is similar to avoidant attachment in that caregivers are inconsistent in their response to infants, and, as a result, infants may be fussy, inconsolable, or resistant to the attempts of caregivers to soothe them (Ainsworth, et al., 1978). Further, these infants are uncertain in the presence of their parent, very distressed when faced with the absence of their parent, and unable to be soothed by their parent upon return in the *Strange Situation Procedure* (Ainsworth, et al., 1978).

However, these three categories did not seem to explain the unique behaviors of some children who were later classified as disorganized/disoriented (Main & Solomon, 1990). *Disorganized attachment* is characteristically defined by an infant's inability to develop an organized way of coping or seeking out comfort when distressed or anxious (Main & Solomon, 1990). Nearly 20 years of research suggests that a disorganized attachment occurs when a caregiver engages in frightening behavior towards an infant, and, hence, while the infant desires close proximity to their parent when distressed, he or

she fears the caregiver's response (Main & Solomon, 1990). This may explain the association between disorganized attachment and poor childhood outcomes such as internalizing and externalizing problems (Dozier, et al., 2009; Hesse & Main, 2006).

Given that secure attachments develop within the context of supportive parental relationships, it is not difficult to understand why foster children are at risk for insecure or disorganized attachments especially if they have been maltreated (Dozier, et al., 2009). If an infant has been unable to utilize a primary caregiver as a secure base when distressed or anxious, then he or she begins to develop expectations that adults are not able to provide the comfort they need (Bowlby, 1969/1982). The attachment literature supports these theoretical assumptions. Maltreated children are much more likely to exhibit insecure attachment patterns, specifically disorganized attachment (Carlson, et al., 1989; Cicchetti & Barnett, 1992). While a disorganized attachment is associated with poor emotional and behavioral outcomes, a secure attachment is associated with prosocial outcomes and can be thought of as a factor that promotes resilience.

Resilience Theory

The concept of resilience was applied to maltreated children to help determine what factors contribute to the divergent outcomes (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Haskett, et al., 2005). Resilience theory suggests that the presence of and interplay between vulnerabilities, risk factors, and protective factors help lessen or compound the effects of trauma, adversity, or negative life events that disrupt normal development (Goldstein & Brooks, 2006). *Vulnerability* refers to "characteristic that predisposes an individual to a negative outcome" (Tarter, 1998, p. 78). *Risk factors* refer to "any

influences that increase the chances of harm or increase the probability of onset, digression to a more serious state or maintenance of a problem condition" (Fraser, Kirby, & Smokowski, 2004, p. 14). *Protective factors* are dispositional attributes of the individual, socialization practices within the family, and external support systems that "moderate against the effects of a stressful or stress situation so that the individual is able to adapt more successfully than they would have had the protective factor not been present"(Conrad & Hammen, 1993, p. 594) .

Resilience theory emerged from the work of several individuals in the 1970s and 1980s who studied individuals who appeared to be functioning well despite exposure to adverse circumstances (Anthony, 1974; Garmezy, 1974; Rutter, 1979; Sameroff, et al., 1987; Werner & Smith, 1982). The term resilience was used to describe a subset of children considered vulnerable for negative outcomes as a result of being parented by caregivers with a severe mental illness (Vanderbilt-Adriance & Shaw, 2008), but seemed "immune"(Egeland, 2007, p. 87) to the risk. There have been significant advances in the study of child pathology and resilience since the introduction of the new field of developmental psychopathology in the mid-1980s (Egeland, 2007). Prior to the 1980s, early risk research was based on a linear model which presumed that biological and environmental factors made independent and unrelated contributions to developmental outcomes of children. In other words, it was largely believed that child psychopathology was a downward extension of parental psychopathology (Egeland, 2007). This belief was reflected in early risk research on the etiology of schizophrenia. Problematic with this research was the assumption that a particular risk factor or combination of risk factors could be directly linked with the occurrence of schizophrenia (Mednick & McNeil,

1968). The utilization of a linear model made it difficult for some researchers to understand resilient responses displayed by some children at risk due to caregiver psychopathology. The linear model presumed that one risk factor or the concurrence of a combination of risk factors could be directly linked to the occurrence of psychopathology (Egeland, 2007). It failed to account for the dynamic interplay between risk and protective factors.

This early research provided little understanding of child pathology. The employment of a linear model was blamed for some of the poor results, but this body of work also was criticized for its failure to acknowledge that "patterns of behavior and adaptation leading to psychopathology are likely to differ in each developmental period" (Egeland, 2007, p. 85). Early researchers failed to recognize that the impact of particular risks is likely to differ at each developmental period. In other words, patterns of behavior and adaptation leading to psychopathology will likely differ depending upon the child's current stage of development, level of functioning, and the meaning he or she is able to provide to their current circumstances (Egeland, 2007). The introduction of the developmental perspective into risk research and the field of child psychopathology provided the impetus for the birth of developmental psychopathology (Egeland, 2007).

Developmental psychopathology proposed that child psychopathology could not be studied within a linear model. Rather, it required an integrative approach that assessed the contributions of both biological and environmental factors. Using the inherited diathesis model, it was believed that individuals were born with a biological vulnerability to schizophrenia. However, an individual would not develop schizophrenia without exposure to environmental adversity (Meehl, 1962; Zubin & Spring, 1977). However, it

was Arnold Sameroff and colleagues who suggested that biological and environmental factors influence each other (Sameroff, et al., 1993) based on his research on childhood outcomes. Sameroff discovered that while parental pathology was related to child outcomes, low socioeconomic status was a better predictor of poor outcomes in children. This suggested that environment was equally important as genetic heritability of psychiatric disorders. This has helped researchers to begin to understand the mechanisms underlying complex behaviors, such as resilient responses, within the face of risk or adversity (Cacioppo, et al., 2000). Further, it provided an understanding that the impact of biological vulnerabilities, risks, and environmental adversity will likely differ depending upon the child's developmental stage.

Resilience is suggested to be one of the constructs that protects or reduces vulnerability in children exposed to negative life events (Goldstein & Brooks, 2006; Leon, Ragsdale, Miller, & Spacarelli, 2008; O'Dougherty Wright & Masten, 2006) or children who experience cumulative risk factors (Riley & Masten, 2005). Masten and Coatsworth (1998) state "resilient children do not appear to possess mysterious or unique qualities; rather, they have retained or secured important resources representing basic protective systems in human development" (p. 212). In other words, these children are particularly adept at obtaining the support they need within their environment to face adversity.

Maltreatment is associated with disruptions in subsequent development in areas of emotional regulation (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Riley & Masten, 2005), formation of secure attachment (Beeghly & Cicchetti, 1994; Jaffee, 2007; Lawson, 2009), self-esteem (Cicchetti, 2004; Cicchetti & Rogosch, 1997; Riley & Masten, 2005),

peer relationships, and adaptation to school (Flores, Cicchetti, & Rogosch, 2005; Harvey & Delfabbro, 2004). Resilience theory suggests that it is the interplay between multiple risk and protective factors that determine the outcomes for children faced with adversity (Harvey & Delfabbro, 2004). Children who are able to elicit positive responses from adults, are enabled to establish secure bonds with those individuals (Bowlby, 1988). Secure attachment encourages children's confidence and allows them to explore their environment knowing they have a secure base to return to when distressed or anxious (Bowlby, 1988). Competence is embedded within the caregiving system (Masten & Coatsworth, 1998). Children who secure help for negotiating the demands of their environment develop skills to master future developmental tasks, such as emotional regulation, and are better able to cope with adversity (Masten & Coatsworth, 1998).

This has serious implications for foster children with histories of maltreatment and insecure or disorganized attachment. Children who enter care with mental representations associated with insecure or disorganized attachment will either use strategies that have worked with insensitive parents, in the case of insecure children, or will lack a strategy for maintaining proximity to a caregiver, as in the case of children classified as disorganized. Foster parents are often unaware or lack the skills to recognize and respond to these children's specialized needs (Dozier & Bick, 2007). For example, children with a disorganized attachment may turn away from their caregiver or be inconsolable when distressed (Main & Solomon, 1990), which may be viewed by the foster parent as a rejection or an indication that the child does not want or need their comfort (Dozier & Bick, 2007). What is more, children's behaviors seem to be mimicked in caregivers' responses (Stovall & Dozier, 2000). When children use avoidant behaviors

to cope with distress, caregivers respond as if the children do not need reassurance. When children use resistant behaviors, caregivers tend to respond in an irritable manner (Stovall & Dozier, 2000). In these instances children need reassurance despite their behavioral indicators. If foster parents do not recognize this need, then the idea that adults are untrustworthy, unreliable, and incapable of meeting their needs are reinforced with the child. These children lack coherent strategies to obtain the support and comfort they need from caregivers. If children are not able to secure the reassurance or support they need from adult caregivers (Dozier & Bick, 2007), then it makes them less likely to be able to cope with both the effects of maltreatment and the grief associated with placement into foster care.

Conceptual Framework

In conceptualizing early childhood outcomes, specifically internalizing and externalizing disorders, attachment and resilience theories suggest several factors are important when assessing the behavioral outcomes of young infants and toddlers (see Figure 1). First, a secure attachment relationship to a caregiver serves as a protective barrier against perceived threats for an infant (Bowlby, 2003/1988). *Secure attachment* refers to the most adaptive relationship style and tends to promote social competence, fewer behavioral problems, and academic achievement (Davies, 2004). However, if there is a failure of this protective system, the infant is at an increased risk for the development of pathological responses, which may include internalizing or externalizing disorders (Bowlby, 2003/1988; Dozier & Bick, 2007; Dozier, Dozier, & Manni, 2002; Jaffee, 2007; Oosterman & Schuengel, 2008). *Insecure forms of attachment* refer to the relationship

styles of insecure avoidant, insecure resistant/ambivalent, and disorganized attachment (Ainsworth, et al., 1978; Main & Solomon, 1990).

In the current study, which employs data from the National Survey of Child and Adolescent Well-Being (NSCAW), there is not a direct measure of attachment. Therefore, *attachment* is defined as parental sensitivity and reflects the availability and responsiveness of the parent as well as the acceptance of the child. Previous studies have proposed that parental sensitivity is highly correlated with attachment styles (Cole, 2005; De Wolff & Van IJzendoorn, 1997; Gaensbauer et al., 1985; National Institute of Child Health and Human Development, 1997; Zevalkink, Riksen-Walraven, & Bradley, 2008).

Second, caregivers have an important role with regard to children's regulatory capabilities (Bocknek, et al., 2009; Dozier, Highley, et al., 2002; Lieberman, 2004; Maughan & Cicchetti, 2002). *Emotional regulation* is "the process by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998, p. 275). So it is not surprising that the loss of a primary caregiver threatens children's ability to adequately regulate their emotions (Dozier, Highley, et al., 2002). When children have yet to develop secure attachments with their new caregivers, it may be difficult for children to accept or trust efforts by these new persons to soothe them. These children then lose that opportunity to use this new person as a means to help them develop a way of managing negative emotion (Dozier, et al., 2006). Secure attachment is conceived as a factor that promotes emotional regulation, which, in turn, decreases the risk for developing internalizing or externalizing disorders (Dozier & Bick, 2007).

Third, attachment appears to support resilience (Lawson, 2009). Resilience is inferred when positive outcomes are observed despite the presence of multiple risk factors or adversity that poses a threat to healthy development (Riley & Masten, 2005). In a study by Jaffee (2007), resilience was inferred based on residuals from actual versus predicted scores in young foster children. The study used the NSCAW data and Jaffee's sample included 1,720 children who ranged in age from 3 to 24 months at Wave 1. The hypothesis suggested that the caregiving environment could promote positive behavioral and cognitive outcomes among children who were identified as at risk based on the results from the neurodevelopmental screener and temperament inventory (Jaffee, 2007).

Finally, a history of maltreatment can impact childhood outcomes (Cicchetti, 2004). The literature reveals that *maltreatment* relative to foster children refers to physical, sexual, emotional abuse or neglect (Beeghly & Cicchetti, 1994; Cicchetti & Toth, 1995; O'Dougherty Wright & Masten, 2006). For the purposes of this study, maltreatment will refer to physical, sexual, or emotional abuse and or neglect that has been reported, investigated, or substantiated prior to the time of the initial survey and if the report at the time of the initial survey was ever substantiated.

Both attachment theory and resilience theory acknowledge how children's functioning is also mitigated by other factors such as the child's personal attributes, the presence of special needs or pre-existing behavioral problems, and factors related to the caregiver and placement instability. In this study, gender pertains to the sex (male, female) of the individual child and can have direct effects on internalizing and externalizing disorders (McCabe, et al., 2004).

Race will refer to the category a person, caregiver, or caseworker identifies themselves or the child with such as Caucasian, African American, etc.

Age refers to the child's age in months at the time of the initial survey and at Wave 4. Age of the caregiver refers to the caregiver's age in years at time of initial survey and at Wave 4.

Any special needs or behavior problems refers to whether or not the caseworker at the time of the initial survey felt the child had any problems at the time of the investigation of the current report of maltreatment. Special needs was defined as developmental disabilities (Dowd et al., 2002).

Number of placements refers to placement instability and heightens the risk for internalizing and externalizing disorders, as it can interfere with the formation of secure attachment (Dozier & Lindhiem, 2006).

The number of children in the home refers to the number of individuals age 18 or under that resides with the child in their current home as reported by the caregiver at the time of the initial survey and at Wave 4.

The placement type refers to whether the child remains in the care of a biological parent (In Home), placed with a relative (Kinship), or placed with an unrelated caregiver (Foster Home). This information was gathered at the time of the initial survey and at each subsequent wave.

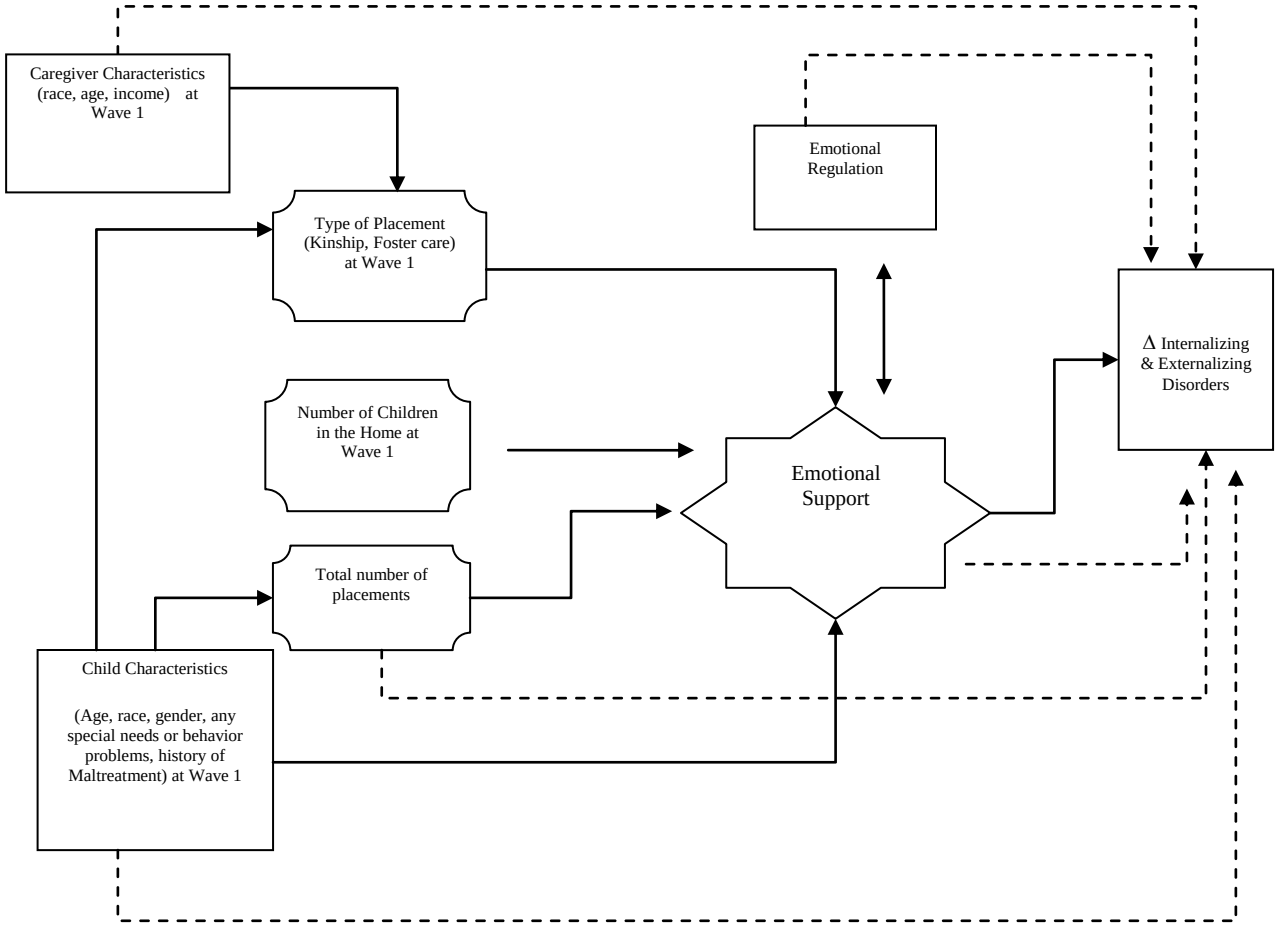
Income refers to the total annual amount of wages, cash assistance, foster care payments, child support payments, etc. earned by all members of the household at the time of the initial survey and Wave 4.

Hypotheses:

Based on resilience and attachment theories, the following hypotheses will be tested:

1. Internalizing and externalizing scores will vary by age, gender, and race of child. Males will have higher externalizing scores than females. Females will have higher internalizing scores than males. Hispanic and Black/African American children will have higher internalizing and externalizing scores than White children. Older children will have higher internalizing and externalizing scores than the younger children.
2. Substantiated cases of maltreatment will be associated with higher internalizing and externalizing scores.
3. Lower emotional support scores on the HOME Inventory will be associated with higher internalizing and externalizing scores.
4. Poor emotional regulation will be associated with higher internalizing and externalizing scores.
5. After controlling for caregiver and child characteristics, children residing in foster homes will have lower internalizing and externalizing scores than children in kinship placements.
6. The combined influence of out-of-home and history of maltreatment will be the strongest predictors of internalizing or externalizing disorders.

Figure 1: Conceptual Model



As depicted in Figure 1, it is hypothesized that the characteristics of the child will impact the number of placements he or she experiences or the type of placement, which in turn, affects the attachment relationship or emotional support received from the caregiver. This support affects the child's ability to manage difficult emotions and all of these factors affect the emotional and behavioral outcomes of the child. Moreover, the child's characteristics can also have direct effects on the outcomes.

It is anticipated that caregiver characteristics will affect the type of placement. There are a higher proportion of African American kinship care homes than Caucasian (Harris & Skyles, 2008). Caregiver characteristics and placement type will affect the emotional support a child receives, which can influence emotional regulation of the child. These factors all affect the emotional and behavioral outcomes of the child. Additionally, caregiver characteristics can directly influence the child's outcome as well. For example, lower income is a risk factor for poor childhood outcomes (Werner & Smith, 1982). Therefore, it is anticipated that low socioeconomic status will be associated with higher levels of emotional and behavioral problems in young children.

The number of children in the home will influence the level of support available to the child, which again influences the child's ability to manage difficult emotions and then affects the emotional and behavioral outcomes of the child. Also, placement instability has been shown to increase internalizing and externalizing disorders in young children (Dozier & Lindhiem, 2006). Consequently, it is suggested that as the number of placements increase there will be a corresponding increase in poor psychological outcomes of children. Finally, it is suggested that emotional support and emotional regulation have direct influences on the outcomes of young children. While resilience is

not measured directly in this study, resilient functioning can still be inferred when a child is functioning better than what was predicted. Therefore, if a child's psychological functioning is better than expected given certain risk factors then resilience can be inferred.

CHAPTER 4 RESEARCH METHODS

Introduction

This chapter begins with an introduction to the National Survey of Child and Adolescent Well-Being (NSCAW) data set that was used for this study. Then a description of the sample (N=1,582) and a subset of the larger sample (N=408) are discussed. Next, the study variables and operational definitions are presented as well as a summary of analyses for the scales used in the study. The chapter concludes with a description of the data analysis plan.

National Survey of Child and Adolescent Well-Being

This explanatory research study is a secondary data analysis of the restricted release version of the NSCAW available through the National Data Archive on Child Abuse and Neglect. NSCAW represents the first national study of child welfare to have gathered data from both children and families. It is a highly complex and detailed survey that includes information on child and family well-being, community environment, and numerous other factors (Dowd, et al., 2002).

Use of the NSCAW data set requires adherence to specific rules regarding the storage of the information in order to minimize the risk for its participants. This researcher received approval from the Human Subjects Investigation Committee at Wayne State University (refer to Appendix A) to use these data and followed all of the requirements regarding confidentiality stipulated by the National Data Archive on Child Abuse and Neglect, which holds the NSCAW data.

The NSCAW is a nationally representative sample of children within the United States. The total NSCAW cohort includes 6,231 children ages birth to 14 who had contact with the child welfare system between October, 1999 and December, 2000 (Dowd, et al., 2002). The sample consists of two populations of children; children who have been in out-of-home care for at least twelve months (referred to as the LTFC sample, N=727) and children who were subject of child abuse and neglect investigations (referred to as the CPS sample, N=5,504). However, for the purpose of this proposed research study only the CPS sample will be used.

Dowd et al. (2002) selected the sample using a two-stage stratified design. The United States was first divided into nine sampling strata and within each stratum primary sampling units (PSUs) were formed and randomly selected. Eight of the strata corresponded to the states with the largest child welfare caseloads and the ninth stratum was comprised of the remaining 42 states and the District of Columbia. The PSUs were the geographic areas that included the population served by a single child protective agency. Using a probability-proportionate-to-size procedure gave a higher chance of selection to PSUs with larger caseloads. Therefore, the same numbers of children were selected within each PSU regardless of PSU size (Dowd, et al., 2002).

Finally, within each PSU eight mutually exclusive categories of children were created and sampled. Children were first stratified into two groups: those receiving services and those not receiving services. Then the group not receiving services was stratified by age: children less than a year and older children. The same stratification occurred with the children receiving services; however, each group was further subdivided by those receiving in-home care and out-of-home care. Finally, the older

children were stratified by type of abuse or neglect under investigation (sexual abuse and all other abuse or neglect allegations). Children 15 years of age or older were not eligible to participate in the survey (Dowd, et al., 2002).

Sample Utilized in the Study

For the purpose of this study, only children from the CPS sample were used and included only children who were 48 months or younger at the time of the initial survey. The sample was further restricted to include: (1) only children that resided in home, kinship, or foster care; and (2) those who were White, African American, or Hispanic. Children who were identified as "non-interview" or "legitimate skip" also were eliminated. In examining the data at Wave 4, age could not be identified for 238 children, placement type could not be determined for two children, and five children did not have test results from the Child Behavior Checklist (CBCL). Therefore, these cases also were eliminated rendering a final sample size of 1,582.

As depicted in Table 4.1, the analysis sample was proportional with respect to the number of males (53%) and females (48%). The ages of the children ranged from 0 to 47 months with a median age of 12 months. Nearly half of the children were less than twelve months (48%), 26% were 12-23 months, 13% were 24-35 months, and finally 13% were 36-47 months old. Approximately 43% of the children were White, 38% were African American, and 20% were Hispanic. Approximately 16% of the children were identified as having major special needs or significant behavioral problems at the time of the current investigation. The majority of the sample was living at home with a biological parent (71%) with the remaining living in either a foster home (16%) or kinship setting

(13%) at the time of the initial survey. Approximately 43% of the sample had prior reports of maltreatment. Of the children with prior reports of maltreatment, approximately 95% of those reports were investigated and 67% of those investigations substantiated the allegations of maltreatment.

At Wave 4, the age range of the children was from 33 months to 82 months of age with a median age of 44 months. Approximately 12% of the children were 33 to 35 months old, 52% were 36 to 47 months old, 16% were 48 to 59 months, 13% were 60 to 71 months, and 8% were 72 to 82 months old. The majority of the sample was placed with a biological parent (87%) with the remaining in either a foster home (7%) or a kinship home (6%). Of the 1,582 reports of maltreatment at the time of the initial survey, 63% of those reports were substantiated at some point during the course of the study. Refer to Table 4.2 for complete details.

Table 4.1

Characteristics of the Children at Time of Initial Survey (N = 1,582)

Selected Characteristics		N	%
Child Characteristics			
	Gender		
	Female	752	47.5
	Male	830	52.5
	Race		
	White	684	43.2
	African American	588	37.2
	Hispanic	310	19.6
	Age		
	Under 12 Months	763	48.2
	12 to 23 Months	413	26.1
	24 to 35 Months	205	13.0
	36 to 47 Months	201	12.7
	Median Age in Months		12.00
	Special Needs or Behavioral Issues		
	No	1,295	81.9
	Yes	257	16.2
Placement Characteristics			
	In-Home	1,129	71.4
	Foster Care	253	16.0
	Kinship	200	12.6
Maltreatment History			
	Any prior reports of maltreatment		
	No	886	57.1
	Yes	665	42.9
	Any prior investigations of maltreatment		
	No	34	5.2
	Yes	626	94.8
	Prior incident of substantiated maltreatment		
	No	195	32.7
	Yes	402	67.3

Table 4.2

Characteristics of the Children at Wave 4 (N = 1,582)

Selected Characteristics		N	%
Child Characteristics			
	Age		
	33-35 Months (2 years old)	184	11.6
	36 to 47 Months (3 years old)	824	52.1
	48 to 59 Months (4 years old)	245	15.5
	60 to 71 Months (5 years old)	197	12.5
	72 to 82 Months (6 years old)	132	8.3
	Median Age in Months		44.00
Placement Characteristics			
	In-Home	1,382	87.4
	Foster Care	104	6.6
	Kinship	96	6.1
Maltreatment History			
	Outcome of the Maltreatment Report at Time of Initial Survey		
	Other than Substantiated	584	36.9
	Substantiated	998	63.1

Subsample characteristics.

At the time of the initial survey, only the caregivers of 406 children were able to complete the CBCL/2-3 because of age restrictions for that particular measure. Therefore, a subset of 406 children with Child Behavior Checklist (CBCL) scores at Wave 1 and Wave 4 was extracted from the original sample of 1,582. As depicted in Table 4.3, the subset of children was proportional with respect the number of males (51%) and females (49%). When compared to the full sample, the subsample is comprised of more females, the children are older, there are more White but, fewer African American and Hispanic children, and these children are more likely to be in-home placements as compared to the full sample. With respect to special needs and

maltreatment histories, the subsample has more special needs or prior behavioral issues and more reports of maltreatment than noted in the full sample.

Table 4.3

Characteristics of the Subset of Children at Time of Initial Survey (N = 406)

Selected Characteristics		N	%
Child Characteristics			
	Gender		
	Female	199	49.0
	Male	207	51.0
	Race		
	White	209	51.5
	African American	125	30.8
	Hispanic	72	17.7
	Age		
	24 to 35 Months	205	50.5
	36 to 47 Months	201	49.5
	Median Age in Months		35.00
	Special Needs or Behavioral Issues		
	No	329	81.0
	Yes	69	17.0
	Don't Know	8	2.0
Placement Characteristics			
	In-Home	322	79.3
	Foster Care	40	9.9
	Kinship	44	10.8
Maltreatment History			
	Any prior reports of maltreatment		
	No	214	52.7
	Yes	182	44.8
	Missing	10	2.5
	Any prior investigations of maltreatment		
	No	12	6.7
	Yes	169	93.4
	Prior incident of substantiated maltreatment		
	No	57	37.5
	Yes	95	62.5

As shown in Table 4.4, the age of the subset of children at Wave 4 ranged from 48 to 82 months of age with a median age of 67 months. Nearly half of the children were 60 to 71 months old (49%) with the remaining either 48 to 59 months (19%) or 72 to 82 months old (33%). The subset only included the oldest children from the larger sample. Therefore, the median age for the subsample is higher than the median age for the larger sample. At Wave 4, the majority of children in the subset were residing in the care of a biological parent (89%) with 6% in foster care and the remaining 4% placed with a relative. This was similar to the larger sample. In terms of prior maltreatment histories, there were slightly fewer reports of maltreatment substantiated in the subsample than the larger sample. Of the 406 reports of maltreatment at the time of the initial survey, 61% of those reports were substantiated at some point during the study.

Table 4.4

Characteristics of Subset of Children at Wave 4 (N = 406)

Selected Characteristics		N	%
Child Characteristics			
	Age		
	48 to 59 Months (4 years old)	77	19.0
	60 to 71 Months (5 years old)	197	48.5
	72 to 82 Months (6 years old)	132	32.5
	Median Age in Months		67.00
Placement Characteristics			
	In-Home	363	89.4
	Foster Care	26	6.4
	Kinship	17	4.2
Maltreatment History			
	Outcome of the Maltreatment Report at Time of Initial Survey		
	Other than Substantiated	159	39.2
	Substantiated	247	60.8

Caregiver characteristics.

At the time of the initial survey, the majority of the caregivers were female (95%). Approximately 53% of the caregivers were White, 28% African American, 15% Hispanic, and 4% were of another racial/ethnic background (Asian, American Indian or Alaska Native, or Native Hawaiian or other Pacific Islander). Approximately 65% of the caregivers were less than 35, 19% were 35 to 44 years old, 10% were 45 to 54, and 6% were older than 54 years. The median age was 28 years. Approximately 25% of the caregivers reported annual incomes of less than $10,000, 26% earned $10,000 to $19,999, 17% earned $20,000 to $29,999, 11% earned $30,000 to $39,999, and 22% had annual incomes of $40,000 or more. Refer to Table 4.5 for further details.

Table 4.5

Demographic Characteristics of Caregivers at Time of Initial Survey (N=1,582)

Selected Characteristics		N	%
Caregiver Characteristics			
	Gender		
	Male	83	5.2
	Female	1,499	94.8
	Race		
	White	834	52.7
	African American	450	28.4
	Hispanic	229	14.5
	Other	69	4.4
	Age		
	<35 years	1,023	64.7
	35-44 years	301	19.0
	45-54 years	154	9.7
	>54 years	102	6.4
	Missing	2	.2
	Median Age in Years		28.00
	Income		
	Less than $10,000	356	24.7
	$10,000 to 19,999	371	25.7
	$20,000 to 29,999	244	16.9
	$30,000 to 39,999	161	11.1
	$40,000 or More	312	21.6

When compared to the caregivers at the time of the initial survey, the caregivers at Wave 4 were slightly older, there were fewer caregivers who earned less than $10,000, and there were slightly more African American caregivers. Refer to Table 4.6 for further details.

Table 4.6

Demographic Characteristics of Caregivers at Wave 4 (N=1,582)

Selected Characteristics		N	%
Caregiver Characteristics			
	Gender		
	Male	109	7.0
	Female	1471	93.0
	Race		
	White	792	52.4
	African American	448	29.6
	Hispanic	221	14.6
	Other	47	3.1
	Age		
	<35 years	920	58.2
	35-44 years	355	22.5
	45-54 years	189	12.0
	>54 years	115	7.3
	Missing	1	0.1
	Median Age in Years		31.00
	Marital Status		
	Never Married	580	36.8
	Married	614	38.8
	Separated, Divorced, Widowed	384	24.3
	Income		
	Less than $10,000	297	19.5
	$10,000 to 19,999	429	28.2
	$20,000 to 29,999	247	16.3
	$30,000 to 39,999	168	11.1
	$40,000 or More	379	24.9

Study Variables and Operational Definitions

Dependent Variable: Internalizing and Externalizing Disorders

The dependent variables in this study are internalizing and externalizing disorders and are operationalized using the Child Behavior Checklist (CBCL). The CBCL was normed for children ages two to three (CBCL/ 2-3) and four to eighteen (CBCL/ 4-18). The CBCL/ 2-3 evaluates the behaviors and emotions of children ages 2 to 3 years of age. The checklist consists of 99 items related to activity, interests, attention, fear, play, interaction with peers and adults, states of anxiety and mood, somatic problems, aggression, response to change. It also includes three open-ended entries that allow a parent or caregiver to identify any behaviors not listed. The caregiver is asked to rate each item on a scale from 0 (not true) to 2 (very true or often true).

The CBCL includes two broadband scales: internalizing behaviors and externalizing behaviors. The items are tabulated and generate a total competence and total problem score, which is then transformed into a standard T score. T scores fall in the normal range (<60), borderline range (60-63) or the clinical range (>63), which indicates psychological impairment. For Wave 1, the range of scores for the internalizing subscale was 30 to 92 with a median score of 55.00. The range of scores for the externalizing subscale was 30 to 95 with a mean score of 54.00. The Cronbach's alpha scores for the subscales were .85 for the internalizing scale, and .85 for the externalizing scale at Wave 1. For further information on the reliability analysis refer to Table 4.7. For Wave 4, the range of scores for the internalizing subscale was 30 to 88 with a median score of 53.00. For the externalizing subscale, scores ranged from 30 to 97 with a

median score of 52.00. The Cronbach's alpha scores at Wave 4 were .85 for the internalizing scale and .91 for the externalizing scale. Further, the CBCL 2-3 has been shown to be valid across age, gender, socioeconomic status, and ethnicity (Achenbach & Rescorla, 2004). In a recent study conducted by Gross and colleagues (2006), the equivalence of the CBCL was examined when the sample was stratified by caregiver race, income, and language. The study found that the CBCL was valid and reliable when used with parents of low income African American and Latino children.

Two new categorical variables were created for the internalizing and externalizing subscale scores for the CBCL/2-3. Utilizing the cut off scores provided by Achenbach, scores were placed into one of three categories (normal, borderline, clinical). Both categorical and the continuous versions of these variables were used in data analysis.

The CBCL/4-18 evaluates the behavior and emotions of children ages 4 to 18 years of age. This checklist consists of 118 items related to behavioral and emotional problems and two open-ended items for reporting additional problems. It also consists of 20 competence items covering children's activities, social relations, and school performance. The caregiver is asked to consider the past 6 months and rate each item on a scale from 0 (not true, as far as you know) to 2 (very true or often true). The CBCL includes two broadband scales: internalizing behaviors and externalizing behaviors. The items are tabulated and generate a total competence and total problem score, which is then transformed into a standard T score. T scores fall in the normal range (<60), borderline range (60-63) or the clinical range (>63), which indicates impairment. The range of scores for the internalizing subscale was 33 to 89 with a median score of 51.00. For the externalizing subscale, the range of scores was 30 to 86 with a median score of

55.00. The Cronbach's alpha scores for the subscale were .83 for the internalizing scale and .90 for the externalizing scale. Further, the CBCL 4-18 has been shown to be valid across age, gender, socioeconomic status, and ethnicity (Achenbach, 1991).

The ages of the children at Wave 4 (2 to 6) required the use of data from both the CBCL/2-3 and the CBCL/4-18. Since the diagnostic scores were the same for both versions of the CBCL, a new variable was computed that merged data from the two separate indicators into a single measure. As a result, two new variables were constructed to combine the scores from both summary measures into a single measure of internalizing behaviors and externalizing behaviors. The range of scores for the internalizing subscale was 30 to 89 with a median score of 52.00. The range of scores for the externalizing subscale was 30 to 97 with a median score of 54.00. Once all the scores for the internalizing subscales were combined for both age groups, a subsequent variable was created using the cut off scores recommended by Achenbach to determine whether a score fell into the normal, borderline, or clinical range. In subsequent analysis, both the newly created continuous variable that included all valid internalizing subscale scores from the CBCL/2-3 and CBCL/4-18 at Wave 4 and the categorical variable were used. The same procedure was used to generate the externalizing subscale scores at Wave 4.

Emotional Support as a Proxy Measure of Attachment

The NSCAW does not have a direct measure of attachment. However, several studies have documented that parental sensitivity is highly correlated with attachment styles (Cole, 2005; Gaensbauer, et al., 1985; Zevalkink, et al., 2008). Children that reside in homes where the level of emotional support or parental sensitivity is high are more

likely to have a secure attachment (De Wolff & Van IJzendoorn, 1997; Gaensbauer, et al., 1985; National Institute of Child Health and Human Development, 1997; Zevalkink, et al., 2008). Therefore, for the purpose of this study parental sensitivity as measured through the Home Observation for Measurement of the Environment-Short Form (HOME-SF) will be used as a proxy for attachment since it assesses the availability and responsiveness of the parent as well as the acceptance of the child.

The HOME was developed by Caldwell and Bradley (1984) and assesses the social, emotional and cognitive aspects of children's (age birth to 3 years old) *home environment*. Specifically, the measure describes the surrounding conditions within which children live that promote or inhibit their optimal growth and development. These may include the aesthetics of the home, appropriate play materials, parental involvement, and variety in daily stimulation. The original HOME consists of 45 items clustered into six subscales: (1) parental responsivity; (2) acceptance of child; (3) organization of the environment; (4) learning materials; (5) parental involvement; and (6) variety of experiences. The HOME-SF, a shorter version of the HOME, first employed in the National Longitudinal Survey of Youth (NLSY), will be used in this study. It consists of 20 to 24 questions depending upon the age of the child and focuses on the mother's behaviors toward the child and various aspects of the physical environment (Dowd, et al., 2002). These questions are answered either through semi-structured interviews with parents or caregivers or through direct observation by the person administering the instrument (Caldwell & Bradley, 1984). A total raw score can range from 20 to 260 points, which is derived by summing individual item scores. However, responses are then

recoded to reflect a response set of 0 (no or not observed) or 1 (observed). Lower scores indicate more concern with the home environment.

Initial reliability analyses indicated that there were problems with internal consistency for the emotional subscales for all age groups. Therefore, the emotional support subscale for each age group was modified to only include four similar items from the interviewer's observations related to emotional support. These items were related to the whether or not the caregiver conversed with the child, responded to the child's speech, was affectionate towards the child or encouraged participation in the conversation, and whether the caregiver's voice conveyed positive feelings about the child or the caregiver kept the child in view and looked at often at the child.

Reliability analysis for the emotional support scale for children ages 0 to 35 months at the time of the initial survey had a KR-21 score (Lane, White, & Henson, 2002) of .44 with scores that ranged from zero to four and a median score of four. The KR-21 score (Lane, et al., 2002) for the three to five year olds emotional support scale was .69 with a range of scores from zero to four and a median score of four. For Wave 4, reliability analysis for emotional support scale for children ages 0 to 35 months had a KR-21 score (Lane, et al., 2002) of .70 with a range of scores from one to four and a median score of four. The emotional support scale for children ages three to five years old had a KR-21 score (Lane, et al., 2002) of .59 with a range of scores from zero to four and a median score of four. The emotional support scale for children ages 6 to 10 had a KR-21 score (Lane, et al., 2002) of .72 with a range of scores from zero to four and a median score of four.

There are no standardized cut off scores so a technique used by Padilla and colleagues was employed in this study (Padilla, Boardman, Hummer, & Espitia, 2002). The HOME-SF scores were categorized into quartiles (Padilla, et al., 2002). Scores in the lowest quartile range represent the homes that have the lowest emotional support scores. Thus, two dichotomous variables were generated to represent each age group at Wave 1. Once this process was completed, a new variable was computed that merged data from the two separate indicators into a single variable where 1 signified the lowest quartile; 0 was for otherwise. This same procedure was used for the three dichotomous variables in Wave 4.

Emotional Regulation as an Independent Variable

According to Dowd and others (2002) the emotional regulation scales were derived from a variety of existing instruments. However, these specific instruments were not fully identified in the technical documentation. The NSCAW measure consists of 18 to 28 questions depending upon the age of the child. Caregivers were asked to report specific behaviors of their children (e.g. how often do you have trouble soothing when he/she is tired or upset?). Caregivers were asked to respond using a Likert-scale ranging from 1 (never or almost never) to 5 (almost always). Dowd et al. (2002) report that further information on norms, reliability and validity of this particular scale are not available. The internal consistency for the NSCAW derived scales were fairly low with Cronbach's alpha scores ranging from .34 to .50, which resulted in the creation of two new scales that measured children's ability to regulate difficult emotions. The first scale utilized eight questions related to children less than 12 months old. These questions asked caregivers to determine how their children respond to novel situations, unexpected

stimuli, and in general whether the child tended to be fussy or irritable or easy to soothe when upset. The Cronbach's alpha score for this new scale was .63 with a range of scores from 3 to 37. A second scale was constructed for children 12 to 23 months of age and utilized the same 8 questions for this age group that were used in the first scale for younger children. The Cronbach's alpha score for this new scale for 12 to 23 month olds was .60. The range of scores for this scale was 5 to 38. In both scales, higher scores indicate more problems. Once the two new scales were constructed, the scores from each age range were combined into one variable that reflected the scores of all children from birth to 23 months old.

There are no standardized cut off scores so the technique used by Padilla et al. (2002) was employed in this study. The scores were categorized into quartiles. Scores in the highest quartile range represent children who had the most difficulty regulating their emotional responses. A dichotomous variable was generated to represent 1 (highest quartile) or 0 (otherwise) for each age group. Once this process was completed, a new variable was computed that merged data from the different age groups into a single variable which was used for the data analysis. Please refer to Table 4.7 for further information on the reliability analysis for the emotional regulation scales for Wave 1 and Wave 4.

Table 4.7

Reliability Analysis for the Scales used from Wave 1 and Wave 4

Scale	N	Mean	Median	Std. Dev.	Min.	Max.	Cronbach Alpha or KR-21 Score
Wave 1							
2-3 CBCL Internalizing	406	55.28	55.00	7.60	30	92	.85
2-3 CBCL Externalizing	406	53.94	54.00	7.86	30	95	.85
Emotional Regulation Children <12 months	744	16.45	16.00	5.07	3	37	.63
Emotional Regulation Children 12 to 23 months	432	18.75	18.00	5.57	5	38	.60
HOME-SF Emotional Support Subscale Children < 3	1332	3.49	4.00	0.81	0	4	.44
HOME-SF Emotional Support Subscale Children 3 to 5 years	184	3.55	4.00	0.84	0	4	.69
Wave 4							
2-3 CBCL Internalizing	1004	53.43	53.00	6.06	30	88	.85
2-3 CBCL Externalizing	1004	52.43	52.00	8.93	30	97	.91
4-18 CBCL Internalizing	578	50.57	51.00	4.64	33	89	.83
4-18 CBCL Externalizing	578	55.81	55.00	8.89	30	86	.90
HOME-SF Emotional Support Subscale Children birth < 3	172	3.62	4.00	0.70	1	4	.70
HOME-SF Emotional Support Subscale Children 3 to 5 years	1218	3.61	4.00	0.72	0	4	.59
HOME-SF Emotional Support Subscale Children 6 to 10 years	122	3.69	4.00	0.70	0	4	.72

Control Variables

Child's demographic characteristics.

Age was measured using data from the child's child welfare case file. This information was verified by asking the child (if old enough), the caregiver, and the current case worker (if applicable) to respond to a question that requested the child's date of birth at the time of the initial survey (Dowd, et al., 2002). This information was used to create derived variables that specified the child's age in years and age in months. A new variable was created to place children's age in months into categories of less than 12 months, 12-23 months, 24-35 months, and 35-47 months. For the purpose of data analysis, both the derived continuous variable that identified children's age in months and the new categorical variable were used.

Gender was obtained in the same manner. First, the information was gathered from the case file and then verified by the child, caregiver, and case worker (as appropriate and applicable) by asking each of them about the child's gender (Dowd, et al., 2002). A dummy variable was generated with female coded as 1; otherwise 0.

Finally, race was obtained by information within the case file and verified by asking the child, caregiver, and case worker. There were three questions related to race: (1) "Are you Spanish, Hispanic, or Latino; (2) Which group best describes you? Would you say you are Mexican, Puerto Rican, Cuban, or something else?; and (3) What is your race" (Dowd, et al., 2002, pp. II-C-30). The response set for the third question included American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, and White. If a child or caregiver responded that he or she was

unsure, race was coded as "don't know" (Dowd, et al., 2002). The responses from these three variables were used to create a derived variable for race that identified whether the individual was Black/Non-Hispanic, White/Non-Hispanic, Hispanic, and Non-Hispanic other (Dowd, et al., 2002). For the purposes of this analysis only Black, White, and Hispanic children were included in the sample. Dummy variables were generated to reflect Black and Hispanic children with the reference group being White children.

Number of children in the home.

Caregivers were asked to identify all of the children and teenagers aged 18 and under living in the household at the time of the initial survey. The total number of children was tallied for each household (Dowd, et al., 2002).

Placement type.

Placement type was obtained from the child (if old enough), caregiver, and caseworker by simply asking about the setting at baseline and at each subsequent wave of data collection. Respondents could identify one of five placement types: placement in home, foster home, kinship setting, group home/residential program, other out of home care arrangement, or don't know (Dowd, et al., 2002). However, for this study only respondents that remained with a biological parent or placed in either a foster or kinship home were included in the sample. Dummy variables were created to reflect foster or kinship placements. The reference group was in-home placement.

History of maltreatment.

Caseworkers were asked to respond to one question regarding whether or not there was any prior reports of maltreatment (Dowd, et al., 2002). Responses were coded 1 (yes) or 2 (no). A dummy variable was generated where a history of maltreatment reports was coded as 1; otherwise 0. This new dichotomous variable was then used for data analysis. In addition, there was a question regarding whether or not the current report of maltreatment was ever substantiated at any point during the survey. The caseworker was asked this question at each wave of data collection and the response was coded as 1 (substantiated) or 2 (other than substantiated) (Dowd, et al., 2002). The response to this question for all five Waves of data collection was used to construct a final variable, "REVSUBST" (Dowd, et al., 2002, pp. III-B-216). The final variable was coded to reflect either 0 (other than substantiated) or 1 (substantiated) based on the examination of the question for each Wave. A dummy variable was generated with substantiated coded as 1; and otherwise 0. This new variable was used in subsequent data analyses.

Total number of out-of-home placements.

This variable represents the cumulative count of out-of-home placements. The case worker was asked whether or not the child was placed out-of-home at each wave of data collection. If the caseworker responded yes, then a subsequent question was asked requiring that the caseworker identify the number of out-of-home placements that occurred. The caseworker could specify any number of placements except zero (Dowd, et

al., 2002). The total number of out-of-home placements was then tallied from initial placement through Wave 4.

Prior behavior problems.

The caseworker was asked at the time of the initial survey to identify whether or not the child had any major special needs or behavior problems at the time of the initial investigation. The response was coded as 1 (yes) or 2 (no) (Dowd, et al., 2002). This question was recoded to reflect a response set of 0 (no) or 1 (yes). This new variable was used in the data analysis.

Caregiver's Information.

Each caregiver was asked to respond to a question asking his or her date of birth, gender, and race at the time of the initial survey. This information was then used to create a derived variable that placed a caregiver into one of four categories: (1) less than 35years; (2) 35 to 44 years; (3) 45 to 54 years; and (4) greater than 55 years of age (Dowd, et al., 2002). For the purpose of this study, both the continuous age variable and the categorical variable were used in different analyses. Gender was obtained by asking the caregiver to identify whether he or she was male or female. A dummy variable was generated with female coded as 1; and otherwise 0. Finally, race was identified by asking the caregiver to respond to three questions: (1) "Are you Spanish, Hispanic, or Latino?; (2) Which group best describes you? Would you say you are Mexican, Puerto Rican, Cuban, or something else?; and (3) What is your race" (Dowd, et al., 2002, pp. II-C-30). The response set for the third question included American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, and White.

The responses from these three variables were used to create a derived variable for race that identified whether the individual was Black/Non-Hispanic, White/Non-Hispanic, Hispanic, and Non-Hispanic other (Dowd, et al., 2002). Dummy variables were created for each ethnic group, the reference category was White caregivers.

Data Analysis

PASW statistical analysis software was utilized to analyze all of the data. The proposed hypotheses were tested in the following manner:

Hypothesis 1: Internalizing and externalizing scores will vary by gender, race, and age of child. Males will have higher externalizing scores than females. Females will have higher internalizing scores than males. Hispanic and Black/African American children will have higher internalizing and externalizing scores than White children. Older children will have higher internalizing and externalizing behavior scores than the younger children. Contingency table analysis and difference in means tests (*t*-tests and analysis of variance) were used to test these hypotheses.

Hypothesis 2: Children with substantiated cases of maltreatment will have higher internalizing and externalizing scores than those who did not. This hypothesis was tested using *t*-tests.

Hypothesis 3: Children who have emotional support scores that fall into the lowest quartile range will have higher internalizing and externalizing scores. This hypothesis was tested using contingency table analyses and difference in means tests.

Hypothesis 4: Children with emotional regulation scores that fall into the highest quartile range will have higher internalizing and externalizing scores. This hypothesis was tested using contingency table analyses and difference in means tests.

Hypothesis 5: After controlling for caregiver and child characteristics, children residing in foster homes will have lower internalizing and externalizing scores than children in kinship placements. First, bivariate analyses were conducted for each type of placement (in home, foster care, kinship) and its relationship to internalizing and externalizing scores using one-way analysis of variance. Then, multiple regression and logistic regression analyses were completed to look at the relationship between the dependent variables and the independent variable of placement type while controlling for caregiver and child characteristics.

Hypothesis 6: The combined influence of foster care placement and history of maltreatment will be the strongest predictors of internalizing or externalizing disorders. Hierarchical linear regression was used to test this hypothesis. In Model 1, the demographic characteristics of the children, caregivers, and household were regressed on the CBCL internalizing and externalizing behavior scores. In Model 2, emotional regulation, emotional support by caregivers, total number of placements, and type of placements were added to the regression models. In Model 3, the history of maltreatment variables were added to the regression models.

CHAPTER 5 RESULTS

Introduction

This chapter begins with an overview of the prevalence of psychopathology within this sample of young children. Then the chapter continues with analyses of psychopathology as it varies by child characteristics, by caregiver and placement characteristics, and by emotional regulation and emotional support from the caregiver. Finally, the results of the multivariate analyses predicting psychopathology are discussed.

Prevalence of Psychopathology

Although a total of 1,582 children were in the analysis sample, only 406 children had *Child Behavior Checklist (CBCL)* scores at both the time of the initial survey and Wave 4. Therefore, the discussion related to child psychopathology and the subsequent analyses of internalizing and externalizing behaviors at the time of the initial survey and changes in these behaviors between Wave 1 and Wave 4 will only pertain to these children. This smaller sample will be referred to as the subsample for the remainder of this study. The sample that includes data from all 1,582 children at Wave 4 will be referred to as the full sample. The discussion of Wave 4 analyses that follows will include details about the full sample of children and the subsample who had CBCL scores at both time points.

According to Achenbach (1992), an estimated 16% of all children in the general population will have internalizing and externalizing scores at or above the borderline or clinical range on the CBCL/2-3. As shown below, the incidence of psychopathology is significantly higher for children in the child welfare system. When the CBCL scores

were examined for the full sample of children, 72% the children had scores on the CBCL that placed them in the normal range for internalizing behaviors (see Table 5.1). Approximately 13% had borderline scores, and 15% had scores in the clinical range. For externalizing behaviors, approximately 67% had CBCL scores in the normal range, 16% had borderline scores, and 17% had clinical scores.

In both waves of data collection, children in this subsample of the NSCAW data were more likely to have CBCL internalizing and externalizing scores in the borderline or clinical range than children in the general population. At the time of the initial survey, only 65% of the 406 children in the subsample had CBCL scores that fell into the normal range of internalizing behaviors, approximately 13% had internalizing scores that fell into the borderline range, and 22% had scores in the clinical range. Nonetheless, there was a significant decline in internalizing clinical scores between the time of the initial survey and Wave 4. By Wave 4, 79% of the children had CBCL scores that fell into the normal range for internalizing behaviors, approximately 11% had borderline scores, and 10% had scores in the clinical range. Unlike internalizing clinical scores, however, the clinical scores for externalizing behaviors increased between the time of the initial survey and Wave 4. For externalizing behaviors, approximately 64% of the children had CBCL scores in the normal range for externalizing, 11% had borderline scores, and 25% had scores in the clinical range (refer to Table 5.1).

Table 5.1

Changes in CBCL Internalizing and Externalizing Behavior Scores, Initial Survey to Wave 4

	Wave 1 (age 24 to 47 months)			Wave 4 (age 33 to 82 Months)		
Internalizing Behaviors	Normal	Borderline	Clinical	Normal	Borderline	Clinical
Full Sample (N=1,582)						
N	---	---	---	1141	203	238
%	---	---	---	72.1	12.8	15.0
Subsample (N=406)						
N	265	51	90	322	44	40
%	65.3	12.6	22.2	79.3	10.8	9.9
Externalizing Behaviors						
Full Sample (N=1,582)						
N	---	---	---	1061	252	269
%	---	---	---	67.1	15.9	17.0
Subsample (N=406)						
N	270	83	53	258	46	102
%	66.5	20.4	13.1	63.5	11.3	25.1

Internalizing: χ^2 (4, N=406) =38.89, p=.000 Externalizing: χ^2 (4, N=406) =65.73, p=.000
Differences in CBCL scores between Wave 1 and Wave 4

Variations in Psychopathology by Selected Child Characteristics

Hypothesis 1 predicted that internalizing and externalizing scores would vary by gender, race, and age of the child. Boys were predicted to have higher externalizing scores than girls; girls were expected to have higher internalizing scores than boys. As shown in Table 5.2, for the full sample, approximately 27% of the girls and 29% of the

boys had internalizing scores at or above the borderline or clinical range while 32% of the girls and 34% of the boys had externalizing scores in the borderline or clinical range. At the time of the initial survey approximately 27% of the girls and 29% of the boys from the subsample had internalizing scores at or above the borderline or clinical range. For externalizing behaviors, approximately 30% of the girls and 36% of the boys had scores in the borderline or clinical range. At Wave 4, approximately 21% of the girls and 20% of the boys had internalizing scores at or above the borderline clinical range. For externalizing behaviors, 39% of the girls and 34% of the boys had scores in the borderline or clinical range. To test this hypothesis, contingency table analyses and differences in means tests were conducted to compare the internalizing and externalizing behaviors of children by gender.

The chi-square goodness of fit tests indicate that gender and psychopathology were unrelated to variations in CBCL scores for the subsample. At the time of the initial survey, the proportion of males and females in the different CBCL categories were randomly distributed by gender, χ^2 (2, N=406) =3.69, p=.158. The same was true for externalizing behaviors by gender, χ^2 (2, N=406) =1.49, p=.474. At Wave 4, the relationship also was insignificant for the full sample (see Table 5.2). A *t*-test also indicated that there were no significant differences between girls and boys in the subsample at the time of the initial survey. The average internalizing behavior scores for boys was 54.8, 55.8 for girls. Average externalizing behavior scores were 54.3 for boys, 55.5 for girls. This relationship remained insignificant for the subsample and the full sample at Wave 4 (see Table B.1). Therefore, the hypothesis that psychopathology would vary by gender was not supported.

Internalizing behavior scores from the time of the initial survey (M=54.8, SD=9.7) were significantly lower by Wave 4 (M=51.7, SD=9.3). The average externalizing behavior score at the time of the initial survey was 54.3 and increased to 56.0 (see Table B.8). Change over time in emotional and behavioral scores were assessed by gender. Results indicate that girls in the subsample had internalizing behavior scores that significantly decreased from the time of the initial survey (M=55.8, SD=10.0) to Wave 4 (M=50.6, SD=10.6) whereas externalizing behavior scores significantly increased between the two time points (M=53.5, SD=10.5 and M=56.3, SD=11.8). Boys in the subsample followed the same trend.

Table 5.2

Variations in Psychopathology by Gender

	Gender of Child					
CBCL Scores	**Male**			**Female**		
Subsample (N=406)						
Initial Survey	Normal	Borderline	Clinical	Normal	Borderline	Clinical
Internalizing χ^2 (2, N=406) =3.69, p=.158	71.2	14.3	14.5	73.1	11.2	15.7
Externalizing χ^2 (2, N=406) =.1.49, p=.474	63.8	21.7	14.5	69.3	19.1	11.6
Wave 4						
Internalizing χ^2 (2, N=406) =.054, p=.973	79.2	10.6	10.1	79.4	11.1	9.5
Externalizing χ^2 (2, N=406) =2.60, p=.273	66.2	12.1	21.7	60.8	10.6	28.6
Full Sample (N=1,582)						
Wave 4						
Internalizing χ^2 (2, N=1,582) =3.69, p=.158	71.2	14.3	14.5	73.1	11.2	15.7
Externalizing χ^2 (2, N=1,582) =.712, p=.701	66.3	16.6	17.1	68.0	15.2	16.9

The hypotheses included a prediction that psychopathology would vary by race. White children were predicted to have fewer internalizing and externalizing behavior than their African American or Hispanic peers. As shown in Table 5.3, approximately 28% of African American children, 29% of White children, and 27% of Hispanic children had internalizing scores at or above the borderline or clinical range for the full sample. For externalizing scores approximately 29% of African American children, 38% of White children, and 33% of Hispanic children had scores at or above the borderline or clinical range. At the time of the initial survey for the subsample of children, approximately one-third of African American, White, and Hispanic children had internalizing scores in the borderline or clinical range. For externalizing behaviors, approximately 29% of African American children, 38% of White children, and 29% of Hispanic children had externalizing scores at or above the borderline range. At Wave 4 for the subsample of children, approximately 14% of African American children, 25% of White children, and 18% of Hispanic had internalizing scores at the borderline or clinical range. For externalizing behaviors, approximately 28% of African American children, 45% of White children, and 28% of Hispanic children had scores in the borderline clinical range.

A chi-square goodness of fit test was used to examine the frequency distributions of internalizing and externalizing behaviors by the three race categories. At the time of the initial survey internalizing behaviors and race were unrelated for the subsample of children, χ^2 (4, N=406) =2.54, p=.637. For externalizing behaviors, the chi-square goodness of fit test also indicated a nonsignificant relationship, χ^2 (4, N=406) =4.86, p=.302. At Wave 4 for the subsample of children, internalizing behaviors and race

remained unrelated, χ^2 (4, N=406) =7.57, p=.109. However at Wave 4, there was a statistically significant relationship between race and externalizing behaviors for the subsample, χ^2 (4, N=406) =14.41, p=.006. The chi-square test indicated that the proportion of White children (45%) with externalizing scores in the borderline and clinical range was significantly higher than expected relative to African American and Hispanic children.

Change in internalizing and externalizing behavior scores by race also was examined for the subsample of children (see Table B.8). It was found that internalizing behavior scores significantly decreased between the initial time of the survey (M=55.5, SD=9.6) and Wave 4 (M=52.8, SD=10.2) whereas the opposite occurred for externalizing behaviors for White children (M=55.2, Wave 4 M=58.1). African American children experienced similar changes in internalizing behavior scores from the time of the initial survey (M=54.2, SD=10.3) and Wave 4 (M=48.4, SD=9.1). Externalizing behavior scores significantly increased from the initial survey (M=52.2, SD=10.3) and Wave 4 (M=54.4, SD=10.5). Hispanic children also had significant decreases in internalizing behavior scores from the first wave of data collection (M=56.5, SD=51.2) to Wave 4 (M=51.2, SD=9.8). However, externalizing behavior scores remained relatively stable from the initial survey (M=53.4, SD=10.7) to Wave 4 (M=53.6, SD=11.1).

Table 5.3

Variations in Psychopathology by Race/Ethnicity

	Wave 1		Wave 4	
Race of Child	**Internalizing**	**Externalizing**	**Internalizing**	**Externalizing**
Subsample (N=406)	χ^2 (4, N=406) = 2.54, *p*=.637	χ^2 (4, N=406) = 4.86, *p*=.302	χ^2 (4, N=406) = 7.57, *p*=.109	χ^2 (4, N=406) = 14.41, *p*=.006
African American				
Normal	65.6	71.2	85.6	72.0
Borderline	15.2	19.2	8.8	5.6
Clinical	19.2	9.6	5.6	22.4
White				
Normal	66.5	62.2	74.6	55.5
Borderline	10.5	21.5	12.0	14.8
Clinical	23.0	16.3	13.4	29.7
Hispanic				
Normal	61.1	70.8	81.9	72.2
Borderline	13.9	19.4	11.1	11.1
Clinical	20.0	9.7	6.9	16.7
Full Sample (N=1,582)			χ^2 (4, N=1,852) = 2.63, *p*=.622	χ^2 (4, N=1,582) =13.31, p=.010
African American				
Normal	----------	----------	72.4	70.7
Borderline	----------	----------	13.6	13.9
Clinical	----------	----------	13.9	15.3
White	----------	----------		
Normal	----------	----------	71.6	62.4
Borderline	----------	----------	13.3	17.5
Clinical	----------	----------	15.2	20.0
Hispanic				
Normal	----------	----------	72.6	67.1
Borderline	----------	----------	10.6	15.9
Clinical	----------	----------	16.8	17.0

For the full sample of children at Wave 4, internalizing behaviors were unrelated to race, χ^2 (4, N=1582) =2.63, p=.622. However, there was a significant relationship between externalizing behaviors and race, χ^2 (4, N=1582) =13.31, p=.010. As was noted in the subsample when the relationship between externalizing behaviors and race was examined, the proportion of White children (38%) with scores in the borderline or clinical range was substantially higher than the proportion of African American and Hispanic children in those two categories. Refer to Table 5.3 for details. Therefore, the hypothesis that White children would have fewer internalizing and externalizing behaviors was not supported. In fact, for externalizing behaviors at Wave 4 for both the subsample and the full sample White children appear to have more externalizing behaviors than their peers.

Among the subsample children at the time of the initial survey, mean levels of internalizing and externalizing behaviors were compared across groups representing the three racial categories. Like the chi-square goodness of fit tests, a one-way analysis of variance indicated that externalizing behaviors differed significantly by race (F = 3.31, *df* = 2/403, $p<.04$). To assess pairwise differences among the three race categories, Scheffe tests were estimated. The results indicated that the mean for African American children (M = 52.18, SD = 10.33) was significantly lower than the mean for White children (M=55.20, SD = 10.76). This suggests that White children have higher levels of externalizing behaviors than African American children. The mean differences between Hispanic and White children were not significant (see to Table B.2 and Table B.3). This relationship remained the same at Wave 4, White children continued to have significantly higher levels of externalizing behaviors than African American children (F=7.06,

df=2/1579, *p*<.01). By Wave 4, White children continued to have significantly higher mean scores for externalizing behavior relative to African American children. However, White children at Wave 4 in the subsample also had significantly higher mean scores for internalizing behaviors relative to both African American and Hispanic children (see Table B.2 and Table B.3). For the full sample at Wave 4, White children had significantly higher externalizing mean scores than African American and Hispanic children (see Table B.2 and Table B.3 for details). Racial differences in internalizing behaviors were not significant for the full sample.

Differences in psychopathology by age of the child were also examined; it was hypothesized that older children would have higher internalizing and externalizing scores. When the chi-square goodness of fit test was used for the subsample of children at the time of the initial survey, it was found that psychopathology was unrelated to age. However, at Wave 4, externalizing behaviors and age of the child at Wave 4 were significantly related, χ^2 (2, N=406) =9.80, p =.044. Findings suggest that the proportion of four and five year olds with externalizing behaviors in the clinical range (31% and 28%, respectively) was significantly higher than the proportion of younger children (see Table 5.4). Pearson *r* correlation coefficients also were estimated to determine whether or not a statistically significant relationship existed between age and psychopathology for the subsample of children. Findings indicate that there was not a significant correlation between age and internalizing (*r* = -.01, *p*=.79) or externalizing (*r* = -.06, *p*=.21) behaviors at the time of the initial survey. This relationship remained insignificant at Wave 4 for internalizing (*r* = .008, *p*=.87) and externalizing behaviors (*r* = -.06, *p*=.23) for the subsample.

The full sample of children also was examined to determine whether age was correlated with psychopathology at Wave 4. Using chi-square goodness-of-fit test, the results showed a statistically significant relationship between age of the child and internalizing, χ^2 (6, N=1,582) = 37.74, p =.000, and externalizing behaviors, χ^2 (8, N=1,582) =79.57, p =000. As show in Table 5.4, a significantly smaller proportion of five and six year old children (8% and 13%, respectively) were in the clinical range of internalizing disorders compared to the younger children. For externalizing scores, a substantially higher proportion of four and five year olds (30% and 28%, respectively) exhibited psychopathology relative to the younger children. Pearson *r* correlation coefficients also were estimated to assess the relationship between age and psychopathology for the full sample. At Wave 4, the age of the child was found to have a weak negative correlation to internalizing behaviors (r = -.09, p=.000) and weak positive correlation to externalizing (r =.13, p=.000) behaviors.

The hypothesis related to psychopathology and age was only partially supported. While externalizing behaviors increased as a function of age, internalizing behaviors decreased.

Table 5.4

Variations in Psychopathology by Age of Child

	Child's Age				
	2 years old (33-35M)	**3 years old (36-47M)**	**4 years old (48-59M)**	**5 years old (60-71M)**	**6 years old (72-82M)**
Subsample (N=406)					
Initial Survey					
Internalizing χ^2 (2, N=406) =1.96, p=.376					
Normal	63.4	69.7	-------	--------	--------
Borderline	22.9	43.4	-------	--------	--------
Clinical	13.7	12.4	-------	--------	--------
Externalizing χ^2 (2, N=406) =1.96, p=.376					
Normal	63.4	69.7	-------	--------	--------
Borderline	22.9	17.9	-------	--------	--------
Clinical	13.7	12.4	-------	--------	--------
Wave 4					
Internalizing χ^2 (4, N=406) =2.90 p=.575					
Normal	-------	--------	77.9	80.7	78.0
Borderline	-------	--------	11.7	11.7	9.1
Clinical	-------	--------	10.4	7.6	12.9
Externalizing χ^2 (4, N=406) =9.80, p=.044					
Normal	-------	--------	62.3	58.4	72.0
Borderline	-------	--------	6.5	13.7	10.6
Clinical	-------	--------	31.2	27.9	17.4

(continued)

Table 5.4 *Variations in Psychopathology by Age of Child* (continued)

	Child's Age				
	2 years old (33-35M)	**3 years old (36-47M)**	**4 years old (48-59M)**	**5 years old (60-71M)**	**6 years old (72-82M)**
Full Sample (N=1,582)					
Wave 4					
Internalizing χ^2 (8, N=1,582) =37.74, p=.000					
Normal	67.9	67.0	82.4	80.7	78.0
Borderline	15.2	14.7	7.8	11.7	9.1
Clinical	16.8	18.3	9.8	7.6	12.9
Externalizing χ^2 (8, N=1,582) =79.57, p=.000					
Normal	67.4	69.5	62.9	58.4	72.0
Borderline	21.2	18.7	7.3	13.7	10.6
Clinical	11.4	11.8	29.8	27.9	17.4

Hypothesis 2 predicted that children with substantiated cases of maltreatment would have higher internalizing and externalizing scores. As shown in Table 5.5, psychopathology did not vary by substantiated cases of maltreatment at Wave 4. For the subsample, among the children with substantiated cases approximately 21% had internalizing and 36% had externalizing scores in the borderline or clinical range. The proportion of children with unsubstantiated cases with scores in the borderline or clinical range was 21% for internalizing and 36.5% for externalizing. This pattern was similar for the full sample at Wave 4; approximately 27% of children with a substantiated case of maltreatment and 29% of the children with an unsubstantiated case had internalizing scores at or above the borderline range. For externalizing scores, 32% of the children with substantiated cases of maltreatment and 33.5% of children with unsubstantiated

cases were in the borderline clinical range. T-test findings also confirmed the insignificant relationship between psychopathology and substantiated cases (see Table B.4). Therefore, the hypothesis that children with substantiated cases of maltreatment will have higher internalizing and externalizing scores than those who did not was not supported.

Table 5.5

Variations in Psychopathology by Substantiation of Initial Maltreatment Report

	Initial Report Ever Substantiated	
	No	**Yes**
Subsample (N=406)		
Wave 4		
Internalizing χ^2 (2, N=406) = 1.05, p =.592		
Normal	79.2	79.4
Borderline	9.4	11.7
Clinical	11.3	8.9
Externalizing χ^2 (2, N=406) = .515, p =.773		
Normal	63.5	63.6
Borderline	12.6	10.5
Clinical	23.9	25.9
Full Sample (N=1,582)		
Wave 4		
Internalizing χ^2 (2, N=1,582) = .579, p =.749		
Normal	71.1	72.6
Borderline	12.8	12.8
Clinical	15.9	14.5
Externalizing χ^2 (2, N=1,582) = 1.31, p =.521		
Normal	68.2	66.4
Borderline	14.6	16.7
Clinical	17.3	16.8

To examine maltreatment histories of children further, the relationship between psychopathology and prior reports of maltreatment also was examined. At the time of the initial survey for the subsample, approximately 35% of children with prior reports of maltreatment and 34% of the children without prior reports had internalizing scores at or

above the borderline range. For externalizing behaviors, 39% of the children with prior maltreatment reports and 30% of the children without prior reports had scores at or above the borderline range. By Wave 4, there was a decrease in the proportion of children with internalizing scores in the borderline or clinical range for both those with a prior history of maltreatment reports (19%) and those without (22%). For the full sample at Wave 4, approximately 26% of the children with prior reports of maltreatment and 29% of children without had internalizing scores in the borderline or clinical range. For externalizing behaviors, approximately 34% of children with a prior history of maltreatment reports and 32% without had scores at or above the borderline range (see Table 5.6).

Chi-square goodness of fit tests were used to examine the relationship between psychopathology and prior reports of maltreatment for the subsample at the time of the initial survey. Findings indicate that a prior history of maltreatment reports was significantly related to internalizing behaviors, χ^2 (2, N=396) = 6.54, p =.038. The proportion of children with prior reports of maltreatment with internalizing scores in the clinical range (26%) was significantly greater than children without prior reports (18%). However, findings for externalizing behaviors suggested that it was unrelated to prior maltreatment reports, χ^2 (2, N=396) = 4.03, p =.134 (see Table 5.5). T-tests also were conducted to examine the relationships between the dependent variables, internalizing and externalizing behaviors, and prior reports of maltreatment. However, the results differed from the chi-square goodness of fit test findings. It was found that, on average, children in the subsample at the time of the initial survey with histories of prior maltreatment reports displayed significantly higher levels of externalizing behavior

scores, (M=55.37), t (394) = -2.41, p<.05, than those children without prior maltreatment reports. Internalizing behavior scores were not significantly related to prior reports (M=56.08), t (374.16) = -1.65, p =.10 (refer to Table B.4). At Wave 4, internalizing and externalizing behavior scores were unrelated to a prior history of maltreatment reports.

The chi-square goodness of fit tests and *t*-tests were used to examine the effects of prior maltreatment reports on Wave 4 internalizing and externalizing behavior scores for the full sample. When chi-square goodness of fit tests were used for the full sample, results indicated that internalizing and externalizing behaviors were not significantly related to prior maltreatment reports (see Table 5.6). However, when the *t*-tests were conducted, prior reports of maltreatment were related to higher externalizing behavior scores at Wave 4, t (1549)=-2.65, p=.009 (refer to Table B.4).

Further, the tests indicated that only internalizing behaviors for the subsample at the initial time of the survey was significantly related to a history of maltreatment reports. Moreover, for both the subsample and the full sample, the proportion of children in the borderline or clinical range was significantly greater than that of the general population.

Table 5.6

Variations in Psychopathology by History of Maltreatment Reports

	History of Maltreatment Reports	
	No	**Yes**
Subsample (N=406)		
Initial Survey		
Internalizing χ^2 (2, N=396) = 6.54, p =.038		
Normal	65.9	65.4
Borderline	15.9	8.8
Clinical	18.2	25.8
Externalizing χ^2 (2, N=396) = 4.03, p =.134		
Normal	70.6	61.0
Borderline	17.8	23.6
Clinical	11.7	15.4
Wave 4		
Internalizing χ^2 (2, N=396) = .377, p =.828		
Normal	78.5	80.8
Borderline	11.7	9.9
Clinical	9.8	9.3
Externalizing χ^2 (2, N=396) = 4.37, p =.113		
Normal	64.0	62.1
Borderline	14.0	8.8
Clinical	22.0	29.1
Full Sample (N=1,582)		
Wave 4		
Internalizing χ^2 (2, N=1,551) = 1.41, p =.494		
Normal	71.1	73.8
Borderline	13.3	12.0
Clinical	15.6	14.1
Externalizing χ^2 (2, N=1,551) = 5.80, p =.055		
Normal	67.9	65.7
Borderline	16.9	14.7
Clinical	15.1	19.5

It is understood that some children enter the child welfare system with pre-existing problems related to special needs or behavioral issues which may contribute to internalizing and externalizing behaviors. Therefore, in order address this issue the relationship between psychopathology and previous special needs or behavioral problems was examined. At the time of the initial survey, a substantial proportion of the children in the subsample with internalizing and externalizing scores at or above the borderline range (45% and 46%, respectively) had a history of special needs or behavioral issues.

By Wave 4, there was a sharp decline in the proportion of children with internalizing scores at or above the borderline range (17%) who had a history or special needs or behavioral problems. For externalizing behaviors the decrease was smaller: approximately 35% of the children had scores in the borderline or clinical range. When examining CBCL scores for the full sample at Wave 4, approximately 31% of children with a history of special needs or behavioral problems had internalizing scores in the borderline or clinical range. For externalizing behaviors, approximately 35% had scores at or above the borderline range (see Table 5.7).

Chi-square goodness of fit test was used to examine the relationship between psychopathology and prior special needs or behavioral issues at the time of the initial survey for the subsample of children,. Findings indicated that a prior history of special needs and behavioral problems was significantly related to internalizing behaviors, χ^2 (2, N=398) = 6.47, p =.039. The proportion of children with internalizing behaviors at the borderline or clinical level was significantly higher for children with a prior history of special needs and behavioral issues (45%) than those who did not (33%). This was also true for externalizing behaviors, χ^2 (2, N=398) = 6.39, p =.041. The proportion of children with externalizing behaviors in the borderline or clinical range was significantly greater for those with a history of special needs or behavioral problems (46%) than those who did not (31%). By Wave 4, this relationship became insignificant for both internalizing and externalizing behaviors within the subsample of children. Within the full sample of children, psychopathology and a prior history of special needs or behavioral problems was unrelated (see Table 5.7).

T-tests also were conducted to examine the effects of special needs or behavioral issues in relation to internalizing and externalizing behavior scores. It was found that, on average, children in the subsample at the time of the initial survey with histories of prior special needs or behavioral issues displayed significantly higher internalizing behavior, (M=58.13), *t* (396) = -2.66, *p*=.01, and externalizing behavior scores (M=57.01), *t* (396) = -2.62, *p*=.01. However, when examining this for the full sample of children, *t*-tests indicated that psychopathology was not related to prior special needs or behavioral issues (refer to Table B.4).

Table 5.7

Variations of Psychopathology by History of Special Needs or Behavioral Issues

		History of Special Needs or Behavioral Issues	
		No	**Yes**
Subsample (N=406)			
Initial Survey			
Internalizing χ^2 (2, N=398) = 6.47, p =.039			
	Normal	67.5	55.1
	Borderline	13.1	11.6
	Clinical	19.5	33.3
Externalizing χ^2 (2, N=398) = 6.39, p =.041			
	Normal	68.7	53.6
	Borderline	19.8	26.1
	Clinical	11.6	20.3
Wave 4			
Internalizing χ^2 (2, N=398) = 1.10, p =.578			
	Normal	78.7	82.6
	Borderline	11.6	7.2
	Clinical	9.7	10.1
Externalizing χ^2 (2, N=398) = .167, p =.920			
	Normal	63.2	65.2
	Borderline	11.2	11.6
	Clinical	25.5	23.2
Full Sample (N=1,582)			
Wave 4			
Internalizing χ^2 (2, N=1,552) = 2.28, p =.320			
	Normal	73.0	68.9
	Borderline	12.6	13.2
	Clinical	14.4	17.9
Externalizing χ^2 (2, N=1,552) = .992, p =.609			
	Normal	67.6	65.4
	Borderline	15.8	15.6
	Clinical	16.5	19.1

Psychopathology as it Varies by Caregiver and Placement Characteristics

Caregiver characteristics.

The majority of caregivers at the time of the initial survey and Wave 4 were females (95% and 93%, respectively) and therefore gender was omitted from the data analysis. However, variations in psychopathology were examined in relation to race, age, and the income of the caregivers.

At the time of the initial survey for the subsample, approximately 33% of children with African American caregivers, 33% of children with White caregivers, and 40% of children with Hispanic or other caregivers had internalizing behavior scores in the borderline or clinical range. For externalizing behaviors, 29% of children with African American caregivers, 38% with White caregivers, and 30% with Hispanic or other caregivers had CBCL scores at or above the borderline range. By Wave 4, internalizing behaviors in the borderline or clinical range decreased for all children in the subsample. Approximately, 14% of children with African American caregivers, 26% with White caregivers, and 18% with Hispanic or other caregivers had internalizing scores at or above the borderline range. For externalizing behaviors, 31% of children with African American caregivers, 43% with White caregivers, and 25% with Hispanic or other caregivers had externalizing behavior scores in the borderline or clinical range. Within the full sample of children, approximately 27% of children with African American caregivers, 29% with White caregivers, and 27% with Hispanic or other caregivers had internalizing scores in the borderline or clinical range. For externalizing behaviors, 29% of children with African American caregivers, 36.5% with White caregivers, and 28%

with Hispanic or other caregivers had scores at or above the borderline range (see Table 5.8).

Among the subsample children at the time of the initial survey, the chi-square goodness of fit tests indicated a nonsignificant relationship between psychopathology and the caregiver's race. This relationship remained insignificant for internalizing behaviors at Wave 4. However for externalizing behaviors at Wave 4, findings indicated a significant relationship, χ^2 (4, N=385) = 11.51, p =.021. The proportion of children with externalizing behaviors in the clinical range was significantly greater for caregivers who were White relative to African American and Hispanic caregivers.

Like the subsample, the caregiver's race for the full sample at Wave 4 was unrelated to internalizing disorders. However, externalizing behaviors were related to caregiver's race, χ^2 (4, N=1508) = 10.38, p =.035. The proportion of children with externalizing behaviors at the borderline or clinical level was significantly higher for caregivers who were White (see Table 5.8).

Table 5.8

Variations of Psychopathology by Caregiver's Race

	Wave 1		Wave 4	
Race of Caregiver	**Internalizing**	**Externalizing**	**Internalizing**	**Externalizing**
Subsample (N=406)	χ^2 (4, N=406) =2.26, p=.689	χ^2 (4, N=406) =4.86, p=.302	χ^2 (4, N=385) =6.11, p=.191	χ^2 (4, N=385) =11.51, p=.021
African American				
Normal	66.7	70.7	85.9	68.7
Borderline	14.1	18.2	8.1	6.1
Clinical	19.2	11.1	6.1	25.3
White				
Normal	66.8	62.1	74.3	57.5
Borderline	10.7	23.8	13.1	14.0
Clinical	22.4	14.0	12.6	28.5
Hispanic or Other				
Normal	59.7	69.4	81.9	75.0
Borderline	13.9	18.1	9.7	11.1
Clinical	26.4	12.5	8.3	13.9
Full Sample (N=1,582)			χ^2 (4, N=1,852) = 2.63, *p*=.622	χ^2 (4, N=1,582) =13.31, p=.010
African American				
Normal	----------	----------	72.8	70.8
Borderline	----------	----------	13.2	14.5
Clinical	----------	----------	14.1	14.7
White	----------	----------		
Normal	----------	----------	71.3	63.5
Borderline	----------	----------	13.9	17.6
Clinical	----------	----------	14.8	18.9
Hispanic or Other				
Normal	----------	----------	72.8	72.0
Borderline	----------	----------	10.4	13.8
Clinical	----------	----------	16.8	14.2

Caregiver's age at the time of the initial survey for the subsample was found to have a weak negative correlation to children's internalizing behaviors, r = -.13, p=.01, but was uncorrelated to externalizing behaviors, r = -.09, p=.07. As the caregiver's age increased, CBCL internalizing behavior scores decreased. However, the relationship between caregiver's age and internalizing behaviors was no longer statistically significant when the chi-square goodness-of-fit test was used, χ^2 (4, N=406) = .4.63, p =.327 (see Table 5.9). Caregiver's age at Wave 4 for the subsample was not correlated to either internalizing, r = -.02, p=.695, or externalizing behaviors, r = .08, p=.132.

For the full sample at Wave 4, there was a weak negative correlation between caregiver's age and internalizing behaviors, r = -.067, p=.008, but not with externalizing behaviors, r = -.045, p=.075. Chi-square goodness of fit tests indicated that the proportion of children with internalizing behaviors at the borderline or clinical level were significantly lower for caregivers who were 35 to 44 years old (see Table 5.9).

Table 5.9

Variations in Psychopathology by Caregiver's Age

	Caregivers' Age		
	Under 35 Years	**35-44 Years**	**45 Years or Older**
Subsample (N=406)			
Initial Survey			
Internalizing χ^2 (4, N=406) =4.63, p=.327			
Normal	62.2	71.0	75.5
Borderline	13.5	10.1	10.2
Clinical	24.3	18.8	14.3
Externalizing χ^2 (4, N=406) =2.90, p=.575			
Normal	64.9	71.0	69.4
Borderline	21.5	14.5	22.4
Clinical	13.5	14.5	8.2
Wave 4			
Internalizing χ^2 (4, N=406) =7.41 p=.116			
Normal	77.3	88.6	75.4
Borderline	12.7	6.3	9.2
Clinical	10.0	5.1	15.4
Externalizing χ^2 (4, N=406) =3.72, p=.445			
Normal	65.8	64.6	53.8
Borderline	10.0	12.7	22.8
Clinical	24.2	22.8	30.8
Full Sample (N=1,582)			
Wave 4			
Internalizing χ^2 (4, N=1,579) =9.64, p=.047			
Normal	70.2	78.0	70.7
Borderline	13.0	10.7	14.8
Clinical	16.7	11.3	14.5
Externalizing χ^2 (4, N=1,579) =2.53, p=.639			
Normal	66.1	68.7	68.4
Borderline	16.5	16.3	13.8
Clinical	17.4	14.9	17.8

Among the subsample children at the time of the initial survey, caregiver's income was found to have a weak negative correlation with externalizing behaviors, r= -.16, p=.002. However, caregiver's income was unrelated to internalizing behaviors at the time of the initial survey, r= -.86, p=.099. The relationship between externalizing behaviors and income was no longer statistically significant when the chi-square goodness-of-fit test was used at the time of the initial survey, χ^2 (8, N=369) = 9.83, p =.277. Caregiver's income at Wave 4 was unrelated to either internalizing, r=.016, p=.745, or externalizing behaviors, r= .039, p=.441.

Findings for the full sample suggest that caregiver's income at Wave 4 had a weak negative correlation to internalizing behaviors (r= -.089, p=.000) but no correlation with externalizing behaviors (r=-.034, p=.185). The relationship between internalizing behaviors and caregiver income remained statistically significant when using the chi-square goodness-of-fit test, χ^2 (8, N=1,520) = 19.95, p=.011. The proportion of children with internalizing behaviors at the borderline or clinical level was significantly greater for caregivers who had incomes of less than $10,000 per year (see Table 5.10).

Table 5.10

Variations of Psychopathology by Caregiver's Income at Wave 4 (N=1,582)

	Caregiver's Income				
	Less Than $10,000	$10,000 to 19,999	$20,000 to 29,999	$30,00 to 39,999	$40,000 or More
Internalizing χ^2 (8, N=1,520) =19.95, p=.011					
Normal	67.3	67.4	72.5	78.0	77.6
Borderline	13.8	15.6	10.5	11.3	11.3
Clinical	18.9	17.0	17.0	10.7	11.1
Externalizing χ^2 (8, N=1,520) =5.01, p=.756					
Normal	64.0	66.2	66.8	72.6	66.8
Borderline	17.5	15.2	17.4	13.1	16.4
Clinical	18.5	18.6	15.8	14.3	16.9

Placement characteristics.

Hypothesis 5 predicted that children in foster homes would have lower internalizing and externalizing scores than children in kinship care homes. Before controlling for child or caregiver characteristics, this hypothesis was first tested by contingency table analyses and difference in means tests.

At the time of the initial survey, internalizing, χ^2 (4, N=406) = 1.29, *p*=.86, and externalizing behaviors, χ^2 (4, N=406) = 1.38, *p*=.85, did not vary by placement type for the subsample of children. As shown in Table 5.11, approximately 34% of children who remained in their homes, 43% of children in foster homes, and 32% of children in kinship

care settings had internalizing behaviors at or above the borderline level. For externalizing behaviors, 33% of the children residing the care of a biological parent, 38% of children in foster care homes, and 32% of children placed with a relative had internalizing behaviors at that same level. At Wave 4, the relationship between internalizing behaviors and placement type remained insignificant for the subsample of children, χ^2 (4, N=406) = 3.72, p=.45. However, placement type and externalizing behaviors was significantly related, χ^2 (4, N=406) = 14.77, p=.005. Nearly 54% of the children in foster care had externalizing behaviors at the clinical level.

When comparing the mean levels of internalizing and externalizing behavior scores across groups representing the three placement categories (in-home, foster care, and kinship care), type of placement at the time of the initial survey for the subsample of children was unrelated to internalizing behaviors, F = .09, *df* =2/403, p=.91, or externalizing behaviors, F = .02, *df* =2/403, p=.98. However, a one-way analysis of variance indicated that at Wave 4 placement type for the subsample was significantly related to externalizing behaviors, F =4.97, *df* =2/403, p=.007, but not for internalizing behaviors. To assess pairwise differences among the three placement types for externalizing behaviors, Scheffe post hoc comparisons were estimated. Findings indicate that the mean score for children who remained in the care of a biological parent (M = 55.64, SD = 10.89) was significantly lower than the mean for children residing in foster care (M=62.46, SD = 10.85). This indicates that children in foster care homes have significantly higher externalizing behavior scores than those who were in the care of a biological caregiver at Wave 4 (see Table B.5 and Table B.6).

Table 5.11.

Variations in Psychopathology by Placement Type

	Placement Type		
	In Home	**Foster Home**	**Kinship Setting**
Subsample (N=406)			
Initial Survey			
Internalizing, χ^2 (4, N=406) = 1.29, *p*=.86			
Normal	65.8	57.5	68.2
Borderline	12.4	15.0	11.4
Clinical	21.7	27.5	20.5
Externalizing, χ^2 (4, N=406) = 1.38, *p*=.85			
Normal	66.8	62.5	68.2
Borderline	20.2	20.0	22.7
Clinical	13.0	17.5	9.1
Wave 4			
Internalizing, χ^2 (4, N=406) =3.72, p=.45			
Normal	80.2	69.2	76.5
Borderline	10.5	19.2	5.9
Clinical	9.4	11.5	17.6
Externalizing χ^2 (4, N=406) =14.77, p=.005			
Normal	65.6	38.5	58.8
Borderline	11.0	7.7	23.5
Clinical	23.4	53.8	17.6
Full Sample (N=1,582)			
Internalizing, χ^2 (4, N=1,582) =13.87, p=.42			
Normal	72.9	66.3	67.7
Borderline	12.7	15.4	12.5
Clinical	14.5	18.3	19.8
Externalizing χ^2 (4, N=1,582) =23.53, p=.000			
Normal	68.2	50.0	68.8
Borderline	15.8	16.3	17.7
Clinical	16.0	33.7	13.5

Results for the full sample of children were similar to the subsample. The chi-square goodness of fit test showed a significant relationship between the externalizing behaviors and placement type, χ^2 (4, N=1,582) = 23.53, p=.000. The proportion of children with externalizing behavior scores at the borderline or clinical level was significantly greater for those residing in foster care (see Table 5.11). A one-way analysis of variance found that internalizing behaviors (F=1.35, *df*=2/1579, *p*=.260) did not vary by placement type. However, externalizing behaviors (F=5.75, *df*=2/1579, *p*=.003) did vary by placement type. Scheffe post hoc tests revealed that the mean for children in foster homes (M=57.13, SD=11.79) was significantly higher than the mean for children placed with a biological parent (M=53.41, SD=10.72) and children placed with a relative (M=53.50, SD=10.32). This suggests that children in foster homes have higher levels of externalizing behaviors than children residing in any other placement type (see Table B.7 and Table B.8). The hypothesis that children placed in foster homes would have lower internalizing and externalizing scores than children in kinship care placements was not supported by this initial analysis.

Psychopathology and the number of children in the home also were examined. Among the children in the subsample at the time of the initial survey, internalizing χ^2 (4, N=406) = 2.02, *p*=.732, and externalizing behaviors, χ^2 (4, N=406) = 6.04, *p*=.19, were unrelated to the number of children in the home. Contrary to these findings, a one-way analysis of variance indicated that internalizing behaviors were related to the number of children in the home, F =2.42, *df* =4/406, *p*=.049, but not to externalizing behaviors, F =1.27, *df* =4/406, *p*=.283. However, the Scheffe test failed to indicate which category differed significantly from the others. For the subsample at Wave 4, the relationship

between the number of children in the home and internalizing was significant χ^2 (4, N=406) = 18.48, *p*=.001. The proportion of children with borderline or clinical level internalizing behavior scores who were residing in homes with 2 children was significantly higher than homes with one child or with three or more children (see Table 5.12). The relationship was insignificant for externalizing behaviors, χ^2 (4, N=406) = 1.51, *p*=.83. One-way analysis of variance suggested an insignificant relationship for internalizing (F =.43, *df* =4/401, *p*=.787) and externalizing behaviors (F =.299, *df* =4/401, *p*=.878.

In the full sample, the chi-square goodness of fit tests indicated a statistically significant relationship for internalizing behaviors, χ^2 (4, N=1,582) = 16.99, *p*=.002, but not for externalizing behaviors, χ^2 (4, N=1,582) = 7.40, *p*=.116. Like the subsample, the proportion of children with clinical levels of internalizing behaviors was significantly greater for children residing in homes with 2 children (see Table 5.12). The one-way analysis of variance indicated an insignificant relationship for both internalizing and externalizing behaviors and the number of children in the home.

Table 5.12

Variations in Psychopathology by Number of Children in the Home

	Number of Children in the Home		
	1 Child	**2 Children**	**3 or More**
Subsample (N=406)			
Wave 4			
Internalizing χ^2 (4, N=406) =18.48, p=.001			
Normal	85.7	77.9	78.0
Borderline	10.0	5.1	15.0
Clinical	4.3	16.9	7.0
Externalizing, χ^2 (4, N=406) =1.51, p=.826			
Normal	65.7	61.8	64.0
Borderline	10.0	14.0	10.0
Clinical	24.3	24.3	26.0
Full Sample (N=1,582)			
Internalizing χ^2 (4, N=1,582) =16.99, p=.002			
Normal	69.5	74.0	72.4
Borderline	16.0	8.0	14.2
Clinical	14.5	18.0	13.5
Externalizing, χ^2 (4, N=1,582) =7.40, p=.116			
Normal	69.5	66.0	66.3
Borderline	17.7	15.2	15.4
Clinical	12.8	18.8	18.2

Psychopathology as it Varies in the Model

Caregiver support.

As seen in Table 5.13, caregiver support was not significantly related to internalizing or externalizing behaviors at the time of the initial survey or Wave 4 for the subsample or the full sample. *T*-tests for the subsample at the time of the initial survey, indicated that caregiver support was unrelated to internalizing, t (104.75) = .94, p=.347 and externalizing, t (404) =.65, p=.516, behaviors at the time of the initial survey. The same was found for internalizing, t (104.75) =.94, p=.347, and externalizing, t (404) =.65, p=.516, behaviors at Wave 4. This relationship also was insignificant for the full sample. Therefore, hypothesis 3 that predicted lower emotional support scores would be associated with higher internalizing and externalizing scores was not supported.

Table 5.13

Variation in Psychopathology by Caregiver Support

	Caregiver Support	
	Low Support	**Other**
Subsample (N=406)		
Initial Survey		
Internalizing χ^2 (2, N=406) = 4.56, p =.103		
Normal	53.4	67.2
Borderline	19.0	11.5
Clinical	27.6	21.3
Externalizing χ^2 (2, N=406) = .397, p =.820		
Normal	65.5	66.7
Borderline	19.0	20.7
Clinical	15.5	12.6
Wave 4		
Internalizing χ^2 (2, N=406) = 2.60, p =.273		
Normal	82.4	78.9
Borderline	13.7	10.4
Clinical	3.9	10.7
Externalizing χ^2 (2, N=406) = .718, p =.698		
Normal	66.7	63.1
Borderline	7.8	11.8
Clinical	25.5	25.1

(continued)

Table 5.13 *Variations in Psychopathology by Caregiver Support* (continued)

	Caregiver Support	
	Low Support	**Other**
Full Sample (N=1,582)		
Wave 4		
Internalizing χ^2 (2, N=1,582) = 3.18, p =.204		
Normal	66.7	72.8
Borderline	16.1	12.4
Clinical	17.2	14.8
Externalizing χ^2 (2, N=1,582) = .597, p =.597		
Normal	68.9	66.8
Borderline	13.3	16.3
Clinical	17.8	16.9

Emotional regulation.

The children in the subsample did not have emotional regulation scores as they did not meet the age requirement for the measure. Therefore, only results for the full Wave 4 sample will be discussed. Hypothesis 4 predicted that children with emotional regulation scores that fall into the highest quartile range will have higher internalizing and externalizing scores than those who do not. To test this hypothesis, chi-square goodness of fit tests were conducted. Results indicated a statistically significant relationship with internalizing, χ^2 (2, N=1,176) = 21.70, *p*=.000, and externalizing behavior categories, χ^2 (2, N=1,176) = 7.06, *p*=.029 and emotional regulation. The proportion of children with clinical scores for internalizing (24%) and externalizing (18%) was significantly greater for children who had difficulty regulating their emotions (see Table 5.14). T-tests also indicated significant mean differences in scores between the groups. On average, children who had difficulty regulating their emotions displayed significantly higher internalizing (M=54.92, *t* (623.44)=-4.35, *p*=.000) and externalizing behavior scores (M=54.17, *t* (631.97)=-2.83, *p*=.005 (see Table B.7) than children who

were able to regulate their emotions (Internalizing M=51.92, Externalizing M=52.22). Thus, hypothesis 4 was supported by these findings.

Table 5.14

Variations in Psychopathology by Emotional Regulation

	Emotional Regulation	
	Other	**High Difficulty**
Full Sample (N=1,582)		
Wave 4		
Internalizing χ^2 (2, N=1,176) = 21.70, p =.000		
Normal	73.5	60.5
Borderline	12.5	15.9
Clinical	14.0	23.6
Externalizing χ^2 (2, N=1,176) = 7.06, p =.029		
Normal	70.4	63.4
Borderline	17.0	18.8
Clinical	12.6	17.9

Multivariate Analyses

Hierarchical linear regression was employed to test the relative influence of placement and maltreatment histories on children's internalizing and externalizing behaviors. Child characteristics (age, race, and prior special needs or behaviors problems), caregiver characteristics (age, race, income), and household characteristics (number of children in the home) were entered in the first model. Placement type, number of out-of-home placements, caregiver support, and emotional regulation were added to the second model. Maltreatment history was added to the third model.

Full subsample.

The full regression equation with control variables, placement information, caregiver support, emotional regulation, and maltreatment histories was significant for

the full sample on the dependent variable internalizing, $F(16,1176) = 2.24$, $R=.026$, $p=.000$. Refer to Table 5.15 for details. However, the full model was only able to account for 2.6% of the variance in CBCL internalizing behavioral scores. The results indentified one variable that predicted higher internalizing scores, emotional regulation, $\beta=.15$, $t=4.93$, $p=.000$. Children who had difficulty controlling their emotions as compared to those who did not had higher levels of internalizing behaviors. Two variables predicted lower internalizing scores: child's age in months ($\beta= -.11$, $t= -3.70$, $p=.00$) and caregiver's age ($\beta= -.099$ $t= -2.51$, $p=.012$). As the child's age or the caregiver's age increased, the CBCL internalizing behavior scores decreased. Hypothesis 6 predicted that the combined influence of placement into care and maltreatment histories was unsupported in this model.

The full regression equation with control variables, placement information, caregiver support, emotional regulation, and maltreatment histories was significant for the full sample on the dependent variable, CBCL externalizing behavior scores, $F(16,1170) = 1.81$, $R=.017$, $p=.009$. Again, the full model was only able to account for 1.7% of the variance in these scores. The results identified four variables that predicted an increase in externalizing behavior scores: child's age ($\beta= .060$, $t=1.97$, $p=.049$), difficulty with emotional regulation ($\beta= .077$, $t= 2.55$, $p=.011$), foster care placement ($\beta= .108$, $t= 2.40$, $p=.016$) relative to children who remained in the care of a biological parent, and prior reports of maltreatment ($\beta= .643$, $t= 2.31$, $p=.021$). Decreases in externalizing behaviors were predicted by the caregiver's age ($\beta= -.14$, $t= -3.46$, $p=.001$); as the caregiver's age increased, externalizing behaviors decreased. Hence, hypothesis 6 was supported by these results. Refer to Table 5.16.

Table 5.15

Wave 1 Predictors of Internalizing Behaviors at Wave 4, Full Sample

Variables	Model 1			Model 2			Model 3		
	β	SE	P	β	SE	P	β	SE	P
Child Characteristics									
Age in Months	-.088	.058	**.003**	-.109	.059	**.000**	-.112	.059	**.000**
Gender (omitted =male)	-.010	.615	.737	-.012	.611	.677	-.015	.614	.612
Child's Race (omitted=White)									
African American	.048	1.012	.309	.043	1.012	.362	.043	1.013	.358
Hispanic	.040	1.085	.336	.040	1.078	.331	.037	1.081	.368
Prior Special Needs or Behavior Problems (omitted=no)	.052	.861	.082	.036	.867	.226	.038	.872	.216
Caregiver Characteristics									
Caregiver's Race (omitted =White)									
African American	-.046	1.045	.306	-.064	1.054	.158	-.062	1.056	.175
Hispanic/Other	-.036	1.075	.358	-.042	1.074	.295	-.041	1.075	.306
Age in Years	-.087	.027	**.007**	-.099	.033	**.012**	-.099	.033	**.012**
Income Categories (omitted=less than $10,000)									
Income 1	-.011	.861	.737	-.002	.856	.943	-.004	.858	.914
Income 2	-.015	.994	.652	-.015	.993	.647	-.016	.996	.631
Income 3	-.007	1.125	.820	-.015	1.131	.649	-.015	1.133	.655
Income 4	-.051	.936	.161	-.060	.993	.121	-.058	.996	.134
Placement Characteristics									
Number of Children in the Home (omitted=1)									
2	-.016	.800	.625	-.023	.794	.482	-.024	.794	.477
3	-.015	.901	.657	-.028	.897	.392	-.029	.900	.374
4	-.014	1.103	.650	-.027	1.101	.390	-.028	1.107	.380
5 or More	-.017	1.079	.597	-.038	1.092	.253	-.039	1.095	.235
Placement Type (omitted=In Home)									
Foster Home				.053	1.213	.230	.054	1.217	.230
Kinship Home				.030	1.185	.424	.031	1.187	.419
Number of OOH Placements (omitted=none)									
1				.009	.901	.794	.010	.908	.766
2				.002	1.127	.943	.001	1.133	.967
3 or more				.017	1.056	.627	.017	1.061	.616
Low Emotional Support (omitted=other)				.040	.893	.171	.039	.894	.181
High Difficulty Regulating Emotions (omitted=other)				.158	.690	**.000**	.148	.691	**.000**
Maltreatment History									
Prior Reports (omitted=no)							.023	.652	.444
Current Report Ever Substantiated (omitted=no)							-.023	.685	.461

Note: Income 1=$10,000 to 19,999, Income 2=$20,000 to 29,999, Income 3=$30,000 to 39,999, Income 4=$40,000 or more; OHH = out of home placements

Model 1: $F = 1.55$, R=.008, N=1176; Model 2: $F = 2.39$, R=.027, N=1176; Model 3: $F = 2.24$, R=.026, N=1176

Table 5.16

Wave 1 Predictors of Externalizing Behaviors at Wave 4, Full Sample

Variables	Model 1			Model 2			Model 3		
	β	SE	P	β	SE	P	β	SE	P
Child Characteristics									
Age in Months	.069	.057	**.021**	.064	.058	**.037**	.060	.058	**.049**
Gender (omitted=male)	-.028	.606	.334	-.028	.605	.337	-.034	.607	.240
Child's Race (omitted=White)									
African American	-.007	.995	.875	-.023	1.000	.627	-.025	-.999	.592
Hispanic	.001	1.068	.979	-.007	1.066	.872	-.013	1.07	.762
Prior Special Needs or Behavior Problems (omitted=none)	.029	.849	.329	.048	1.180	.210	.007	.8223	.824
Caregiver Characteristics									
Caregiver's Race (omitted=White)									
African American	-.038	1.029	.407	-.033	1.042	.477	-.028	1.04	.545
Hispanic/Other	-.063	1.058	.113	-.056	1.063	.159	-.053	1.06	.186
Age in Years	-.077	.026	**.017**	-.128	.032	**.001**	-.139	.033	**.001**
Income Categories (omitted=Less than $10,000)									
Income 1	-.003	.848	.938	.003	.848	.926	.002	.847	.947
Income 2	.005	.982	.874	.001	.985	.984	.002	.986	.941
Income 3	.029	1.107	.373	.016	1.118	.634	.018	1.12	.583
Income 4	.041	.922	.260	.008	.983	.841	.013	.983	.736
Placement Characteristics									
Number of Children in the Home (omitted=1)									
2	.004	.787	.897	-.001	.785	.972	-.003	.784	.924
3	-.007	.889	.824	-.021	.889	.535	-.026	.891	.433
4	-.006	1.085	.858	-.021	1.088	.504	-.027	1.09	.395
5 or More	-.013	1.065	.684	-.039	1.083	.240	-.044	1.08	.185
Income 1	-.003	.848	.938	.003	.848	.926	.002	.847	.947
Income 2	.005	.982	.874	.001	.985	.984	.002	.986	.941
Income 3	.029	1.107	.373	.016	1.118	.634	.018	1.12	.583
Income 4	.041	.922	.260	.008	.983	.841	.013	.983	.736
Placement Characteristics									
Number of Children in the Home (omitted=1)									
2	.004	.787	.897	-.001	.785	.972	-.003	.784	.924
3	-.007	.889	.824	-.021	.889	.535	-.026	.891	.433
4	-.006	1.085	.858	-.021	1.088	.504	-.027	1.09	.395
5 or More	-.013	1.065	.684	-.039	1.083	.240	-.044	1.08	.185
Type of Placement (omitted=In Home)									
Foster Home				.122	1.201	**.012**	.108	1.20	**.016**
Kinship Home				.048	1.180	.210	.046	1.18	.227
Number of OOH Placements (omitted=none)									
1				.016	.892	.646	.012	.897	.728
2				.010	1.115	.773	.003	1.11	.923
3 or more				.039	1.045	.252	.036	1.05	.298
Low Emotional Support (omitted=other)				.015	.883	.613	.013	.882	.664
High Difficulty Regulating Emotions (omitted=other)				.076	.683	**.012**	.077	.683	**.011**
Maltreatment History									
Prior Reports (omitted=none)							.071	.643	**.021**
Current Report Ever Substantiated (omitted=no)							-.005	.676	.876

Note: Income 1=$10,000 to 19,999, Income 2=$20,000 to 29,999, Income 3=$30,000 to 39,999, Income 4=$40,000 or more, OOH=Out of home placements

Model 1: $F = 1.33$, R=.004, N=1170; Model 2: $F = 1.73$, R=.014, N=1176; Model 3: $F = 1.81$, R=.017, N=1170

Subsample.

The full regression equation with control variables, placement information, caregiver support, emotional regulation, and maltreatment histories was significant for the subsample on the dependent variable, CBCL internalizing behavior scores, $F(16,388) = 1.88$, $R=.050$, $p=.008$. The full model was able to account for only 5% of the variance in these scores. Results identified two variables that predicted increased internalizing scores, three or more out-of-home placements ($\beta=.128$, $t=1.86$, $p=.027$) relative to no out-of home placements and foster care placement ($\beta=.173$, $t=2.27$, $p=.013$) compared to children who remained at home (see Table 5.17).

For the subsample, the full regression equation with control variables, placement information, caregiver support, emotional regulation, and maltreatment histories was significant in predicting externalizing behavior scores, F (16,389) = 1.57, $R=.033$, $p=.044$. However, after controlling for child and caregiver characteristics, the only variable that was predictive of an increase in externalizing behaviors was three or more out-of-home placements, $\beta=.177$, $t=2.09$, $p=.003$, relative to no out-of home placements. Refer to Table 5.18.

Table 5.17

Wave 1 Predictors of Internalizing Behaviors at Wave 4, Subsample

Variables	Model 1			Model 2			Model 3		
	β	SE	P	β	SE	P	β	SE	P
Child Characteristics									
Age in Months	.040	.070	.425	.057	.070	.256	-.051	.079	.315
Gender (omitted=male)	-.073	.982	.149	-.085	.972	.087	.012	1.097	.816
Child's Race (omitted=White)									
African American	-.149	1.983	.113	-.141	1.961	.127	-.132	2.217	.160
Hispanic	-.067	1.94	.377	-.075	1.922	.320	-.117	2.17	.125
Prior Special Needs or Behavior Problems (omitted=none)	-.031	1.310	.536	-.039	1.312	.442	.000	1.506	.996
Caregiver Characteristics									
Caregiver's Race (omitted=White)									
African American	-.030	2.078	.747	-.053	2.066	.569	-.012	2.335	.898
Hispanic/Other	.038	1.838	.611	.065	1.826	.381	-.036	2.064	.633
Age in Years	-.036	.046	.504	-.129	.057	.055	-.031	.065	.651
Income Categories (omitted=less than $10,000)									
Income 1	.102	1.321	.091	.109	1.036	.067	.035	1.472	.554
Income 2	.027	1.455	.638	.034	1.446	.555	-.010	1.637	.862
Income 3	.019	1.875	.728	-.010	1.869	.859	-.019	2.125	.726
Income 4	.017	1.574	.767	-.026	1.599	.664	-.047	1.821	.434
Placement Characteristics									
Number of Children in the Home (omitted=1)									
2	.090	1.324	.165	.095	1.309	.137	.119	1.481	.068
3	.071	1.479	.256	.082	1.462	.181	.078	1.660	.210
4	.012	1.887	.828	.002	1.863	.969	.018	2.094	.757
5 or More	.070	1.848	.235	.061	1.829	.291	.070	2.077	.239
Placement Type (omitted=In Home)									
Foster Home				.173	2.234	**.011**	.040	2.553	.569
Kinship Home				-.018	2.058	.786	-.054	2.372	.420
Number of OOH Placements (omitted=none)									
1				.056	1.628	.321	.057	1.843	.316
2				.006	1.861	.916	.033	2.126	.556
3 or more				.125	1.809	**.027**	.177	2.089	**.003**
Low Emotional Support (omitted=other)				-.008	1.394	.877	-.004	1.576	.940
Maltreatment History									
Prior Reports (omitted=none)							.055	1.168	.303
Current Report Ever Substantiated (omitted=no)							.002	1.174	.917

Note: Income 1=$10,000 to 19,999, Income 2=$20,000 to 29,999, Income 3=$30,000 to 39,999, Income 4=$40,000 or more; OOH = Out of home placements

Model 1: F = 1.57, R=.022, N=405; Model 2: F = 2.06, R=.055, N=406; Model 3: F = 1.88, R=.050, N=405

Table 5.18

Wave 1 Predictors of Externalizing Behaviors at Wave 4, Subsample

Variables	Model 1			Model 2			Model 3		
	β	SE	P	β	SE	P	β	SE	P
Child Characteristics									
Age in Months	-.054	.079	.288	-.047	.079	.347	-.049	.079	.335
Gender (omitted=male)	.019	1.101	.710	.011	1.095	.819	.009	1.098	.855
Child's Race (omitted=White)									
African American	-.140	2.225	.138	-.127	2.211	.174	-.128	2.219	.173
Hispanic	-.106	2.176	.165	-.115	2.167	.129	-.115	2.172	.132
Prior Special Needs or Behavior Problems (omitted=none)	.009	1.470	.855	.007	1.480	.889	.006	1.512	.913
Caregiver Characteristics									
Caregiver's Race (omitted=White)									
African American	-.001	2.332	.994	-.015	2.331	.872	-.019	2.338	.841
Hispanic/Other	-.069	2.062	.357	-.039	2.059	.600	-.040	2.066	.593
Age in Years	-.036	1.764	.535	-.027	.065	.690	-.032	.065	.636
Income Categories (omitted=less than $10,000)									
Income 1	.20	1.479	.744	.034	1.469	.572	.044	1.480	.466
Income 2	-.027	1.631	.641	-.015	1.629	.792	-.003	1.645	.953
Income 3	-.010	2.103	.852	-.026	2.107	.631	-.022	2.133	.692
Income 4	-.036	1.764	.535	-.055	1.800	.351	-.039	1.828	.513
Placement Characteristics									
Number of Children in the Home									
2	.115	1.487	.078	.116	1.476	.074	.118	1.482	.071
3	.074	1.660	.236	.084	1.649	.178	.078	1.662	.211
4	.024	2.097	.670	.023	2.082	.681	.017	2.102	.770
5 or More	.077	2.074	.195	.076	2.062	.196	.074	2.089	.211
Foster Home				.041	2.520	.556	.042	2.560	.547
Kinship Home				-.059	2.321	.373	-.055	2.372	.414
Number of OOH Placements									
1				.060	1.836	.228	.058	1.847	.309
2				.042	2.098	.449	.036	2.141	.526
3 or more				.189	2.041	**.001**	.177	2.095	**.003**
Low Emotional Support				-.006	1.572	.900	-.007	1.578	.895
Maltreatment History									
Prior Reports							.153	3.128	.282
Prior Investigations							-.054	3.323	.717
Prior Substantiations							-.081	1.711	.224
Current Report Ever Substantiated							.009	1.178	.861

Note: Income 1=$10,000 to 19,999, Income 2=$20,000 to 29,999, Income 3=$30,000 to 39,999, Income 4=$40,000 or more; OOH = Out of Home placements

Model 1: F = 1.30, R=.012, N=406; Model 2: F = 1.67, R=.035, N=406; Model 3: F = 1.57, R=.033, N=406

Change Models.

Two additional regression analyses were executed to examine the change in internalizing and externalizing behavior scores between the time of the initial survey and Wave 4 for the subsample of children. In order to complete these analyses, two new variables were created that subtracted the internalizing scores from Wave 4 from the scores at the time of the initial survey. This was also done for the externalizing scores. Approximately 63% of the children had internalizing scores that decreased, 3% remained the same, and 33% increased. For externalizing scores, approximately, 39% of the children had scores that decreased, 4% remained the same, and 57% had scores that increased.

The regression model for the internalizing behaviors was significant, F (17,406) = 2.038, R=.042, p=.009. Findings indicated that three variables predicted a decrease in scores. These variables were child's gender (β= -.116, t=-2.32, p=.021) with females compared to males, the effect of being African American relative to White children (β= -.149, t= -2.845, p=.005), and a history of prior special needs or behaviors compared to children without these issues (β= -.137, t=-2.67, p=.008). Change in placement from a foster home to in-home placement predicted an increase in scores, β=.166, t=3.11, p=.002, as compared to those children who experienced no change in placement (see Table 5.19). Note that the regression equation for the dependent variable externalizing behaviors was not significant, F (17,406) = 1.06, R=.003, p=.388 (see Table 5.20).

Table 5.19

Predicting Change in Internalizing Behaviors, Subsample (N=406)

Variables	**β**	**SE**	**P**
Child's Age in Months	.033	.078	.510
Child's Gender (omitted=male)	-.116	1.212	**.021**
Child's Race (omitted=White)			
African American	-.149	1.287	**.005**
Hispanic	-.083	1.531	.111
Prior Special Needs or Behavior Problems	-.137	1.533	**.008**
Caregiver Change (omitted=no change)	.004	1.440	.946
Household Change (omitted=no change)			
Income Increase	-.026	1.303	.634
Income Decrease	-.027	1.403	.624
Increase in Number of Children in Home	.005	1.272	.924
Decrease in Number of Children in Home	-.005	1.506	.922
Caregiver Support Increase	-.035	1.842	.484
Caregiver Support Decrease	.002	2.001	.664
Change in Placement (omitted=no change)			
Foster to Home	.166	2.460	**.002**
Kinship to Home	-.039	2.062	.455
Other Type of change	.024	2.309	.639
Maltreatment History			
Prior Reports (omitted=no)	-.056	1.145	.268
Current Report Ever Substantiated (omitted=no)	.005	1.175	.915

Model: F = 2.038, R=.042, N=406

Table 5.20

Predicting Change in Externalizing Behaviors, Subsample (N=406)

Variables	**β**	**SE**	**P**
Child's Age in Months	.013	.080	.798
Child's Gender (omitted=male)	.040	1.15	.431
Child's Race (omitted=White)			
African American	-.040	1.31	.493
Hispanic	-.088	1.57	.097
Prior Special Needs or Behavior Problems	-.098	1.57	.061
Caregiver Change (omitted=no change)	.035	1.47	.518
Household Change (omitted=no change)			
Income Increase	-.076	1.33	.173
Income Decrease	-.073	1.44	.192
Increase in Number of Children in Home	.032	1.30	.556
Decrease in Number of Children in Home	-.010	1.54	.855
Caregiver Support Increase	.000	1.89	1.0
Caregiver Support Decrease	-.005	2.05	.921
Change in Placement (omitted=no change)			
Foster to Home	.081	2.52	/138
Kinship to Home	-.048	2.110	.378
Other Type of change	.020	2.36	.698
Maltreatment History			
Prior Reports (omitted=no)	-.042	1.17	.412
Current Report Ever Substantiated (omitted=no)	.047	1.20	.369

CHAPTER 6 DISCUSSION AND CONCLUSIONS

Introduction

Over the last 30 years considerable evidence has accumulated suggesting that children involved with the child welfare system are at heightened risk for developing internalizing and externalizing behaviors (Bruskas, 2008; Fanshel, et al., 1989; Halfon, et al., 1992; Kendall-Tackett, et al., 1993; Lawrence, et al., 2006; Lawson, 2009; Scarborough, et al., 2009; Shah, 1974; Spinazzola, et al., 2005; Swire & Kavaler, 1977). The goal of this study was to better understand the factors that contribute to the development of pathological responses in young children involved with the child welfare system. This final chapter will review the findings of this study and the potential reasons for similar or contradictory results relative to previous research. Then the limitations of the study are addressed. Finally, recommendations for future work will be discussed.

The Prevalence of Psychopathology

Within the general population of children aged two to three approximately 16% will have internalizing and or externalizing scores at or above the borderline range on the CBCL/2-3 (Achenbach, 1992). At the time of the initial survey approximately one-third of the children in the subsample had CBCL internalizing scores and externalizing scores at or above the borderline range scores. While there was a significant decline in internalizing scores that fell at or above the borderline range of scores between the time of the initial survey and Wave 4, one in five children in the subsample still had CBCL internalizing scores that fell into the range of psychopathology. At Wave 4, 35% of the children in the subsample had CBCL externalizing scores at or above the borderline range. For the full sample at Wave 4, approximately 28% of the children had

internalizing scores at or above the borderline range; 33% were at that level for externalizing scores. Even after three and a half years in the child welfare system these children remain at heightened risk for psychopathology.

The literature suggests that children exposed to multiple risk factors are often at the most danger of experiencing poor outcomes (Anctil, et al., 2007; Lawrence, et al., 2006; Sameroff, et al., 1987). For children involved with the child welfare system, this exposure to multiple risk factors is accentuated. Issues such as maltreatment (Bolger & Patterson, 2003; Cicchetti, 2004), placement into care (Kerker & Dore, 2006; Lawrence, et al., 2006), attachment issues (Dozier & Bick, 2007; Dozier, Dozier, et al., 2002; Dozier, et al., 2008; Fisher, et al., 2006; Marvin, Cooper, Hoffman, & Powell, 2002), placement instability (Lewis, et al., 2007; Lindhiem & Dozier, 2007; Wotherspoon, O'Neill-Laberge, & Pirie, 2008), and lack of caregiver commitment (Harden, 2004; Lindhiem & Dozier, 2007) are all factors that have been associated with problematic outcomes. So it is not surprising that a higher percentage of children in the study exhibit CBCL scores at or above the borderline range compared to their peers within the general population.

Previous studies also have found that for many children internalizing and externalizing behaviors typically decrease over time (Achenbach, Dumenci, & Rescorla, 2002; McCrae, 2009; Miner & Clarke-Stewart, 2008). Some argue that normative declines are the result of maturation. The development of emotional regulation and an increase in language, social and cognitive skills facilitate the use of alternative methods of coping (Coie & Doge, 1998; Colt, et al., 2002; Crick, et al., 2002; Tremblay, 2000). While internalizing behaviors followed this general pattern in this study, the percentage

of children with externalizing behaviors in the borderline or clinical range remained relatively stable. A possible explanation for this finding is that there are a small percentage of children who are considered "chronic externalizers" (Miner & Clarke-Stewart, 2008, p. 772). These children start out high and their decline in scores occurs much more gradually or remains fairly stable over time (NICHD Early Child Care Research Network, 2004; Shaw, Gilliom, Ingoldsby, & Nagin, 2003).

One possible explanation of chronic externalizing behavior was described in the work by Sameroff and colleagues (1987). They suggested that the rate of disorder may increase with additional risks. These risk factors also occur at multiple levels (Bronfenbrenner, 1979) and there are multiple pathways to and from disorder (Cicchetti & Rogosch, 1996). While in general there are certain risk factors associated with specific outcomes, the severity or duration of these outcomes may vary based on the individual characteristics of the child and his or her ecological environment. Therefore, certain risk factors or combination of risk factors may have a differential influence depending upon a number of other factors. These risks may include such issues as poverty, maltreatment histories, disturbances of attachment, and out of home placement. Given that foster children tend to experience multiple risks it is easy to understand why these children may have more stable externalizing patterns over-time and not follow the traditional course. As a corollary of this, in a recent study on foster children's externalizing behaviors it was found that these behaviors were more persistent than internalizing behaviors over a three year period of time (McCrae, 2009). Given this, it is important for researchers to determine which children have normative levels of aggressive behaviors which will

typically decline as the child ages *versus* those in which other factors contribute to high externalizing levels that remain high.

Outcomes by Child Characteristics

Internalizing and externalizing scores also were hypothesized to vary by gender. It was predicted that males would have higher externalizing scores than females and females would have higher internalizing scores than males. However, in contrast to previous work, this study did not find any significant gender differences in psychopathology. For externalizing behaviors, a number of studies suggest that child gender is one contributor to trajectories of externalizing behaviors. Specifically, boys tend to engage in more aggressive interactions than girls (Bongers, Koot, Van der Ende, & Verhulst, 2003; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Juliano, Werner, & Cassidy, 2006; Miner & Clarke-Stewart, 2008; Rubin, Burgess, Dwyer, & Hastings, 2003).

Patterns are less clear for internalizing behaviors. There is evidence that there are clear gender differences in the expression of internalizing behaviors, but some literature suggests that these differences are not consistently observed until adolescence (Bongers, et al., 2003; Mesman, Bongers, & Koot, 2001). However, it has been suggested by others that aggregating internalizing behaviors into a single broad based domain can mask gender differences in specific behavioral clusters (Carter et al., 2010; Eley et al., 2003; Spence, Rapee, McDonald, & Ingram, 2001; Sterba, Prinstein, & Cox, 2007). In McCrae's (2009) work on the NSCAW data she did find variations of internalizing behaviors by gender. Specifically, she assessed the particular behavioral clusters associated with internalizing behaviors on the CBCL. She found that boys had higher

rates of internalizing problems with respect to anxious or depressed behaviors, withdrawn behavior, and somatic complaints. Girls were more likely to have clinical level of depression than boys. This work supports a differentiated model of early internalizing behaviors. As demonstrated by McCrae's work, examining the behavioral clusters rather than the broad categories revealed gender differences in the way in which internalizing behaviors were expressed. In other words, boys and girls may have similar rates of internalizing behaviors, but how it is expressed differs significantly by gender.

While the findings in this study regarding gender and externalizing behaviors differ from some of the extant literature, they are consistent with what McCrae (2009) found in her work using the NSCAW data. She also found no gender differences for externalizing behaviors. In another study, Broidy et al. (2003) also suggested there were no gender differences in patterns of physical aggression.

It is possible that gender differences in these behaviors exist in these young children, but because this study utilized a unitary construct for both internalizing and externalizing behaviors it failed to pick up any potential differences. Further, it is also possible that young boys and girls are similar with respect to internalizing and externalizing disorders and the differences noted within the literature are reflecting societal expectations of boys and girls. In other words, caregivers may perceive and report differently on the emotions and behaviors of girls and boys based on societal norms (Keenan & Shaw, 1997).

The association between a child's race and emotional and behavioral problems also was examined. The literature suggests that minority children are more likely than White children to face certain types of disadvantages, such as residence in poor

neighborhoods (Brody et al., 2003), racism (Clark, Anderson, Clark, & Williams, 1999; Golash-Boza, 2006), and acculturation issues (Golash-Boza, 2006). In addition to the aforementioned issues, minority children also have to contend with the risk factors specifically associated with maltreatment and foster care. As reported earlier, some researchers have suggested that it is the cumulative impact of multiple risks that are predictive of children's adjustment (Rutter, 1979; Sameroff, Seifer, & Bartko, 1997). Thus, it was anticipated that White children would have fewer internalizing and externalizing behaviors compared to their peers. Contrary to what was hypothesized, at the time of the initial survey variations in internalizing behaviors were found to be unrelated to race for the subsample of children in the study. However, the proportion of White children in the clinical range for externalizing behaviors was greater than expected and their mean CBCL scores were significantly higher than for African American children. At Wave 4, both internalizing and externalizing behaviors varied by race. For internalizing behaviors, White children had significantly higher mean scores than African American children. For externalizing behaviors, White children had significantly higher mean scores than both African American and Hispanic children. This relationship between race and externalizing behaviors also was noted for the full sample.

Previous studies have noted variations of behavioral outcomes based on race. In a study by Smith Hatcher and colleagues (2009), it was found that African American youth who experienced maltreatment at an early age had internalizing and externalizing symptoms that were significantly higher than the White youth. In another study, African American children had greater externalizing behaviors and as young adults had more violent offenses than their peers (Lansford et al., 2007). McCrae (2009) also found some

differences in outcomes by race but only for sexualized behavior: White and Hispanic children were more likely to score in the clinical range than were African American children. The contradictory results in this study relative to previous work may indicate that the White children within this study represent a unique subsample of children that do not follow predictable norms. However, it is also possible that there are other factors not measured in this study that are contributing to the differences noted. These factors may include such issues as the mental health of the caregivers, use of supportive services, or type of discipline used by the caregivers.

Previous work has indicated that age will influence internalizing and externalizing behaviors (Coie & Doge, 1998; McCrae, 2009). As suggested earlier, as children age and mature their emotional and behavioral issues are expected to decline (Coie & Doge, 1998; Colt, et al., 2002; NICHD Early Child Care Research Network, 2004). Age also was examined in relation to the outcome variables. Although age was found to be associated with externalizing behaviors for the subsample of children at Wave 4, it was unrelated to internalizing behaviors during the same time period. Study findings suggest greater proportions of older children with CBCL in the externalizing scores in the borderline or clinical range. Within the full sample of children, internalizing behaviors decreased as the age of the child increased, but externalizing behaviors increased. The decline of internalizing behaviors seems to follow a similar trajectory as children in the general population, although it should be noted that the percentage of children in this study with internalizing behaviors at or above the borderline range was still greater than the general population throughout the entire period studied. However, externalizing behaviors remained fairly stable over time. As suggested earlier, because of the greater

likelihood of multiple risk factors in these children's lives it is possible that the normal trajectories of emotional and behavioral problems were altered. In other words, children in this study may be considered "chronic externalizers" (Miner & Clarke-Stewart, 2008, p. 772). These children have externalizing behaviors that start out high and remain relatively stable over time.

Maltreatment also has been associated with a number of emotional and behavioral problems such as increased risk of depression (Fergusson, et al., 2008), post-traumatic stress disorder (Banyard, et al., 2001), delinquent behavior (Landsford, et al., 2007), and aggressive behaviors (Bolger & Patterson, 2001). Given that maltreatment is a significant risk factor for the development of internalizing and externalizing behaviors, it was hypothesized that substantiated cases of maltreatment would be associated with higher levels of problem behaviors. Contrary to this expectation, I found that substantiated cases of maltreatment were unrelated to emotional or behavioral issues within this study.

However, a history of maltreatment reports, irrespective of substantiation, was significantly related to internalizing behaviors at the time of the initial survey within the subsample of children; by Wave 4, this relationship disappeared. When viewed in a multivariate context, study findings suggest that a history of prior maltreatment reports was predictive of increasing externalizing behavior scores for both the full sample and subsample of children. It did not seem to matter for either sample whether or not the initial report of maltreatment was ever substantiated.

Moreover, it is possible that not examining issues such as chronicity, severity, and age of onset of maltreatment altered the findings. For example, children who are exposed

to severe maltreatment for longer periods of time are more likely to develop pathogenic outcomes that extend well into adulthood (Cloitre, et al., 2004; Lenneke, et al., 2009). Age of onset of maltreatment also has specific ramifications for children (Manly, et al., 2001). Early onset of maltreatment has been associated with poor self-esteem and social problems with peers (Bolger, et al., 1998) and has been found to predict more symptoms of anxiety and depression (Kaplow & Widom, 2007).

Outcomes by Caregiver Characteristics

There were no specific hypotheses related to caregiver characteristics as these variables were used as controls and the multivariate analyses indicated that any bivariate associations that were present regarding race and income disappeared once variations in children's characteristics and other constructs were controlled. Previous studies have found that low-income, ethnic minority children score higher than their peers on measures of emotional and behavioral issues (Gross, et al., 2006; Keiley, Bates, Dodge, & Pettit, 2000; Raadal, Milgrom, Cauce, & Mancl, 1994). However, Gross et al. (2006) suggest that while it is possible for children of low-income minority parents to be at higher risk for psychopathology there may be other reasons for this association. Specifically, Gross et al. (2006) note that these parents may experience discrimination or language barriers that may affect housing or employment and consequently, cause additional stress within the family unit. Therefore, race may be confounded with these other issues. Although Gross et al. (2006) acknowledge that race may make independent contributions to outcomes, low-income consistently has been found to predict poorer emotional and behavioral outcomes (Evens, 2004; Gross, et al., 2006; Werner & Smith, 1982). In this study, that was not the case for the subsample of children: there was no

statistically significant relationship between household income and psychopathology. However, for the full sample of children, as income increased the proportion of children with internalizing behaviors at the clinical level decreased. The multivariate analyses indicated that any bivariate associations that were present regarding income and psychopathology disappeared once variations in children and caregiver characteristics and other constructs such as emotional regulation and placement characteristics were controlled.

Increases in caregiver's age predicted decreasing psychopathology in the full sample. Older caregivers had children with fewer emotional and behavioral problems. However, this relationship was not evident for the subsample of children. It is possible that older caregivers are more equipped than younger caregivers to handle the challenges involved in meeting the specialized needs of children involved with the child welfare system.

Outcomes by Emotional Support (Attachment) and Emotional Regulation

It was hypothesized that both emotional support by the caregiver and emotional regulation would influence internalizing and externalizing scores. Both lower emotional support and difficulty regulating emotions were expected to be associated with higher internalizing and externalizing CBCL scores. The extant literature suggests that children's ability to recover from trauma is largely dependent upon the caregiver's ability to respond sensitively to a child's needs and helps explain differential outcomes of children exposed to maltreatment (Beeghly & Cicchetti, 1994; Lenneke, et al., 2009; McDonald, Jouriles, Griggs-Gowan, Rosenfield, & Carter, 2007; Schechter & Willheim, 2009). Contrary to these findings in the literature, this study found no relationship

between the emotional support provided by caregivers and the emotional and behavioral outcomes of young children. However, this finding may be an artifact of measurement issues. The emotional support subscale on the HOME-SF had low reliability scores and, therefore, this may not have adequately captured the potential influence of emotional support.

Emotional regulation also has been found to impact the expression of internalizing and externalizing disorders (Calkins & Fox, 2002). Maltreated children have more difficulty in regulating their emotional response to trauma exposure (Maughan & Cicchetti, 2002). My study findings were consistent with previous work: children who had a greater difficulty regulating their emotions were more likely to have internalizing and externalizing scores in the clinical range. When children have difficulty regulating their emotional responses, the lack of regulation may jeopardize or impair functioning, which, in turn, supports the development of psychopathology (Calkins & Fox, 2002; Lenneke, et al., 2009). Further, multivariate analyses found that difficulty in regulating emotions was predictive of an increase in internalizing and externalizing scores.

Outcomes by Placement Type

Additionally, it was hypothesized that outcomes for children in foster care would be better than those placed in kinship care settings. There is considerable evidence that suggests kinship caregivers are more likely to be older, single, unemployed, have access to fewer resources, and of lower socioeconomic status than unrelated foster parents (Berrick, Barth, & Needell, 1994; Cuddeback & Orme, 2001; Dolan, et al., 2009; Ehrle & Geen, 2002; Fuller-Thomson & Minkler, 2000; Gaudin & Sutphen, 1993; Soloman & Marx, 1995), all of which are potential risk factors for poor emotional and behavioral

outcomes in children. There also is some limited evidence that kinship care homes tend to be more crowded than foster homes (Berrick, 1997). These studies have raised the question of whether or not the theoretical advantages of kinship care outweigh some of the potential disadvantages of this type of placement (Cuddeback, 2004). Unfortunately, there are conflicting results in the literature regarding this topic. Several studies report that children in kinship placements have better behavioral outcomes compared to children in foster care (Benedict, Zuravin, & Stallings, 1996; Brooks & Barth, 1998; Keller, et al., 2001; Rubin, et al., 2008; Winokur, et al., 2009). Other studies report few differences or mixed outcomes (Cuddeback, 2004; Shore, Sim, Le Prohn, & Keller, 2002; Zuravin, Benedict, & Stallings, 1999). In yet another study, the findings discounted the theoretical advantages of placing children with relatives altogether (Lawler, 2008). Lawler's findings indicated that relatedness does not contribute to the quality of the relationship, which he suggests is the assumption that has driven recent policy changes related to kinship care.

Contrary to what was predicted, this study found that children in foster care fared worse in outcomes related to externalizing behaviors. Initially, behavioral outcomes did not vary by placement. By Wave 4, however, foster care children in the full sample and the subsample had higher mean externalizing scores than children who remained in the care of their biological parents. Foster care children in the full sample also had statistically higher mean scores than those in kinship care settings. Multivariate analyses conducted for the subsample indicated that foster care placement was not predictive of changes in the externalizing scores between time of the initial survey and Wave 4. However, for the full sample of children, foster care placement was predictive of higher

CBCL externalizing scores. Internalizing behaviors did not vary by placement at either time period for both the full sample and subsample of children. Multivariate analyses conducted for the subsample indicated that foster care placement was predictive of an increase in CBCL internalizing scores between the time of the initial survey and Wave 4.

There are two studies that help provide some possible insight into the difference between what was predicted and what was found in this study. In a study by Hegar and Rosenthal (2009) it was found that kinship caregivers identified internalizing and externalizing behaviors much less often than foster care parents, but teachers reported children in kinship care homes as having more externalizing problems. In studies conducted by Shore et al. (2002) and Rosenthal and Curiel (2006), they found that foster parents reported much higher levels of behavioral problems in children compared to kinship caregivers, but teachers either reported similar problems or more problems among children placed with relatives. Thus, there is evidence that kinship caregivers may underreport problems in children, and therefore, the results in this study may be reflective of this pattern. Rosenthal and Curiel (2006) suggest two possible explanations for this underreporting: (1) foster parents tend to be more objective about the children's behaviors; or (2) kinship caregivers are concerned about how problem behaviors may reflect poorly on their ability to meet the needs of the child and, consequently, underreport concerns.

There are other possible concerns related to the reporting of internalizing and externalizing behaviors. If a kinship home is overcrowded, then it may be difficult to accurately monitor the emotional or behavioral problems of the children. Caregivers' ability to monitor children may decrease as the number of children in the home increases.

If caregivers have to monitor the activity of more than one child, then it is possible to miss some issues that may suggest emotional or behavioral problems because they are attempting to care for several children at the same time. Therefore, they may not notice as much as caregivers who only have to monitor the activity of one child.

It is also possible that some foster parents are motivated by financial reasons to over-report problems in children. Foster parents receive a payment subsidy for each child in their home. This subsidy is determined, in part, by the child's age. However, payment also increases in relation to the physical or behavioral problems each child exhibits (Department of Human Services, 2009). Thus, it is possible that some foster parents may exaggerate problems in children in an effort to secure a higher level of payment.

Alternatively, there may be issues specific to foster parents that account for these findings. Caregivers may experience difficulties in developing secure attachment relationships with the young children placed in their home that limits their ability to provide the consistent care these children need (Zeanah & Smyke, 2007). Zeanah and Smyke suggest that foster parents face the challenge of loving the child while also needing to be prepared for the eventual loss of the child. This is not the case with relatives who would have the opportunity to maintain contact with the child even if that child was returned to a biological parent. Further, experiencing repeated losses of children may make it difficult for foster parents to fully commit to a new child placed in their care (Dozier & Lindhiem, 2006).

Outcomes Related to Placement and History of Maltreatment

Finally, it was hypothesized that placement into out-of-home care and a history of maltreatment would be the strongest predictors of internalizing and externalizing

problems. This was not supported by the findings in this study. After controlling for child and caregiver characteristics, foster care placement was predictive, in a few instances, of increased internalizing and externalizing scores. Further, in the subsample analyses, I found that three or more out-of-home placements were predictive of increased internalizing and externalizing scores. However, reports of maltreatment only were predictive of an increase in CBCL externalizing scores for the full sample estimates. When change over time was assessed, a change from foster home to in-home placement predicted an increase in CBCL internalizing scores. So it is possible for this sample of children that the type of placement was less important than the change itself. This is consistent with what others have found regarding the need for placement stability (Fisher, et al., 2005; Lewis, et al., 2007; Newton, et al., 2000).

Variables that Predicted a Decrease in CBCL Internalizing and Externalizing Behavior Scores

When change in internalizing and externalizing scores was examined, I found that three variables predicted a decrease in internalizing scores; the model for change in externalizing scores was not significant. Predictors of declining internalizing scores were child's gender, child's race, and prior special needs or behaviors. Females were more likely to experience a decrease in CBCL internalizing scores than males, as were African American children relative to White children, and children with a history of prior special needs compared to those without these prior issues.

There are a few potential reasons for these findings. Gender differences might be related to differential rates of development (Carter, et al., 2010), and therefore, the acquisition of skills needed to cope with such emotions as anxiety may help girls begin to address issues sooner than some males. However, it is also possible that girls exhibit

more traditional signs of anxiety, such as crying or clinging, whereas boys' expressions of internalizing symptoms may go unrecognized, e.g., withdrawn behavior or somatic complaints (Carter, et al., 2010). Therefore, girls' symptoms may be addressed by caregivers or by other mental health professionals and consequently, their internalizing symptoms decrease. Child's race also was predictive of declining CBCL internalizing scores, specifically for African American children. Earlier it was reported that African American children are more likely to be placed in kinship care settings (Harris & Skyles, 2008) and that relatives may have a tendency to underreport emotional or behavioral problems (Rosenthal & Curiel, 2006; Shore, et al., 2002). It is also possible that kinship homes are overcrowded, which makes it difficult to accurately report the behavioral problems experienced by the children. Finally, some foster parents may be motivated by financial reasons to over-report emotional or behavioral problems in children. Therefore, findings for this study may be reflective of these issues. Having prior special needs or behavioral issues also predicted declining CBCL internalizing scores. It is possible that these children received early intervention services since they had been identified previously as having special issues.

Limitations of the Study

The findings of the present study should be considered in light of several limitations. First, there was not a direct measure of attachment; therefore, the emotional regulation scale from the HOME-SF was utilized as an alternative way to assess attachment. However, the reliability of this scale was relatively low for all of the younger children and further modifications to this scale needed to be made. The emotional support subscale for each group was modified to only include four similar

items from the interviewer's observations related to emotional support. While these transformations increased the reliability of the scale, reliability for the scale still remained on the lower side. Therefore, results suggesting a lack of association between emotional support and child outcomes may not be truly reflective of the importance of this variable.

Additionally, the HOME-SF may not adequately capture parenting issues that may be more important for vulnerable children. For example, children with a history of disturbed attachment relationships may behave in ways that indicate they do not need comfort or reassurance. Consequently, many caregivers tend to respond in kind (Dozier & Bick, 2007). The HOME-SF does not address how a caregiver responds to a child when he or she needs comfort, but behaves in a way that would suggest otherwise. The HOME-SF also does not address the caregiver's level of commitment to the child, which has been found to be a significant factor in the development of a secure attachment relationship and is predictive of placement stability (Dozier & Lindhiem, 2006).

Future research using the NSCAW data needs to explore alternative measures for attachment. This may include looking at the behaviors of the caregiver that do not support the development of a secure attachment. Caregivers who engage in behaviors such as hitting, shaking, or yelling are engaging in frightening behaviors toward the child. These types of behaviors support the development of a disorganized attachment. It also is possible to utilize the question regarding the caregiver's intent to adopt the child as a proxy for their commitment to that child.

A second limitation for the study is that history of maltreatment was measured as a dichotomous variable – merely whether it occurred or not. This study did not assess chronicity, severity, age at onset of maltreatment, or the differential effects specific types

of abuse may have had on this sample. Future research using the NSCAW data needs to address this issue by utilizing the variables within the data set that measure these specific issues. Third, this study utilized only one report (current caregiver) on internalizing and externalizing behaviors. Previous work has shown that it is important to examine multiple viewpoints as there may be different perceptions of the child's emotional and behavioral problems depending upon who is reporting the information (Rosenthal & Curiel, 2006; Shore, et al., 2002). Future work with the NSCAW data could utilize information on emotional and behavioral problems of the children as reported by the other individuals, such as case workers, in addition to the caregivers report. Finally, this study used a unitary construct for internalizing and externalizing behaviors rather than looking at behavioral clusters within those broader categories. Utilizing the broader constructs may have prevented a more nuanced understanding of emotional and behavioral outcomes of young children. The behaviors that are categorized as internalizing are the withdrawn, somatic complaints, and anxious or depressed syndromes. For externalizing, these behaviors include delinquent and aggressive behavior syndromes (Achenbach, 1992). Therefore, findings in this study may not reflect differences that might exist within these syndrome scales. Future work with the NSCAW data needs to determine whether internalizing and externalizing behaviors vary by certain characteristics when examining the syndrome scales underlying their broader constructs.

Practice and Policy Implications

The current findings have implications for practice and policy. Findings from this study suggest that children who are involved with the child welfare system are at significant risk for developing psychopathology, which points to the ongoing need to

address the mental health issues of these children from early childhood. Historically, the function of the child welfare system has primarily been to investigate and monitor families, with significantly fewer resources directed towards prevention or intervention services designed to address the mental health needs of the children. This is due, in part, to budgetary constraints of child welfare agencies (Cicchetti, 2004; Pecora et al., 2009).

Given limited resources, it is critical then that the services provided to these children are theoretically informed and evaluated for their effectiveness. For example, a significant predictor of psychological outcomes for the children in this study was related to emotional regulation. Children who had difficulty regulating their emotional responses were more likely to have clinical level emotional or behavioral problems. This finding is supported by a theoretical understanding of child development as well as previous research (Calkins & Fox, 2002; Maughan & Cicchetti, 2002). Thus, interventions should target regulation issues. To do this, caregivers need to learn how to respond in ways that are gentle and reassuring toward the children. Helping caregivers to respond to their children in ways that are not frightening creates an environment that promotes emotional regulation.

Another issue is placement itself and changes in placement. In this study it was found, in some instances, to predict increased internalizing and externalizing behaviors. Further, the severity of emotional and behavioral difficulties are related to the number of placements a child has experienced (Newton, et al., 2000), Attachment theory supports the need for continuity in young children's lives and previous research, relative to placement stability, has demonstrated the importance of this issue (Barber & Delfabbro, 2003; Harden, 2004; Lindhiem & Dozier, 2007; Newton, et al., 2000). Therefore,

interventions should also focus on stabilizing placements and helping caregivers understand and address the specialized needs of these children.

There are some policy considerations as well. There is a significant body of research that supports the connection between maltreatment and the development of psychopathology in young children (Bolger & Patterson, 2003; Carlson, et al., 1989; Fergusson, et al., 2008; Haskett, et al., 2005; Kaplow & Widom, 2007; Kendall-Tackett, et al., 1993; Landsford, et al., 2007). Yet, funding resources for prevention and early intervention services have been significantly reduced or eliminated (Cicchetti, 2004). Given the aforementioned issues, it is important to have strategic policies that enhance family support and allocate funding resources to these types of services.

Additionally, policies that support the increased education of the child welfare workers are critical. Workers need to understand the importance of screening children for mental health problems when they first enter care. Very few agencies routinely screen for these issues (Horwitz, Owens, & Simms, 2000). However, even when screening occurs, the lack of training makes it difficult for workers to accurately determine whether further evaluation is needed (Kerker & Dore, 2006). Thus, workers need to be adequately trained to identify emotional and behavioral problems and how to recognize specific issues that pertain to attachment or separation and loss.

Child welfare workers also need to understand the barriers that families face when accessing mental health care in the United States. While many children are eligible for Medicaid it can be difficult to find a provider who will accept this type of insurance (Kerker & Dore, 2006). Also, federally funded mental health initiatives for children require a diagnosis which restricts services to the most seriously disturbed children

(Kerker & Dore, 2006). Finally, early intervention services are limited and it may be difficult for families to access these services (Cicchetti, 2004). Workers need to be able to provide the support the families need when trying to navigate this system and learn how to advocate for appropriate services for these children. Understanding and effectively treating children with psychopathology may ultimately decrease the long-term consequences of mental illness.

Finally, the findings of this study lend support to policy changes that encourage the use of kinship homes. Children in foster homes were more likely to have externalizing behaviors in the clinical range than children placed with a biological parent or with a relative. However, this is a tentative conclusion and points to the need for further research. Policies need to provide the support and financial resources to encourage ongoing research in this area to help ensure that best practice methods are utilized with such a vulnerable population. There is also a need for studies to capture the role of resilience, which cannot be done for the young children in the NSCAW data. Resilience is suggested to be one of the constructs that protects or reduces vulnerability in children exposed to negative life events (Goldstein & Brooks, 2006; Leon, et al., 2008; O'Dougherty Wright & Masten, 2006). This may be one factor that contributes to the differential outcomes observed in foster children. The ability to understand successful adaptation despite exposure to risks is fundamental to an understanding of the etiology, prevention and treatment of the development of pathological responses in children.

Future Directions

The regression models were only able to predict a small percentage of the variation in internalizing and externalizing behavior scores therefore; future work should

consider other factors that further illuminate differential outcomes experienced by children who have had contact with the child welfare system. Issues such as parental psychopathology (Koop & Beauchaine, 2007), neighborhood contributions (Leventhal & Brooks-Gunn, 2000), and harsh discipline techniques (Gilliom & Shaw, 2004) all impact child psychopathology. Additionally, it would be important to consider variations in maltreatment experiences as well. As stated earlier, such issues as chronicity, severity, and age of onset of maltreatment may contribute to differential outcomes. Finally, future work would benefit from looking at the syndrome scales within the broader internalizing and externalizing constructs. This approach may be better suited for detecting subtle variations in emotional and behavior outcomes that the broader scales cannot. For example, this study found that psychopathology did not vary by the child's gender. However, when McCrae (2009) examined the syndrome scales within the broader internalizing and externalizing constructs, psychopathology did vary by gender. Her work illustrates the importance of utilizing the syndrome scales within the broader constructs.

Conclusion

It is clear that foster children are an especially vulnerable population when it comes to serious emotional and behavioral disorders. These children often experience a number of risk factors such as early experiences of maltreatment, disturbed relationship patterns, and separation and loss issues that contribute to problems in psychological functioning. As demonstrated in this study, children in this sample were significantly more likely than children in the general population to have severe emotional and behavioral problems. Moreover, the level of these children's problems started out high

and remained high. This suggests that these children have internalizing and externalizing behaviors that do not follow the typical pattern in which these problems tend to decline over time. The children in this sample appear to have a much more chronic course. Compounding these problems is the fact that the current child welfare system fails to adequately address the specialized needs of this population. There needs to be a unified effort between child welfare agencies and policy makers to implement comprehensive and ongoing services to these children that are theoretically informed and empirically supported.

APPENDIX A

HIC CONCURRENCE OF EXEMPTION

WAYNE STATE UNIVERSITY

HUMAN INVESTIGATION COMMITTEE
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Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
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Full AAHRPP Accreditation

CONCURRENCE OF EXEMPTION

To: Rebecca Wiersma
Social Work Instruction Un
4756 Cass Ave.

From: Ellen Barton, Ph.D. E. Barton
Chairperson, Behavioral Institutional Review Board (B3)

Date: February 11, 2010

RE: HIC #: 023710B3X
Protocol Title: Foster Children's Adaptive Psychological Functioning in the Face of Adversity
Sponsor:
Protocol #: 1002008051

The above-referenced protocol has been reviewed and found to qualify for **Exemption** according to paragraph #4 of the Department of Health and Human Services Code of Federal Regulations [45 CFR 46.101(b)].

- Waiver of consent has been requested and approved.

This proposal has not been evaluated for scientific merit, except to weight the risk to the human subjects in relation to the potential benefits.

- Exempt protocols do not require annual review by the IRB.
- All changes or amendments to the above-referenced protocol require review and approval by the HIC **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (http://www.hic.wayne.edu/hicpol.html).

NOTE:

1. Forms should be downloaded from the HIC website at each use.
2. Submit a Closure Form to the HIC Office upon completion of the study.

APPENDIX B

BIVARIATE ANALYSES TABLES

Table B.1

Variations in Psychopathology by Child Gender

	N	Mean	SD	*t*	*df*	*p*
Subsample (N=406)						
Initial Survey						
Internalizing						
Male	207	54.80	9.69	-1.00	401.97	.32
Female	199	55.78	10.00			
Externalizing						
Male	207	54.34	10.84	.76	404	.45
Female	199	53.53	10.52			
Wave 4						
Internalizing						
Male	207	51.69	9.33	1.14	393.36	.26
Female	199	50.56	10.60			
Externalizing						
Male	207	53.78	.08	.06	385.23	.95
Female	199	53.54	.09			
Full Sample (N=1,582)						
Wave 4						
Internalizing						
Male	830	52.62	11.00	.93	1543.73	.35
Female	752	52.13	10.77			
Externalizing						
Male	830	53.78	.086	.74	1533.35	.46
Female	752	53.54	.093			

Table B.2

Variations in Psychopathology by Child Race

	N	Mean	SD	CI	
Subsample (N=406)				Lower	Upper
Initial Survey					
Internalizing (F=1.31, *p*=.27)					
African American	125	54.24	10.32	52.41	56.07
White	209	55.47	9.60	54.17	56.78
Hispanic	72	56.51	9.67	54.24	58.79
Externalizing (F=3.31, *p*=.04)					
African American	125	52.18	10.33	50.35	54.00
White	209	55.20	10.76	53.73	56.67
Hispanic	72	53.94	10.71	50.83	55.86
Wave 4					
Internalizing (F=7.74, *p*=.001)					
African American	125	48.39	9.12	46.78	50.01
White	209	52.76	10.21	51.36	54.15
Hispanic	72	51.13	9.97	48.89	53.47
Externalizing (F=6.57, *p*=.002)					
African American	125	54.45	10.50	52.60	56.31
White	209	58.08	10.85	56.60	59.56
Hispanic	72	53.56	11.08	50.96	56.17
Full Sample (N=1,582)					
Wave 4					
Internalizing (F=.776, *p*=.46)					
African American	588	51.96	10.87	51.08	52.84
White	684	52.62	10.08	51.86	53.38
Hispanic	310	52.68	10.58	51.50	53.87
Externalizing (F=7.06, *p*=.00)					
African American	588	52.86	10.60	52.00	53.72
White	684	54.84	10.80	54.03	55.65
Hispanic	310	52.60	10.97	51.68	53.83

Table B.3

Post Hoc Comparison: Variations in Psychopathology by Race for Externalizing Behaviors

		Mean Differences	Std. Error	*p*	CI	
Subsample (N=406)						
Initial Survey						
Externalizing						
African American	White	-3.03	1.20	.04	-5.98	-0.07
	Hispanic	-1.17	1.57	.76	-5.03	2.69
White	Hispanic	1.85	1.45	.44	-1.71	5.42
Wave 4						
Internalizing						
African American	White	-4.36	1.11	.00	-7.09	-1.64
	Hispanic	-2.79	1.45	.16	-6.35	0.78
White	Hispanic	1.58	1.34	.50	-1.72	4.87
Externalizing						
African American	White	-3.63	1.22	.01	-6.63	-0.64
	Hispanic	0.88	1.60	.86	-3.04	4.80
White	Hispanic	4.51	1.47	/01	0.89	8.13
Full Sample (N=1,582)						
Wave 4						
Externalizing						
African American	White	-1.98	0.61	.01	-3.46	-0.49
	Hispanic	0.26	0.74	.94	-1.59	2.11
White	Hispanic	2.23	0.74	.01	0.43	4.04

Table B.4

Variations in Psychopathology by Maltreatment History and Prior Behavior/Special Needs

	N	Mean	SD	*t*	*df*	*p*
Subsample (N=406)						
Initial Survey						
Internalizing						
Prior Reports						
No	214	54.43	9.57	-1.65	374.16	.10
Yes	182	56.08	10.24			
Prior Behavior or Special Needs						
No	329	54.69	9.70	-2.66	396	.01
Yes	69	58.13	10.14			
Externalizing						
Prior Reports						
No	214	52.77	9.97	-2.41	394	.02
Yes	182	55.37	11.51			
Prior Behavior or Special Needs						
No	329	53.34	10.57	-2.62	396	.01
Yes	69	57.01	10.78			
Wave 4						
Internalizing						
Prior Reports						
No	214	51.13	9.64	-0.15	394	.88
Yes	182	51.27	10.21			
Prior Behavior or Special Needs						
No	329	51.22	9.93	0.34	396	.73
Yes	69	50.77	10.03			
Initial Report of Maltreatment Ever Substantiated						
No	159	51.06	10.46	-0.12	404	.90
Yes	247	51.18	9.66			
Externalizing						
Prior Reports						
No	214	55.59	10.85	-1.50	394	0.14
Yes	182	57.22	1.78			
Prior Behavior or Special Needs						
No	329	56.16	10.88	-0.23	396	.82
Yes	69	54.49	10.62			
Initial Report of Maltreatment Ever Substantiated						
No	159	55.85	11.28	-0.46	404	.64
Yes	247	56.36	10.74			

(continued)

Table B.4 *Variations in Psychopathology by Maltreatment History and Prior Behavior/Special Needs* (continued)

	N	Mean	SD	*t*	*df*	*p*
Full Sample (N=1,582)						
Wave 4						
Internalizing						
Prior Reports						
No	886	52.26	10.62	-0.52	1455.70	.61
Yes	665	52.53	10.25			
Prior Behavior or Special Needs						
No	329	54.69	9.70	-2.66	396	.01
Yes	69	58.13	10.14			
Initial Report of Maltreatment Ever Substantiated						
No	584	52.66	10.85	0.78	1580	.43
Yes	998	52.23	10.25			
Externalizing						
Prior Reports						
No	886	53.03	10.70	-2.62	1423.44	.01
Yes	665	54.48	10.80			
Prior Behavior or Special Needs						
No	329	53.34	10.57	-2.62	396	.01
Yes	69	57.01	10.78			
Initial Report of Maltreatment Ever Substantiated						
No	584	53.80	10.80	0.40	1222.88	.69
Yes	998	53.58	10.81			

Table B.5

Variations in Psychopathology by Placement Setting

	N	Mean	SD	CI	
Full Sample (N=1,582)					
Wave 4					
Internalizing (F=1.35, *p*=.26)				Lower	Upper
In Home	1,382	52.26	10.50	51.70	52.81
Foster Care	104	54.00	10.14	52.03	55.97
Kinship	96	54.52	10.39	50.42	54.63
Externalizing (F=4.92, *p*=.01)					
In Home	1,382	53.41	10.72	52.85	53.98
Foster Care	104	57.13	11.78	54.83	59.42
Kinship	96	53.50	10.32	51.41	55.59
Subsample (N=406)					
Wave 4					
Internalizing (F=2.14, *p*=.12)					
In Home	363	50.87	9.98	49.84	51.90
Foster Care	26	55.04	7.86	51.86	58.22
Kinship	17	50.76	11.77	50.16	56.81
Externalizing (F=4.56, *p*=.01)					
In Home	363	55.64	10.89	54.52	56.77
Foster Care	26	62.46	10.85	58.08	66.84
Kinship	17	57.65	9.64	52.69	62.60

Table B.6

Post Hoc Comparison: Variations in Psychopathology by Placement for Externalizing Behaviors at Wave 4

		Mean Differences	Std. Error	*p*	CI	
Full Sample (N=1,582)						
	Wave 4					
In Home	Foster Care	-3.71	1.10	.00	-6.39	-1.03
	Kinship	-0.09	1.14	.99	-2.87	2.70
Foster Care	Kinship	3.62	1.52	.06	-0.11	7.36
Subsample (N=406)						
	Wave 4					
In Home	Foster Care	-6.81	2.20	.01	-12.23	-1.41
	Kinship	-2.01	2.69	.76	-8.61	4.60
Foster Care	Kinship	4.81	3.38	.36	-3.49	13.12

Table B.7

Variations in Psychopathology by Emotional Regulation

		N	Mean	SD	*t*	*df*	*p*
Full Sample (N=1,582)							
Wave 4							
Internalizing							
	Other	824	51.92	10.30	-4.35	623.44	.000
	High	352	54.92	11.04			
Externalizing							
	Other	824	52.22	10.41	-2.83	631.97	.005
	High	352	54.17	10.99			

Table B.8

Change in Psychopathology by Gender and Race, Subsample (N=406)

	Initial Survey			Wave 4		
	N	**Mean**	**SD**	**N**	**Mean**	**SD**
Internalizing						
Gender						
Male (*t*=3.99, df=206, *p*=.000)	207	54.80	9.69	207	51.69	9.33
Female (*t*=6.58, df=198, *p*=.000)	199	55.78	10.00	199	50.56	10.59
Race						
African American (*t*=5.53, df=124, *p*=.000)	125	54.24	10.32	125	48.39	9.12
White (*t*=3.59, df=208, *p*=.000)	209	55.47	9.60	209	52.76	10.21
Hispanic (*t*=4.22, df=71, *p*=.000)	72	56.51	9.67	72	51.18	9.76
Externalizing						
Gender						
Male (*t*= -2.08, df=206, *p*=.039)	207	54.34	10.84	207	56.00	10.05
Female (*t*= -3.59, df=198, *p*=.000)	199	53.53	10.52	199	56.33	11.83
Race						
African American (*t*= -2.03, df=124, *p*=.044)	125	52.18	10.33	125	54.45	10.49
White (*t*= -4.00, df=208, *p*=.000)	209	55.20	10.76	209	58.08	10.85
Hispanic	72	53.35	10.71	72	53.57	11.08

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ABSTRACT

CHILDREN'S ADAPTIVE PSYCHOLOGICAL FUNCTIONING IN THE FACE OF ADVERSITY

by

REBECCA WIERSMA

August 2010

Advisor: Dr. Anna Maria Santiago

Major: Social Work

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This explanatory research study is a secondary data analysis of the restricted release version of the National Survey of Child and Adolescent Well-Being (NSCAW) data. Only children from the CPS sample were used and included only children who were 48 months or younger at the time of the initial survey (N=1,582). At the time of the initial survey, only the caregivers of 406 children were able to complete the Child Behavior Checklist (CBCL)/2-3 because of age restrictions for that particular measure. Therefore, a subsample of 406 children with CBCL scores at Wave 1 and Wave 4 was extracted from the original sample of 1,582. Overall, children in both the full and subsample had CBCL internalizing and externalizing behavior scores almost twice as high as the general population of children in the same age ranges.

Hierarchical linear regression was employed to test the relative influence of placement and maltreatment histories on children's internalizing and externalizing

behaviors. For the full sample (N=1,582), the results indentified one variable that predicted higher internalizing scores, emotional regulation, β=.15, *t*=4.93, *p*=.000. Two variables predicted lower internalizing scores: child's age in months (β= -.11, *t*= -3.70, *p*=.00) and caregiver's age (β= -.099 *t*= -2.51, *p*=.012). The results identified four variables that predicted an increase in externalizing behavior scores: child's age (β= .060, *t*=1.97, *p*=.049), difficulty with emotional regulation (β= .077, *t*= 2.55, *p*=.011), foster care placement (β= .108, *t*= 2.40, *p*=.016), and prior reports of maltreatment (β= .643, *t*= 2.31, *p*=.021). Decreases in externalizing behaviors were predicted by the caregiver's age (β= -.14, *t*= -3.46, *p*=.001).

For the subsample (N=406), results indentified two variables that predicted increased internalizing scores, three or more out-of-home placements (β=.128, *t*=1.86, *p*=.027) and foster care placement (β=.173, *t*=2.27, *p*=.013). The only variable that was predictive of an increase in externalizing behaviors was three or more out-of-home placements, β=.177, *t*=2.09, *p*=.003.

Two additional regressions analyses were run to examine the change in internalizing and externalizing behavior scores from the time of the initial survey to Wave 4 for the subsample of children. Findings indicated that three variables predicted a decrease in scores. The variables were child's gender (β= -.116, *t*=-2.32, *p*=.021), child's race of African American (β= -.149, *t*= -2.845, *p*=.005), and a history of prior special needs or behaviors (β= -.137, *t*=-2.67, *p*=.008). Change in placement from a foster home to in-home placement predicted an increase in scores, β=.166, *t*=3.11, *p*=.002. The regression equation for the dependent variable externalizing behaviors was not significant, *F* (17,406) = 1.06, *R*=.003, *p*=.388 (see Table 5.20).

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Teaching Positions:

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Research Positions:

2007 - 2008	*Graduate Student Research Assistant, Wayne State University* Detroit, Michigan 48202 Project: Graduating Social Work Students' Perspectives on Domestic Violence
2007-2008	*Graduate Student Research Assistance, Wayne State University* Detroit, Michigan 48202 Project: Trauma and Perpetration