SIBLINGS IN FOSTER CARE

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In the past two decades, researchers in the social sciences have begun to examine the importance of sibling support and connectedness across the lifespan. Siblings may provide an important source of social support, friendship and instrumental support to one another from childhood to later life. The meaning of sibling connections for foster children, whose connection to parents and adult caregivers has been disrupted, is an important area meriting study. Unfortunately, until very recently, there has been a dearth of well-designed research examining the important developmental issues involving siblings placed in out of home care. Secondary data analysis on a subsample drawn from the National Survey of Child and Adolescent Well-Being (NSCAW), Waves 1-5, was conducted to examine the life circumstances and developmental trajectories of foster children. Three comparison groups were drawn based on Wave 1 placement status, consisting of foster children partially separated from siblings (n =67, representing a population of 19,077), separated from all siblings (n = 116, representing a population of 32,109) and placed together with all siblings (n = 68, representing a population of 13,303).

Increasing child age, child race and foster parent employment outside the home were significantly associated with sibling separation at Wave 1. Child characteristics, including child behavior at Wave 1 were not significantly associated with sibling

separation status. Children did not differ by group membership with regard to placement in kinship care, or placement disruption. Children separated from siblings spent significantly longer in out of home placement than children placed with at least one sibling.

Children separated from all siblings were significantly more likely to have experienced emotional abuse as their most serious form of maltreatment. Children separated from all siblings had significantly less contact with parents than other children. More than fifty percent of children separated from all siblings reported having had no visitation with either mother or father at the time of the Wave 1 interview.

BIOGRAPHICAL SKETCH

Margaret McCarthy attended Columbia College at Columbia University, where she received an A.B. in Latin *cum laude* in 1986. She received a J.D. from Columbia University School of Law in 1989. She received an M.A. in Human Development in 2007, and a doctorate in Human Development in 2014, both from Cornell University.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

When a child is placed in foster care, placement often has meant separation not only from parents but also from siblings. Separation from some or all siblings is an issue for the majority of foster children. Approximately 90% of children in out of home care have at least one sibling (Festinger, 1983; Staff & Fein, 1992), and at least two-thirds of children placed out of the home also have at least one sibling placed in out of home care (Herrick & Piccus, 2005; Wulczyn & Zimmerman, 2005). Recent federal and state legislative changes require that efforts be made to place siblings in foster care together. Despite the recent policy focus on co-placement of siblings in foster care, there is a dearth of well-designed developmental psychology literature regarding the nature and importance of sibling connections for foster children.

This gap in research reflects a historical focus in the developmental literature on the mother-child bond, with little attention given to the relationship between children in a family to one another. Little is known about the developmental consequences of sibling separation for children placed in out of home care, or whether children placed in foster care with a sibling fare better than foster children separated from siblings and/or singleton foster children. Additionally, there is little connection between the extant literature on siblings in foster care and the larger field of sibling research.

In 2008, the federal Fostering Connections to Success and Increasing Adoptions Act became law. This legislation, widely supported by advocacy groups

across the spectrum, includes a requirement that siblings in foster care be placed together in foster or adoptive placements unless such a joint placement would be detrimental to a sibling or siblings ("Fostering Connections to Success and Increasing Adoptions Act," 2008). In addition, for the first time, federal reimbursement for foster care costs and adoption subsidies has been tied to compliance with the sibling co-placement requirement ("Fostering Connections to Success and Increasing Adoptions Act," 2008). The federal requirement regarding sibling co-placement in foster care is the most recent in a series of legislative and policy changes in the past two decades regarding sibling foster care placement. By 2005, at least twenty-six states in the United States had enacted legislation regarding placement and visitation for siblings in foster care (Herrick & Piccus, 2005).

These recent legislative changes regarding co-placement of siblings were prompted in large part by the efforts of foster children and advocates for foster and adoptive children. Public hearing testimony by current and former foster children in support of the federal legislation included first person accounts of the painful loss of sibling relationships, guilt felt by foster children for failure to meet younger siblings' needs, and the supportive role of co-placement (*Children Who Age Out of the Foster Care System*, 2008; Youth Communication, 2009).

Although current and former foster children have described their grief and longing for contact with lost siblings for many decades (Downes, 1992; Festinger, 1983; Maluccio, Krieger, & Pine, 1990), researchers have failed to develop a rigorous theoretical approach to examine the experiences described by foster children.

Limitations of Extant Literature

Despite decades of national and international research regarding sibling foster care placement, the child's perspective is rarely heard. Little is known about the impact on foster children of separation from siblings (Shlonsky, Elkins, Bellamy, & Ashare, 2005). Research in the area of siblings in foster care is urgently needed that includes children's perspectives, has a strong theoretical underpinning, attempts to address the gaps in extant research, and addresses the methodological and definitional problems that have hampered the development of a body of research regarding sibling placement.

Definitional Issues

Law and regulations governing foster care typically refer to siblings in accordance with definitions focused on the legal relationship between children, defining full siblings as those with the same two biological or adoptive parents, half-siblings as those who share one biological or adoptive parent, and step-siblings as those whose parents have married and share a legal connection to one another's parents. Due to the fluidity of family configurations for those involved with the child welfare system, these definitions fail to recognize the many other relationships between children. California has recognized a category of fictive kin, to encompass children raised together in a common household although not biologically or legally related (Shlonsky, Bellamy, Elkins, & Ashare, 2005).

Notably, 2008 U.S. federal legislation that addresses sibling placement for foster children fails to define sibling ("Fostering Connections to Success and Increasing Adoptions Act," 2008). The developmental psychology literature reflects

this lack of clarity regarding who is a sibling, with unclear definitions in some studies, and inconsistency between studies with regard to who is considered a sibling, making meta-analysis difficult (Hegar, 2005; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Shlonsky, Bellamy, et al., 2005; Washington, 2007).

Identifying Siblings in Administrative Data

Identifying siblings in administrative data poses particular challenges due to differing parentage between siblings. Typically, child welfare systems use a unique identifier in the database, most commonly given to the mother, thus identifying children with the same father is difficult. One study used California administrative data to compare methods of classifying and identifying siblings (Lery, Shaw, & Magruder, 2005). The authors used four classification methods to identify the children and siblings—child, maternal, paternal and removal address. Use of the child method resulted in identification of 95% of sibling groups identified by the other methods. However, 21.4% of children identified by the removal address (children who lived together at the time of removal) were not identified by any other method, suggesting a need for further exploration of this issue.

Early sibling placement studies commonly examined sibling pairs, rather than all siblings in the dataset (Staff & Fein, 1992). This method has been criticized, as it fails to correct for non-independent data, and also fails to accurately capture the totality of co-placement and separate placement for children with more than one sibling (Guo & Wells, 2003). Recently, some authors have used more sophisticated statistical techniques to correct for intra-group correlation (Albert & King, 2008; Berzin, 2006; Guo & Wells, 2003; Webster, Shlonsky, Shaw, & Brookhart, 2005).

Guo and Wells (2003) used a model to correct for autocorrelated data and successfully used event history analysis to research timing of foster care outcomes. Others have used generalized estimating equations to control for clustering effects in multivariate models (Berzin, 2006; Webster, et al., 2005). Existing research regarding siblings in foster care has focused on foster children's experiences, rates of co-placement, factors influencing sibling placement decisions, and outcomes associated with sibling placement decisions.

Foster Children's Experiences

Some early research that focused on the experiences of older foster children and those aging out of care included an examination of sibling contact. (Downes, 1992; Festinger, 1983; Gismondi, 2010; Maluccio, et al., 1990). A study of 241 adolescents who aged out of foster care in New York City in 1975 after at least five years of placement included extensive information regarding contacts with family of origin (Festinger, 1983). During their last few years in care, more than 70% of the adolescents in the sample had at least one sibling placed out of the home, and of those with a sibling placed out of the home, 91% were in contact with one another. (Festinger, 1983). The majority of foster children consistently desired more contact and/or co-placement with siblings. Similarly, in a study using administrative data from Connecticut in 1985 to examine children placed in family foster care for at least two years, almost three-fourths of long-term foster care children had at least one sibling in out of home placement, and approximately half of the children were in contact with at least one sibling (Fein, Maluccio, & Kluger, 1990).

Rates of Co-placement

Until the past decade, rates of co-placement of siblings in public foster care were low. In a study examining data involving children in long-term foster care in 1997 in Cook County, Illinois, all of whom had at least one sibling in care, only 36% were placed with at least one sibling (Leathers, 2005). Changes in law and policy have led to increased attention on the need for co-placement of siblings, both nationally and internationally, as discussed *infra*. As a result, rates of co-placement of siblings have increased. In a study using a one day snapshot of 2003 California data, 65% of children were placed with some or all of their siblings (Lery, et al., 2005).

Yet siblings placed together initially may be separated over time. In a longitudinal study using a New York City foster care sample, 86% of sibling pairs were placed together at foster care entry, but 30% of those had been placed apart by the time of the first year follow up (Linares, Li, & Shrout, 2007; Wulczyn & Zimmerman, 2005). Similar results were found in a study examining sibling placement in private agency placements (Staff & Fein, 1992). Administrative data from Casey Family Services regarding all children placed in care from 1976 to 1990 was used to examine 134 children, forming 109 sibling pairs. 70% of sibling pairs were initially placed together, with 45% remaining together during the period of placement, while 25% were separated after initial co-placement (Staff & Fein, 1992).

Complicating the issue of sibling placement is the fact that a child may not enter foster care at the same time as siblings, and siblings may enter and exit foster care in overlapping time intervals. In a longitudinal study using New York City administrative data from 1985 to 2000 to examine first placement spell, the authors

determined that 43% of children entered foster care on the same date as a sibling. Sibling groups of two were intact at initial placement 89% of the time, but larger sibling groups were less likely to be placed together, and less likely to remain intact. Approximately one-third of siblings who entered foster care on a date subsequent to a sibling were placed together with the sibling (Wulczyn & Zimmerman, 2005).

Siblings may be placed together with all siblings, together with some siblings, or placed singly even if other siblings are in out of home placement. A cross-sectional study using California data revealed that 73% of the children in care in the sample were siblings, almost 46% were placed with all of their siblings, and 66% were placed with some of their siblings (Shlonsky, Webster, & Needell, 2003).

Factors Influencing Sibling Placement Decisions

Extant studies regarding outcomes for sibling placement types have typically used administrative data that does not include decision-making regarding initial sibling placements. Even those studies with a prospective design have enrolled subjects after their initial foster care placement. Thus, it has been difficult for researchers to identify or control for factors that may have influenced initial placement decisions in examining the effect of sibling placement type on outcomes. A recent literature review of US and international studies suggests that sibling separation is more likely to occur where children are: older at the time of placement; further apart in age; part of a larger sibling group; enter foster care at different times; have special needs; or were not placed in kinship care (Hegar, 2005). Common issues cited by caseworkers as reasons for sibling separation include child behavior problems and lack of placement resources (Leathers, 2005; Smith, 1996). A qualitative study of foster

and adoptive parents identified the following factors that influence whether children are placed and maintained together as a sibling group: complex family relationships; willingness and ability of caregiver; early adoption; age difference between siblings; and sibling conflict (James, Monn, Palinkas, & Leslie, 2008). Although kinship caregivers are sometimes cited as more likely to keep a sibling group together than unrelated foster parents, there is not substantial evidence to support or contradict this hypothesis (Hegar & Rosenthal, 2009).

Outcomes Associated with Sibling Placement Decisions

A variety of outcomes possibly associated with sibling placement decisions have been explored, including reunification with family of origin, placement disruption, and developmental outcomes. Evidence to support any connection between sibling placement or separation and these various outcomes is mixed at best.

Developmental outcomes. The impact of sibling placement decisions on children's developmental outcomes has proved difficult to measure, in part because of the difficulty in accurately assessing whether developmental outcomes are attributable to sibling placement. The majority of extant studies use disruption of placement or child behavior as the outcome measure in examining the impact of separate or co-placement with siblings, but it is possible that pre-existing behavioral problems may have led not only to the initial separate placement of siblings but also to a subsequent disruption in placement for the separated sibling (Leathers, 2005; Tarren-Sweeney & Hazell, 2005). Despite these shortcomings, the findings in the extant literature provide modest support for a beneficial effect of sibling co-placement (Washington, 2007).

Some authors have used child behavior or mental health as an outcome measure. The results of this research are largely inconclusive. In a large Australian sample of 347 children aged 4 to 11, girls placed in foster care with at least one biological sibling had better mental health and displayed better socialization than girls who were separated from all siblings. There were no significant differences in the mental health and socialization of boys based on sibling placement status (Tarren-Sweeney & Hazell, 2005).

A longitudinal study using a sample of 156 maltreated foster children in New York City examined sibling placement patterns in relation to biological parent report of child behavior problems at time 1 (shortly after foster care entry) and time 2 (a mean of 14.6 months after the time 1 interview) (Linares, et al., 2007). Children were categorized into 3 groups: disrupted placement (together with 1 or more biological siblings at time 1, separated by time 2); continuously together; and continuously apart. At time 1, biological parents reported on child behavior problems shortly after the child entered foster care and at time 2, biological parents reported on child behavior between time 1 and time 2. A child behavior t score was converted to a categorical variable (low, average, or high behavior problems). Children in disrupted placement at the two extremes experienced a change in behavior problems, with those with high behavior problems at time 1 exhibiting fewer behavior problems at time 2, and those with low behavior problems at time 1 exhibiting increased behavior problems at time 2. There were no significant differences between time 1 and time 2 child behavior problems for those at the average level of behavior problem in the disrupted group at time 1. It is difficult to interpret these findings, since child behavior problems were

reported by a non-resident parent covering a time range of more than one year, and there is no information about the timing of placement disruption in relation to reported behavior problems.

The cognitive, behavioral and emotional functioning of preschool-aged children placed together or separately from siblings was examined in a small study of 38 children. Children placed with their siblings had fewer emotional and behavioral problems but children placed apart from their siblings had better scores on receptive vocabulary (Smith, 1998).

Reunification and disruption. Findings regarding the effect of sibling placement on reunification rates are contradictory. One well-designed study using a large administrative dataset from California found that siblings placed together were significantly more likely to return home within the first twelve months after initial placement in foster care than siblings placed apart (Webster, et al., 2005). However, another well-designed study using a large Illinois sample found no effect of sibling placement type on likelihood of reunification (Leathers, 2005).

Foster care placements may disrupt for a variety of reasons. A meta-analysis of 26 studies regarding disruptions in foster care found four factors that were significantly associated with placement disruption: older age at placement; behavior problems; a history of residential care; and previous placements. The authors were unable to include sibling studies in the meta-analysis due to the lack of commonality in reported studies; however, placement with siblings was generally associated with less placement disruption (Oosterman, et al., 2007). Siblings who are placed singly may be at higher risk of placement disruption (Dance & Rushton, 2005; Rushton &

Dance, 2003a), including children placed alone after prior placement with siblings (Leathers, 2005).

Attachment Theory

Research regarding the significance of sibling relationships for foster children lacks a unified theoretical framework. Attachment theory is the primary theory cited in the literature regarding foster care and adoptive placements, so a critical appraisal is merited.

Attachment theory, as originally developed by Bowlby, posits that children form an attachment to a primary attachment figure, usually the mother, in infancy (Bowlby, 1969). If the child has a secure attachment, the attachment figure serves as a secure base for the child's exploration of the environment. The child will return to the attachment figure when in need of support. Children who have experienced separation from or loss of a caregiver, inconsistency in care, or maltreatment, may form an insecure attachment (Bowlby, 1979). Eventually, children form an internal working model, based on past experience, which guides their interactions with others throughout childhood and into adulthood. Based on the internal working model, an attachment style—secure, insecure-avoidant, insecure-ambivalent, or disorganized—develops, which characterizes affectional bonds and interpersonal relationships throughout the life course (Ainsworth, Blehar, Waters, & Wall, 1978; Main & Hesse, 1990). The majority of children display secure attachment.

Ainsworth, drawing on her collaboration with Bowlby, developed the Strange Situation procedure to explore the type of attachment between infant child and parent (Ainsworth, et al., 1978). The procedure was initially developed for use in infants, but

alternate measurement criteria were developed for use with toddlers as well (Ainsworth, et al., 1978). During the Strange Situation procedure, a child and parent are brought into a laboratory setting, and a stranger is introduced. During part of the procedure, the parent leaves the child alone with the stranger. A few minutes later, the parent returns and is reunited with the child. Measurements are made of the child's play, the child's interaction with parent and stranger, and the child's response upon reunification with the parent. The Strange Situation procedure is designed to evoke some stress and anxiety in the child and to test whether, on reunion, the child will seek out the parent for comfort, and then return to play. The Strange Situation procedure is the most widely used method for evaluating parent-child attachment in a research setting.

Initially, three primary categories of infant attachment were identified through examination of Strange Situation scoring: secure; insecure-avoidant; and insecure-ambivalent. The majority of children display secure attachment. For children with a secure attachment, the attachment figure serves as a secure base for the toddler to return to after exploration, and is a person to whom they can return throughout life for comfort and support (Bowlby, 1969). Those with insecure-ambivalent attachment may display negative emotions to a parent and may demand attention. Children with insecure-avoidant attachment may avoid displaying negative emotions to the parent (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999).

In-home observation of children and parents supported the inference that children with insecure attachments experienced less supportive parenting (Ainsworth, et al., 1978). However, a meta-analysis of studies examining maternal sensitivity and

attachment found only a moderately strong association with infant attachment security (DeWolff & van IJzendoorn, 1997). It is not clear that supportive parenting, as defined in the attachment literature, can be equated with maternal sensitivity. Extensive use of the Strange Situation procedure led to the identification of an additional attachment type: disorganized attachment. Maine and colleagues originally suggested that disorganized attachment was associated with response to a parent who displays fearful or frightening behavior (Main & Hesse, 1990). Meta-analysis of studies of the sequelae of disorganized attachment suggests that children with disorganized attachment may exhibit emotional dysregulation in the face of stress. Children with disorganized attachment have higher cortisol levels than children with organized attachment after the Strange Situation procedure. Disorganized attachment in infancy is also predictive of aggression in school age children (van IJzendoorn, et al., 1999).

According to the meta-analysis, in non-clinical, middle class samples, the rate of disorganized attachment was approximately 15 %. Higher rates of disorganized attachment are found in clinical and at-risk populations, including maltreated children (van IJzendoorn, et al., 1999). Maltreated children with disorganized attachment may have learned to appraise stimuli as threatening (Cicchetti & Howes, 1991). Cicchetti and Howes (1991) theorize that disorganized attachment in young children may lead to a disturbance in self-concept, as well as disturbances in peer relationships and lack of readiness to learn. Disorganized attachment may also be related to lack of empathy. In a preschool sample, abused toddlers, when compared to their non-abused

classmates, were less likely to respond to distress in a classmate (Main & George, 1985).

Application of attachment theory to sibling relationships in childhood and adolescence. The bulk of attachment research involving children has focused on parent-child attachment (Ainsworth, 1989), with some examination of parent substitute relationships, such as the relationship of children to communal caregivers on a kibbutz (Sagi-Schwartz & Aviezer, 2005). Conservative interpretation of attachment theory restricts attachment relationships to those that include a dyadic bond, such as that between mother and child, which is considered the most significant relationship in a child's life. Sibling relationships do not fit this restrictive definition.

The focus on a parent as a primary attachment figure in infancy has meant that sibling relationships in childhood and adolescence have been theorized to constitute attachment relationships only when a sibling takes on a parental role, although examination of the relationship between siblings in an attachment context merits exploration (Ainsworth, 1989). There are only a few studies known to this author that evaluate whether child or adolescent sibling relationships are attachment relationships, with little continuity in research design or philosophy (Buist, Dekovic, Meeus, & van Aken, 2002; Stewart, 1983; Stewart & Marvin, 1984).

In an interesting variation on Ainsworth's Strange Situation procedure, Stewart (1983) modified the procedure to include family triads composed of a mother, an infant, and an older toddler sibling. During the portions of the procedure where the mother exits the room leaving the children alone, and where the stranger enters the room, the interaction between siblings was examined to determine whether the infant

sought out the toddler sibling for reassurance or comfort, an attachment behavior. Fifty-two percent of the toddlers displayed caregiving behaviors to their infant siblings, such as hugging the infant, verbally reassuring the infant sibling that the mother would return shortly, or carrying the infant to another area in the room (Stewart, 1983).

In a follow-up study, Stewart and Marvin (1984) examined the relationship between caregiving behaviors displayed by preschool-age siblings to their infant siblings during the Strange Situation procedure and the older siblings' ability to engage in conceptual perspective-taking, defined as the ability to make accurate inferences about another's thoughts, which is necessary for the development of the ability to see another's point of view. The ability of preschool-age siblings to engage in perspective-taking was significantly related to caregiving behavior--defined as approaching, physical affection, offering verbal reassurance or redirecting the younger child from distressing issues--and to mothers' requests that the older sibling take care of the younger sibling upon her absence during the Strange Situation procedure (Stewart & Marvin, 1984).

This line of research is unusual in its focus on the relationships between young siblings, and the ability of some older siblings to comfort their infant siblings. However, the researchers do not adequately articulate how sibling relationships fit into attachment theory.

Buist and colleagues (2002) examined longitudinal attachment relationships in a sample consisting of intact Dutch family units comprised of a mother, father, and two siblings between the ages of 11 and 15. Their conceptual model was premised on

the idea that children and adolescents may have multiple attachment relationships, drawing on a suggestion in an article by Ainsworth (Ainsworth, 1989). Adolescents' attachment to parents differed by parent, adolescent gender, and adolescent age, with the quality of same-sex parent-adolescent attachment decreasing with age, as children leave childhood and enter a conflictual adolescence. Sibling attachment varied by adolescent gender, with girl-girl sibling pairs having the closest relationships. Interestingly, attachment quality improved between sibling pairs when the younger child turned twelve, which the authors attribute to the move to high school under the Dutch educational system, marking the younger siblings' entry into the older siblings' educational milieu (Buist, et al., 2002). This study provides some support for the existence of sibling attachment in adolescence and the changing nature of attachment patterns as adolescents develop independence from their parents.

Adult attachment. Attachment theory has been extended to include adult romantic relationships. Although differing theoretical constructs have been used to examine romantic relationships (Bartholomew & Horowitz, 1991; Collins & Read, 1990; Hazan & Shaver, 1987), these varying strands of research all proceed from the common premise that in adulthood, a primary romantic attachment replaces the primary parent-child attachment of childhood (Hazan & Diamond, 2000; Hazan & Shaver, 1987; Kobak & Hazan, 1991).

However, there has been some limited examination of whether adults may have multiple attachment relationships, including whether sibling relationships in adulthood are attachment relationships. Trinke and Bartholomew (1997) developed a measure, the Attachment Network Questionnaire (ANQ), to examine hierarchies of

multiple attachment in adults (Trinke, 1995; Trinke & Bartholomew, 1997). Research on multiple attachment figures using the ANQ includes consideration of six attachment-related constructs: secure base; safe haven; mourning after hypothetical loss; conflict and strong emotion; and degree of emotional connection.

In the initial study validating the ANQ, study of hierarchies of attachment in a college population, relationships with siblings, mothers, fathers, best friends and romantic partners served as attachment relationships for college students (Trinke & Bartholomew, 1997). Similarly, in an examination of attachment networks in a sample of adults of diverse ages using the ANQ, siblings were attachment figures for more than twenty percent of participants (Doherty & Feeney, 2004). Positive sibling attachment in young adulthood has been associated with high-quality parenting and the presence of an adequate social support network (Brussoni, 2000).

In a sample of adults who had siblings, adults who were twins were compared to adults with only singleton siblings. Twins were more likely to report an attachment relationship with their twin siblings than were singletons with their siblings (Tancredy & Fraley, 2006). Siblings were more likely to serve as attachment figures when the siblings experienced shared experiences growing up, shared common interests as adults, and had empathy for one another.

It remains an open question whether sibling relationships in childhood and adolescence are properly considered attachment relationships, with the attachment to a sibling being one of a number of multiple attachments, as suggested by Trinke and Bartholomew (Trinke & Bartholomew, 1997), or whether attachment theory is properly limited in its application to unitary bonds.

Extensions of attachment theory. Two theoretical constructs derived from attachment theory, preferential rejection and parentification, have been applied to the study of siblings in foster care.

Differential parental treatment and preferential rejection. In intact families, differential treatment of siblings by their parents is a common experience. In a study examining differential treatment by parents of more than one child, the majority of parents reported that they engaged differential treatment of children in the household (Kowal, Krull, & Kramer, 2004). Children's birth order and gender may play a role in differential treatment of children by parents (Feinberg & Hetherington, 2001; Feinberg, Reiss, Neiderhiser, & Hetherington, 2005; Shanahan, McHale, Crouter, & Osgood, 2007; Shleboski, Conger, & Widaman, 2005). Differential treatment may reflect parental response to the age or developmental level of children, with the same treatment given to each child in a household when they are at the same chronological age (Kowal, et al., 2004; Shanahan, et al., 2007; Tucker, McHale, & Crouter, 2003). Parents may also adjust their response to individual child behavior based on child temperament (Tucker, et al., 2003).

The response of children within a family to differential treatment may also be affected by birth order. In a study of adolescent sibling dyads, perception of parent partiality was associated with self-worth for latter-born children, but not for first-born children (Shebloski, Conger, & Widaman, 2005).

Parents continue to express differential treatment of children across the life course. In later life, mothers continue to express favoritism between adult children (Suitor & Pillemer, 2006). Adult children are aware that their mother has a favorite,

but are not accurate in reporting which sibling is the mother's favorite (Suitor & Pillemer, 2000; Suitor, Sechrist, Steinhour, & Pillemer, 2006). Mothers in later life disproportionately select daughters as sources of emotional and social support (Suitor & Pillemer, 2006). Mothers' favoritism may vary by birth order, with middle children less likely to be chosen for close emotional support by the mother (Suitor & Pillemer, 2007).

Sibling relationship quality may also be influenced by the presence of unfair differential treatment. In one of the few studies of siblings to use a sample of siblings from African-American families, those with more positive sibling relationships were more likely to report that their parents were fair in differential treatment of children in the home (McHale, Whiteman, Kim, & Crouter, 2007). Attachment between young adult siblings has been negatively associated with maternal differential treatment (Brussoni, 2000). Parental differential treatment has been associated with variation in sibling relationship quality for same-sex sibling pairs (Brody, Stoneman, & McCoy, 1992) and for twin siblings was related to a negative relationship between siblings (Noller, 2005). However, it is unclear whether this relationship is causal in nature, or whether it reflects similar difficulties in parent-child and child-child interactions.

Children's perceptions of the relative fairness or unfairness of parental differential treatment of themselves and their siblings play a key role in child adjustment. Adolescent report of unfair differential treatment by parents has been associated with more negative parent-child relationships (Feinberg & Hetherington, 2001; Feinberg, et al., 2005; Kowal, et al., 2004). Differential parenting that included higher negativity or lower warmth than average is associated with poor adjustment in

the differentially treated child, as well as high levels of antisocial behavior (Feinberg & Hetherington, 2001; Feinberg, et al., 2005). In a longitudinal study of sibling relationship quality using sibling pairs composed of an older and younger sibling, change in parental differential treatment over time was positively linked to externalizing behavior, so that as parents began to favor one child over a sibling, the now more favored child's externalizing behavior decreased while the sibling's externalizing behavior increased. Change in parental differential treatment was linked to change in child depressed mood for younger siblings, with depressed mood increasing as parents began to favor the older child over the younger child. There was no significant relationship between change in child depressed mood and change in parental differential treatment for the older children (Richmond, Stocker, & Rienks, 2005).

For some children, unfair parental differential treatment may include emotional abuse. Rushton and Dance have developed a concept known as preferential rejection to categorize this parental behavior. Preferential rejection is an emerging construct loosely derived from attachment theory. It is defined as "a pattern of parenting characterized by very negative attitudes and behavior towards the child by the birth parent prior to admission to care" (Rushton & Dance, 2003a). A preferentially rejected child has been singled out for emotional abuse by the parent while other children in the home are not subjected to the same parental maltreatment. Preferential rejection is associated with difficulties in the singled-out child's behavior in subsequent foster placement, when the singled-out child is placed in foster care and

siblings remain in the home (Dance, Rushton, & Quinton, 2002; Rushton & Dance, 2003b).

Parentification. Parentification is a theoretical construct derived from attachment theory. Essentially, parentification consists of the imposition of requirements on a child that go beyond the accepted cultural norms for a child's developmental level and abilities (Bifulco & Moran, 1998). This may involve imposition of caretaking duties and responsibility for household chores. Differential treatment and favoritism are often commonly associated with parentification (Bifulco & Moran, 1998).

Although there is little empirical evidence to suggest how parentification might affect sibling relationships as well as relationships with foster and adoptive parents, there has been ample speculation in the literature on this point, both in favor of and against sibling separation.

By the 1950's, justifications of sibling separation began to appear in the literature (Hegar, 1988). One branch of research regarding sibling placement focused on separation of siblings placed for adoption or long-term foster care (Aldridge & Cautley, 1976). Older children were likely to be separated from younger siblings, as they were not considered good candidates for adoption, and a strong sibling connection was seen as an impediment to successful adoption or foster care placement. Some separation of older from younger siblings was based on a concern that the older sibling had taken on a parental role toward the younger siblings and thus this sibling bond would prevent formation of an attachment with potential adoptive parents.

Life-long grief due to separation from siblings and the desire for contact with long-lost siblings were mentioned in the early foster care literature (Ward, 1984). It has frequently been suggested that when one child in the household is parentified, the attachment relationship between that child and siblings is similar to a parent-child relationship. Authors have surmised that parentification and the dysfunctional nature of neglectful families led to stronger sibling bonds, and thus more keenly felt losses if sibling ties were severed (Timberlake & Hamlin, 1982; Ward, 1984). This approach has been criticized due to the lack of independent examination of the sibling relationship (Shlonsky, Bellamy, et al., 2005).

Loss and sibling separation. Loss is a key factor in the development of an attachment style. According to Bowlby, children who have experienced multiple separations from a parent may become permanently detached, and may not be able to resume their attachment bond to the parent even when reunited (Bowlby, 1979).

Logically, if sibling relationships are attachment relationships, childhood separation from a sibling may be painful and have lasting consequences. Attachment theory suggests that the number of losses and the degree of instability experienced by children will detrimentally affect their ability to form healthy attachments(McWey, 2004). McWey (2004) used structural equation modeling to explore the effect of losses, individual characteristics, and family contact on attachment style in a population of 110 foster children under six years of age. 87% of the children displayed insecure-avoidant attachment. Loss was a composite variable comprised of loss of siblings and number of placements. Both family contact and losses were significant predictors of insecure-avoidant attachment; however, the use of a

composite measure of loss weakens any attribution of attachment style to sibling separation.

Sibling Relationship Literature

The larger field of sibling relationship literature provides some important context for the evaluation of the importance of sibling ties for foster children. Sibling relationships may have both positive and negative aspects, and relationships change over time as children mature.

Sibling conflict. Sibling relationships may serve as a proximal context for development and practice of conflict resolution strategies (Buhrmester & Furman, 1990). Although sibling conflict is often thought of as negative and to be avoided, conflict between siblings is inevitable, as in any relationship. Sibling conflicts can range from a dispute over toys or clothes for toddler siblings, to the moral conflicts and conflicts over invasion of personal domain seen in adolescence (Campione-Barr & Smetana, 2010). For siblings living in the same household, sibling relationships, unlike friend relationships, are essentially involuntary. Thus, sibling conflicts may expose children to a broader range of conflict resolution strategies than used in friend conflicts, including both positive and negative oriented interactions (Recchia & Howe, 2009). For example, adolescent siblings may exhibit relational aggression towards one another, which is behavior intended to harm the sibling's external social relationships (Updegraff, Thayer, Whiteman, Denning, & McHale, 2005)**.** Sibling relationships are not uniformly positive. They may be fraught with ambivalence or hostility. Jealousy regarding the birth of a new sibling, or difficulties caused by child

temperament are also implicated in the relationships between siblings (Noller, 2005; Stoneman & Brody, 1993).

Although some conflict between siblings is expected, heightened sibling conflict may occur where family or individual functioning is low, and conversely, there may be less sibling conflict where individual and family functioning is high. In a longitudinal study of intact families, in families where family relationships were more harmonious, siblings were less likely to develop sibling relationships involving conflict (Brody, et al., 1992). Increased sibling conflict has been linked to children's depressive symptoms (Kim, McHale, Crouter, & Osgood, 2007) and to difficult child temperament (Brody, Stoneman, & Gauger, 1996; Stoneman & Brody, 1993).

Sibling conflict decreases as siblings move from middle childhood through adolescence, and spend less time together. In a cross-sectional sample of adolescents, greater sibling age was associated with less sibling closeness, and less conflict in sibling relationships. Siblings with gaps in age of more than four years reported less closeness and less conflict than those spaced more closely together (Buhrmester & Furman, 1990).

The nature of the relationship between siblings changes further as adolescents enter adulthood. In industrialized societies, adolescents gradually develop independence from parents, and spend less time interacting within the home context. In a middle-class Israeli sample, there was an age-related negative association between functional dependence on parents and sibling conflict (Scharf, Shulman, & Avigad-Spitz, 2005). This research suggests that as siblings grow from adolescence to adulthood, and gain independence, the level of sibling conflict will decrease. In

adulthood, siblings experience fewer conflicts than in childhood and adolescence (Bedford, 1998). However, the quality of the sibling relationship in childhood may affect the sibling relationship in adulthood, due to well-developed patterns of behavior (Riggio, 2000).

Sibling support. Siblings often provide instrumental and emotional support to one another within the family context. Adolescent siblings may provide support to one another with regard to familial issues, while older siblings are often seen as a support to younger siblings regarding non-familial issues (Tucker, McHale, & Crouter, 2001). This support is valued in cultural settings that emphasize the importance of the family. For example, in a study of adolescent siblings in Mexican-American families, the centrality of family relationships (familism) was linked to feelings of intimacy and closeness between siblings (Updegraff, McHale, Whiteman, Thayer, & Delgado, 2005).

The ability of siblings to provide social and instrumental support to one another, as well as the quality of support provided, are likely related to child adjustment, with less support available from siblings experiencing difficulties, and less willingness to accept support from siblings who are struggling. In a study of siblings from families with low socioeconomic status, support provided by the older sibling was helpful only when accompanied by a positive image of the older sibling by the younger sibling (Widmer & Weiss, 2000).

Sibling relationship quality is also influenced by the functioning of individual siblings. In a longitudinal study of siblings in middle childhood and adolescence, sibling relationship quality varied with psychological adjustment, particularly

depressed mood (Richmond, et al., 2005). Similarly, in a longitudinal study of children from middle childhood to adolescence, Kim and colleagues (2007) found that increases in sibling conflict were linked to increases in children's depressive symptoms, while increases in sibling intimacy were linked to increases in peer competence, and in girls, decreases in depressive symptoms (Kim, et al., 2007).

Siblings may provide an important source of social support, friendship and instrumental support to one another from childhood to later life. For adults experiencing significant difficulties in life, siblings may serve as an important source of social support and stability (Bassuk, Mickelson, Bissell, & Perloff, 2002). In a large nationally representative U.S. sample, sibling support and contact varied by age (decreasing contact and support from adolescence through middle age, with an increase after age seventy) and family situation, with greater support provided in times of crisis, such as marital separation (White, 2001). In later life, siblings may characterize their relationships as friend relationships (Connidis, 1989). However, the degree of sibling contact and the type of support, if any, provided by adult siblings to one another also varies by cultural context. For example, in a cross-sectional sample of adults in Taiwan, sibling contact and emotional support decreased with advanced age (Lu, 2007), in contrast to the increasing contact and support seen in samples from western industrialized nations.

Adult sibling relationships may be influenced by adult parent-child relationships. In a study using a Dutch national sample to examine relationships between a parent and two adult children, the quality of the relationship between parent

and child was negatively related to the quality of the sibling relationship (Voorpostel & Blieszner, 2008).

Research in the area of siblings in foster care is urgently needed that includes children's perspectives, has a strong theoretical underpinning, attempts to address the gaps in extant research, and addresses the methodological and definitional problems that have hampered the development of a body of research regarding sibling placement.

The Current Study

The current study seeks to examine the relationship between sibling placement status for foster children and child well-being. Data for the current study come from Waves 1 through 5 of the National Survey of Child and Adolescent Well-Being (NSCAW). The NSCAW data provide a comprehensive examination into the life circumstances of children involved in the child welfare system.

Attachment theory provides the framework for this conceptual model. Children placed in foster care are separated from their parents, their larger extended family, their neighborhood and their friends. Sibling co-placement may provide some stability and continuity for children placed in out of home care, and thus may result in a greater likelihood of secure attachment to the caregiver(s) in the new home setting. Conversely, separation from some or all siblings in out of home care may have a detrimental impact on separated children's sense of stability and continuity, and thus result in less likelihood of secure adjustment to the caregiver(s) in the new home setting.

Some children are placed in kin care, or kinship foster homes, rather than in foster care with an unrelated caregiver. Placement in kin homes may foster stability and continuity for foster children. In addition, there is some evidence that sibling groups are more likely to be placed intact in a kinship placement than in traditional foster care.

Foster children must adjust not only to the foster home but also to the new neighborhood and new school. Those with secure attachment to caregiver(s) are likely to form new secure attachment relationships. They will likely feel close to their caregivers and have a sense of belonging to the foster home, and this may lead to an enhanced ability to negotiate school and neighborhood environments. This may result in formation of new friendships and less loneliness and isolation.

If the sibling relationship is properly considered as an attachment relationship, then children separated from all siblings are likely to experience a less positive transition to the foster home, with children partially separated from siblings having a slightly better transition than those completely separated from siblings. The lack of a secure attachment to foster caregivers is likely to result in low levels of feelings of closeness to caregivers and a sense of belonging to the home. In the school and neighborhood settings, those with insecure attachments to caregivers may experience difficulty in forming new friendships and in positively engaging with peers. This is likely to result in loneliness and social dissatisfaction.

Those with insecure attachment to caregivers may have low self-esteem and behavioral problems. It is anticipated that sibling separation will be associated with both internalizing behavior problems, such as depression, and externalizing behavior

problems, including risk-taking behaviors such as alcohol/substance use, association with delinquent peers, and exposure to violent situations.

Some children are separated from siblings who are also placed in foster care, and others are placed singly while siblings remain in the home of origin. Children placed singly in foster care may have been subjected to preferential rejection--singled out for unfair differential treatment in their homes of origin. Singly placed children may also be more likely to have multiple periods of out of home placement. Differential treatment in the home of origin may include emotional maltreatment. This is likely to lead to child adjustment problems in both the foster home and the larger community. Well-being is likely to be affected, with negative consequences in the areas of self-esteem, behavioral problems, and attachment to current caregivers.

Children separated from siblings may be more likely than those placed with siblings to critically reappraise their relationship with their family of origin. Visitation may prompt negative emotions such as emotional upset, anger, sadness, and loneliness. Children who were subjected to unfair differential treatment in their home of origin may be visited less frequently by parents and other family members. If other children remain in the home, a singly placed child may feel unwanted and abandoned. These feelings of abandonment and negative emotions may carry over to the child's current home and community relationships, contributing to further deficits in well-being.

Hypotheses

Attachment: sense of belonging.

1. Children's sense of belonging to the foster home will be predicted by sibling separation status, with those separated from siblings having less of a sense of belonging to the foster home.

2. Children's feelings toward their family of origin will be predicted by sibling separation status, with sibling separation predicting less positive feelings.

Child well-being.

3. Separation from siblings will predict poorer child behavior and mental health.

Attachment: singled out child.

4. Children placed separately from siblings will be more likely to have been singled out or differentially treated.

a. Children separated from siblings will be visited less frequently by parents.

b. Children separated from siblings will be more likely to have been subjected to emotionally maltreating behaviors.

Child risk-taking.

5. Children separated from siblings will be more likely to engage in risk-taking behaviors.

Kin care.

6. Placement type (kin care or non-kin foster care) will be predicted by sibling separation status, with children placed with siblings more likely to be in kin care homes.

CHAPTER 2

METHOD

Data from a sub-sample of families in the National Survey of Child and Adolescent Well-Being (NSCAW), Waves 1 to 5 were analyzed. NSCAW is the first nationally representative longitudinal survey of children and families involved with the child welfare system in the United States (Barth, et al., 2002; Kathryn Dowd, et al., 2008). The sample was obtained using a two-stage stratified sampling procedure and provides a probability sample of all children who were the subject of a hotline report alleging child maltreatment in the United States between October 1, 1999 and December 31, 2000. The first stage of sampling involved identifying 92 population sampling units, typically county child protective services agencies. The second stage of sampling involved a random selection of children from closed investigations in the 92 population sampling units. There was oversampling for infants and children who were alleged to have been sexually abused. Interviews were conducted on the following schedule: Wave 1 (six weeks after hotline call); Wave 2 (12 months); Wave 3 (18 months); Wave 4 (36 months); and Wave 5 (59-97 months). (Barth, et al., 2002; K. Dowd, et al., 2008).

The sample was drawn from index children identified from child protective reports made to participating agencies. Children who had been in out of home care for nine months or more at the time of study inception were placed on the One Year in Foster Care (OYFC) Sample, constituting 727 children. The remaining children were placed in the Child Protective Services (CPS) Sample, constituting 5501 children. The

NSCAW data provide a comprehensive examination into the life circumstances of children involved in the child welfare system.

This dataset is distributed by the National Data Archive on Child Abuse and Neglect (NDACAN), located at the Bronfenbrenner Center for Translational Research at Cornell University. The data were accessed using a password-protected computer file at the NDACAN that complies with the security requirements for the restricted-release dataset.

Although some prior studies examining sibling placement have used matched sibling pairs, or followed siblings in administrative data to map placement moves, these methods could not be applied to the NSCAW data. Unlike administrative record data, the NSCAW sample includes only one index child per child protective report. The index child is the only child in the household interviewed, and the caseworker, caregiver and teacher questionnaires all focus on that one child's experience.

There were three possible sources for information regarding siblings of index children: the caseworker involvement questionnaire, completed by services caseworkers with current services cases open for the index child at Waves 2 through 5; the household roster, completed by the current primary caregiver; and the out of home questionnaire, completed by children in out of home care aged 6 and over at Waves 1, 3, 4 and 5.

Caseworkers of children in out of home care were asked questions in Waves 2 through 5 regarding efforts to place children in out of home care with separated siblings. Since these items were not included in the Wave 1 data collection, they were not included in the selection criteria.

The household roster included questions regarding up to 10 household members, and primary caregiver respondents were asked to categorize the index child's relationship to the household member. Relevant sibling categories contained in the household roster include: full sister; full brother; half sister; half brother; stepsister; and stepbrother.

The NSCAW child instrument out of home questionnaire was administered to children in out of home care aged 6 and above. At Waves 1, 3, 4 and 5, children were asked questions about siblings that they did not live with. The first sibling question is reproduced below in Table 2.1, along with the instructions to the survey staff.

Table 2.1
Child Report on Separated Siblings

Do you have any real brothers or sisters who do not live with you now? NOTE: REAL SIBLINGS INCLUDE BIOLOGICAL OR ADOPTIVE SIBLINGS. HOWEVER, IF CHILD FEELS OTHER CHILDREN ARE HIS/HER REAL SIBLINGS (E.G. FOSTER SIBLINGS, COUSINS), THEY CAN BE INCLUDED TOO. 1 = YES 2 = NO 3 = NEVER HAD ANY BROTHERS OR SISTERS

Children in out of home care were permitted to identify up to 10 separated siblings and were asked to provide gender, age, and if age was unavailable, to state whether the separated sibling was older or younger than the index child. Children reporting only on separation from siblings over age 18 were excluded. Since there were no unique identifiers used with regard to separated siblings, it was not possible to

map sibling reunification and separation for individual siblings across waves. Thus, Wave 1 data was used for group membership.

At Wave 1, only 8 child respondents in the child protective sample and only 2 child respondents in the long-term foster care sample selected option (3) "never had any brothers or sisters." Thus, it was not possible to include a group of children who were singletons in the current study due to low frequency. It is conceivable that due to the ordering of response options, some of the children who answered (2) "no," were actually singletons, but this could not be determined from the questionnaire responses.

Questions from the household roster combined with the out of home questionnaire were used to construct group membership. First, the Wave 1 household roster was used to identify sibling co-placement. Then, responses to the Wave 1 out of home questionnaire were used to identify sibling separation. Finally, individual responses were examined when necessary to exclude those with inconsistent responses and where sibling age (18 or under) could not be determined.

Children who were eligible for the three comparison groups as follows:

(1) Partially separated group: According to the household roster, placed with at least one sibling, and according to the out of home questionnaire, is separated from at least one sibling aged 18 or younger.

(2) Separated group: According to the household roster, placed with no sibling, and according to the out of home questionnaire, is separated from at least one sibling aged 18 or younger.

(3) Together group: According to the household roster, placed with at least one sibling; and according to the out of home questionnaire, is not separated from any sibling.

Initially, the research design included separate analyses in the OYFC sample and the CPS sample. Prior to the exclusion of cases with inconsistent responses to the questionnaires, it appeared that there were adequate respondents in both datasets. However, after the selection criteria were fully implemented, there were not adequate numbers of children in the OYFC dataset who were placed together with all siblings (*n* = 29) to allow for valid analysis using a three-level sibling separation status variable. The effect of application of each selection criteria to potential subsample size for the OYFC dataset is described in Table 2.2.

Table 2.2
One Year in Foster Care Sample
Potential Subsample Membership Wave 1
As Each Exclusion Criteria Applied

	Unweighted Count
Total Sample Size	727
Child answered question regarding separated siblings and household roster is complete	287
After eliminating children with no siblings and conflicting information from question regarding separated siblings and household roster	257
Sample restricted to children in kin care and foster care placement at Wave 1	203
Sample restricted to those where separated sibling age determined to be less than 19 years	196

The potential group membership from the OYFC dataset is described in Table 2.3. A number of solutions were explored to enable use of the OYFC dataset,

including combining cases from the OYFC dataset with the CPS dataset, and using a bivariate sibling separation status variable.

Table 2.3
One Year in Foster Care Sample
Potential Group Membership Wave 1

	Weighted Population Estimate	Standard Error	Unweighted Count
Population Size			
Partial separation from siblings	4084.969	726.977	59
Placed apart from all siblings	7027.307	1250.939	108
Placed together with all siblings	2737.977	648.620	29
Total	13850.253	1630.044	196

Combining cases from the OYFC and CPS datasets is not recommended by the NSCAW research group. The survey weights were constructed to make each dataset, standing on its own, nationally representative. There are no survey weights available for a combined dataset. Since the original sample involved oversampling for a number of characteristics, including African American children, infants, and sexual abuse allegations, unweighted analysis would not correct for this. However, in a recent study using the NSCAW data to explore sibling issues, Hegar and Rosenthal (2011) combined cases from the CPS and OYFC samples, used the extant sample weights and analyzed the longitudinal data as if it were cross-sectional data (Hegar & Rosenthal, 2011). Although combining cases from the OYFC and CPS samples would have allowed use of all eligible cases, this strategy was not pursued due to the lack of statistical validity of this method.

The research questions provided an important consideration in deciding whether or not to use a bivariate sibling separation variable. As initially conceived,

the research project includes the report of group characteristics of children by sibling placement status, as well as an examination of the possible developmental consequences and correlates of sibling co-placement and separation. The comparison of foster children partially separated from some siblings to foster children separated from all siblings has some support in the literature (M. R. Elliott, 2007; Hegar & Rosenthal, 2011; Webster, et al., 2005) Feelings of loss, social isolation, and loneliness on the one hand, and feelings of closeness, connectedness, and contentment, on the other, may be differentially related to sibling co-placement and sibling separation. Children separated from some, but not all, siblings, may experience not only the consequences of sibling co-placement but also those associated with sibling separation. Therefore, it was essential that the project include accurate differentiation between children placed with all siblings, placed with some siblings, and separated from all siblings.

Subsample drawn from the child protective sample. The study examines a sub-sample of the 5501 families in the child protective sample of NSCAW. Children from the NSCAW CPS sample who were in out-of-home care at the time of Wave I interview, who were age 6 and over, who were placed in either a kinship care home or a non-relative foster home, and who had completed the out of home placement portion of the child instrument, were eligible for inclusion. The effect of application of each selection criteria to potential subsample size for the OYFC dataset is described in Table 2.4.

Filtering out cases with extreme weight values. The analysis weights developed by Research Triangle Institute for use with the NSCAW data were

developed for use with the entire CPS sample. Since the research population of interest for this project is a small subsample (n = 255) of the larger CPS sample (n = 5501), examination of the distribution of analysis weights was conducted to determine whether any extreme weight values were overly influential. Due to the complex sampling design for NSCAW, there was an unequal probability of selection based upon whether a family had received child welfare services prior to survey initiation. Cases without prior child welfare services were undersampled, and thus such cases had higher analysis weights (Biemer, Christ, Wheeless, & Wiesen, 2008).

Four cases were identified in the population of interest (n = 255) with weights ≥ 3000. Since each of these 4 cases was from the same domain (families not receiving services prior to survey initiation) there was a concern that the inclusion of these 4 outliers would bias the results. Consultation with a statistician from Research Triangle Institute confirmed that a closer look at any results dependent on only these 4 observations was warranted (S. Wheeless, personal communication, February 17, 2014.)

There are a number of recommended procedures for analysts to use in dealing with extreme weight values in complex survey data (M. R. Elliott, 2007, 2009; Gismondi, 2010). These methods include trimming the sampling weight of extreme weight values by reducing them to a maximum value, re-allocating weights across a group of cases, or excluding outliers. The survey analysis weights provided for use with the NSCAW data were prepared using the Taylor series linearization method and already correct for oversampling in order to allow analysts to produce nationally representative weighted population estimates. Thus, trimming the sample weights of

extreme weight values or re-allocating weights across a group of cases would have resulted in a distortion of the nationally representative weighted population estimates produced by regression analysis. A conservative approach was taken to address the issue of undue influence of outlier weights. All reported regressions with significant results were re-run after filtering out the 4 cases with the most extreme values (weight ≥ 3000). This resulted in a reduction in the total sample size to 251 as depicted in Table 2.4.

Table 2.4
Child Protective Sample
Potential Subsample Membership Wave 1
As Each Exclusion Criteria Applied

	Unweighted Count
Total Sample Size	5501
Child answered question regarding separated siblings and household roster is complete	442
After eliminating children with no siblings and conflicting information from question regarding separated siblings and household roster	376
Sample restricted to children in kin care and foster care placement at Wave 1	279
Sample restricted to those where separated sibling age determined to be less than 19 years	255
After eliminating cases with weight ≥ 3,000	251

The subsample was divided into three groups:

Partially separated group. Children who reported being separated from a sibling, and lived with at least one sibling (n =67).

Separated group. Children who reported being separated from at least one sibling, and lived with no siblings (n = 116).

Together group. Children who did not report that they were separated from a sibling, and lived with at least one sibling (n = 68).

Analyses were conducted on the CPS sample using the appropriate survey weights. Subgroup size and weighted population estimates are presented in Table 2.5.

Table 2.5
Child Protective Sample
Group Membership Wave 1

	Weighted Population Estimate	Standard Error	Unweighted Count
Population Size			
Partial separation from siblings	19077.948	4531.549	67
Placed apart from all siblings	32109.307	5923.889	116
Placed together with all siblings	13303.057	2954.804	68
Total	64495.312	9163.927	251

Procedure

Interviews were conducted with children at Waves 1, 3, 4 and 5. Sensitive information, including assessment of services received, relationship with caregivers, sexual activity, parent-child conflict, depression, and alcohol and drug dependence, was collected from children through an Audio Computer Assisted Survey Instrument (ACASI). Interviews were conducted with caregivers of children at Waves 1, 2, 3, 4, and 5. Sensitive information, such as substance abuse, domestic violence, and parent-child conflict, was collected from permanent caregivers through an ACASI. The ACASI was not administered to non-permanent caregivers, such as foster parents. Interviews were conducted with caseworkers regarding all cases at Wave 1, and with a sub-sample of caseworkers at later waves.

Table 2.6
Summary of Categories, Informants, Waves and Constructs

Category	*Informant*	*Wave*	*Construct*
1. Demographics	Child	1, 3, 4	Demographic information
	Caregiver	1, 2, 3, 4	Demographic information
	Caseworker	1, 2	Demographic information
	Child	1, 3,4	Out of home placement
	Caregiver	1, 2, 3, 4	Household composition
	Caseworker	2, 3, 4	Caseworker assessment
2. Attachment: Sense of Belonging	Child	1, 3, 4	School engagement
	Child	1, 3, 4	Peer relationships
	Child	1, 3, 4	Future expectations
	Child	1, 3, 4	Relationship with caregivers
	Child	1, 3, 4	Closeness to caregivers
	Child	1, 3, 4	Out of home placement
3. Child Well-being	Child	1, 3, 4	Resiliency
	Child	1, 3, 4	Parental monitoring
	Child	1, 3, 4	Depression
	Child	1, 3, 4	Child behavior
	Caregiver	1, 2, 3, 4	Child Service receipt
	Caregiver	1, 2, 3, 4	Child Behavior
4. Attachment: Singled Out Child	Child	1, 3, 4	Trauma
	Child	1, 3, 4	Child maltreatment
	Caseworker	1	Child maltreatment
	Child	1, 3, 4	Lack of parental contact
5. Child Risk-taking	Child	1, 3, 4	Early sexual activity
	Child	1, 3, 4	Delinquency
	Child	1, 3, 4	Alcohol and Other Drug use
6. Potential Caregiver Well-Being Control Variables	Caregiver	3, 4	Major depression
	Caregiver	1, 3, 4	Mental and physical health
	Caregiver	1, 3, 4	Social Support
	Caregiver	1, 3, 4	Community environment

Measures

The connection between measures and the conceptual model is described in Table 2.6.

Demographics.

Demographic information. Children, caregivers and caseworkers provided demographic information. Caregivers provided information on child and parent age, race or ethnicity, age, gender and family environment. Caregivers reported on household income in five thousand dollar increments. Caregivers also reported on the number of household members dependent on this income, including themselves. Poverty level status was determined by using the midpoint of each income category, and the number of household members reliant on that income. The 2000 HHS Federal poverty guideline levels for the 48 contiguous states and the District of Columbia were used (Annual Update of the HHS Poverty Guidelines, 2000). A binary-coded poverty level variable was created for Wave 1.

Household composition. Caregivers provided information regarding household composition, and the child's relationship to each household member.

Out of home placement. Children's perceptions about permanency, disruption, and, relationship with foster family and contact with family of origin were measured using questions from the University of California at Berkeley Foster Care Study (Fox, Frasch, & Berrick, 2000).

Caseworker assessment. Caseworkers provided responses to project-developed questions regarding the current allegations, risk assessment, and the family

history before the case report. At Wave 2 and subsequent waves, caseworkers provided responses to project-developed questions regarding the family history before the case report, services provided to children and parents, information regarding siblings in foster care and efforts made to reunify separated siblings, and the child's placement history.

Attachment: Sense of belonging.

School engagement. Children were administered a questionnaire adapted from the Drug Free Schools (DFSCA) Outcome Study Questions. This measure included 11 items regarding the child's involvement and engagement with schooling. Some items were reverse coded so that higher scores represent higher school engagement. Cronbach's alpha is .84, indicating high internal consistency (U.S. Department of Health and Human Services Administration on Children Youth and Families Office of Planning Research and Evaluation, 2005). Mean school engagement was calculated using the methods employed by the NSCAW Research Group. Items 1, 3, 5, and 8 to 11 were included (enjoys being in school, tries best work, finds class interesting, get along with teachers, listen carefully in school, get homework done and get along with other students.)

Peer relationships. The Loneliness and Social Dissatisfaction Questionnaire was administered (Asher & Wheeler, 1985). The 16-item measure uses a sum score, with higher scores indicating that a child reported more positive peer interactions. This instrument was designed for use in research settings, and has high internal consistency ($\alpha = .79$) (Cassidy & Asher, 1992). In the NSCAW sample, alpha is .70 for children ages 5 to 7 and .89 for children ages 8 and above (U.S. Department of

Health and Human Services Administration on Children Youth and Families Office of Planning Research and Evaluation, 2005).

Future expectations. Children reported on future expectations on questions adapted from the Adolescent Health Survey (Add Health) (Harris, et al., 2009). There is no standard scoring mechanism for this measure, and no psychometric data is available.

Relationship with caregivers. Children were administered a modified version of the Relatedness Scale from the Rochester Assessment Package for Schools, RAP (Connell, 1990). This consisted of 24 questions to which responses were given on a four-level likert scale (e.g., when I am with caregiver, I feel mad, my caregiver is fair with me, and my caregiver trusts me). The four subscales administered were: parental emotional security; involvement; autonomy support; and structure. A mean relatedness score was calculated from the subscale scores after some items were reverse-coded, so that higher scores represent a more positive relationship with caregivers. In the NSCAW study, Cronbach's alpha was .88 for the overall score, but it is recommended that subscale scores not be used in analysis due to low consistency (U.S. Department of Health and Human Services Administration on Children Youth and Families Office of Planning Research and Evaluation, 2005).

Closeness to caregivers. Children reported on closeness to caregiver(s) on questions from the Adolescent Health Survey (Add Health) (Harris, et al., 2009). Responses were given on a 5 point scale, with higher responses indicating greater closeness to caregiver. Cronbach's alpha for this measure is .75 (U.S. Department of Health and Human Services Administration on Children Youth and Families Office of

Planning Research and Evaluation, 2005). A mean closeness to caregiver score was calculated from four questions (how close child feels to primary caregiver, how much primary caregiver cares about child, how close child feels to secondary caregiver, and how much secondary caregiver cares about child). Analyses were also conducted on binary-coded variables regarding behaviors and activities that the child engaged in with the caregiver (e.g. going shopping, working on a school project, playing sports, arguing about behavior, and talking about a problem).

Out of home placement. Children's perceptions about permanency, disruption, and, relationship with foster family and contact with family of origin were measured using questions from the University of California at Berkeley Foster Care Study (Fox, et al., 2000). There is no psychometric data available for this measure.

Raw scores for Long-Term Permanence and Satisfaction with Caseworker Services were calculated consistent with the method outlined by the NSCAW Research Group (Kathryn Dowd, et al., 2008).

Questions were administered regarding children's feelings after visitation with their family. Children were permitted to endorse as many feelings as they wished. Two bivariate measures were constructed, indicating whether a child felt positive feelings (happy, relaxed) or negative feelings (sad, angry, worried, lonely, afraid, upset, and guilty) after visitation.

Children in out of home care reported on the frequency of contact with parents, ranging from 1 (never) to 6 (every day). Variables were constructed for mean frequency of contact with mother and father.

Children in out of home care who were separated from siblings reported on the frequency of contact with each separated sibling, ranging from 1 (never) to 6 (every day). A variable was constructed for mean frequency of contact with separated sibling.

Children in out of home care who were separated from siblings reported on the desired frequency of contact with each separated sibling, ranging from 1 (less than now) to 3 (more than now). A variable was constructed for mean desired frequency of contact with separated siblings.

Child well-being.

Resiliency. Children reported on the presence or absence of 7 protective factors on the LONGSCAN Resiliency Scale (Runyan, et al., 1998). This measure was developed for use in the LONGSCAN (Longitudinal Studies of Child Abuse and Neglect) studies. No psychometric data is available for this measure.

Parental monitoring. Parental monitoring questions were adapted from the Use, Need, Outcome and Costs in Child and Adolescent Populations Steering Committee (UNOCCAP) (Dishion, Patterson, Stoolmiller, & Skinner, 1991). Prior research using a subsample of children from the NSCAW CPS sample established Cronbach's alpha as .65 (Grogan-Kaylor, Ruffolo, Ortega, & Clarke, 2008). A mean parental monitoring score was calculated, using the individual responses to the 6-item parental monitoring scale. One item was reverse coded (leave home without telling caregiver) so that higher scores, on a 5-point scale, represent greater parental monitoring.

Depression. Depression was measured using the Children's Depression Inventory (Kovacs, 1992). This measure is one of the most widely used self-report measures for childhood depression, and had an alpha coefficient of between .71 and .86 in studies conducted between 1983 and 1991. The alpha coefficients in the NSCAW study averaged .81 for children aged 7 to 12 and .87 for children aged 13 to 15 (Kathryn Dowd, et al., 2008). Standardized T-score, ranging from 0–100 were used for total depression and subscales (Kovacs, 1992).

Child behavior. Child behavior was measured using the Youth Self Report (YSR) (Achenbach, 1991a). The YSR is one of the measures that comprise the Achenbach System of Empirically Based Assessment, which are used in research and clinical settings. The instrument has been validated in large population samples. The alpha for problem scales ranges from .71 to .95 and for competency scales from .55 to .75. In the NSCAW sample, total alpha is .96, and for the subscales, externalizing α = .90, and internalizing α = .90. The instrument provides t scores for externalizing, internalizing, and total problem behavior.

Caregiver report of child behavior. Caregivers' report of child behavior was assessed at Waves 1, 3, 4 and 5 with the Child Behavior Checklist (CBCL) (Ages 4-18)(Achenbach, 1991a, 1991b). The CBCL is one of the measures that comprise the Achenbach System of Empirically Based Assessment, which are used in research and clinical settings. The instrument has been validated in large population samples. In the NSCAW sample, internal consistency is high. For 4- to 15-year-olds in the NSCAW sample, the alpha is as follows: externalizing, α = .92; internalizing α= .90; and total problem behavior α= .96. The instrument provides t scores for externalizing,

internalizing, and total problem behavior. (U.S. Department of Health and Human Services Administration on Children Youth and Families Office of Planning Research and Evaluation, 2005).

At Wave 2, caregivers were administered the Behavior Problems Index (M. R. Elliott, 2009; Wheeless, 2014). The measure, developed for use in the National Longitudinal Survey of Youth (NLSY) was derived from an earlier version of the Achenbach Child Behavior Checklist. The measure was adapted for use in NSCAW and psychometric data is not available. Subscale sum scores for total behavior problems, externalizing problems, internalizing problems and other problems were used in analysis.

Service receipt. Caregivers provided responses to project-developed questions about need for services, service receipt and referrals to services. Each of these variables was binary-coded.

Attachment: singled-out child.

Trauma. Trauma was measured using the Posttraumatic Stress (PTS) subscale of the Trauma Symptom Checklist for Children (Briere, 1996). This measure is used in research and clinical populations. The measure has been tested in large racially and economically diverse samples. Standardized scores as well as a clinical cutoff are available. Higher scores indicate more experience of trauma. Cronbach's alpha for this subscale is .87 (Kolko, et al., 2010).

Child maltreatment. Children were administered the Parent-Child Conflict Tactics Scale (PC-CTS)(Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). The PC-CTS was originally tested in a nationally representative telephone survey. It is widely

used in research. In the NSCAW sample, Cronbach's alphas for child report were as follows: total score $\alpha = .97$; subscales ranged from a low of $\alpha = .71$ for nonviolent discipline, to a high of $\alpha = .97$ for total physical assault (Kathryn Dowd, et al., 2008). This measure includes subscales of parental/caregiver behavior toward the child of psychological aggression and physical assault. Since the minor physical assault subscale captures behavior commonly associated with corporal punishment, binary-coded variables were created indicating whether the child endorsed behaviors on the severe and very severe physical assault subscales.

Caseworkers provided responses to project-developed questions regarding the current maltreatment allegations.

Lack of parental contact. Children in out of home care reported on the frequency of contact with mother and father, ranging from 1 (never) to 6 (every day). A set of binary-coded variables was created to indicate whether the child respondent had rated the frequency of contact with parent as 1 (never.)

Child risk-taking.

Early sexual activity. Early sexual activity was measured using the 14 item LONGSCAN Adolescent Sexual Experience questionnaire (Runyan, et al., 1998). The scale includes information about sexual activities that carry the risk of pregnancy. There is no recommended scoring method for this instrument, and psychometric data is not available. A binary-coded variable indicating whether the child respondent had ever had vaginal intercourse was used.

Delinquency. The Modified Self-Report of Delinquency was administered (D. S. Elliott & Ageton, 1980). This version of the measure was developed for Wave 7 of

the National Longitudinal Survey of Youth (1987). The measure consists of 72 questions regarding specific delinquent acts and their frequency (1 = once to 5 = 5 or more times). The alpha coefficient in the NSCAW sample is .98 (Kathryn Dowd, et al., 2008). Total number of delinquent acts at each wave was used due to low frequency of self-report of delinquent behavior.

Alcohol or other drug use. Children were administered a substance abuse questionnaire adapted from the Drug Free Schools (DFSCA) Outcome Study (Biemer, et al., 2008). Binary-coded variables were created for lifetime and past 30 days alcohol or other drug use and tobacco use. No psychometric data is available for this measure.

Potential caregiver well-being control variables.

Variables regarding caregiver well-being were evaluated for inclusion as potential control variables, in the areas of permanent caregiver major depression, caregiver mental and physical health, caregiver social support, and caregiver community environment.

Major depression. Permanent caregivers were administered the major depression subscale of the Composite International Diagnostic Interview Short Form (CIDI-SF) (Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998; World Health Organization, 1990). The CIDI-SF was developed for use in the U.S. National Health Interview Survey, and was intended for use in epidemiologic studies. It has been used widely across the world. Sensitivity is 89.6% and specificity is 93.9% for major depressive episode. The major depression subscale is based upon the DSM-IV criteria for a major depressive episode (American Psychiatric Association, 1994). Previous

research using a subsample of the NSCAW CPS sample established the Cronbach's alpha as .88 (Grogan-Kaylor, et al., 2008). Results were coded using a binary system reflecting the presence or absence of the diagnostic criteria.

Mental and physical health. Caregiver mental and physical health were assessed by the Short-Form Health Survey (SF-12) (Ware, Kosinski, & Keller, 1996). This measure was first used in the Medical Outcomes Study and is intended for use in survey research. The SF- 12 provides mental and physical health subscales with population norms representing the mental and physical health of the adult U.S. population, with a mean of 50 and a standard deviation of 10, with possible scores from 0 to 100, with higher scores representing better health. In the NSCAW study, Cronbach's alpha is .79 for mental health and .59 for physical health (Kathryn Dowd, et al., 2008).

Social support. Caregivers reported on social support available to them on project- developed Social Support questions adapted from the Duke-University of North Carolina Functional Social Support Scale (Broadhead, Gehlbach, de Gruy, & Kaplan, 1998) and the Sarason Social Support Questionnaire-3 (Sarason, Levine, Basham, & Sarason, 1983). Participants reported the number of people providing social support for particular needs, with a possible range of 0 to 99 for each question. The mean number of social supports across the questionnaire also had a possible range of 0 to 99.

Community environment. Caregivers reported on their community environment on the Abridged Community Environment Scale from the National Evaluation of Family Support Programs (Furstenburg, 1990). The nine item scale was

scored by creating a mean community environment score comprised of a sum of the responses to the nine items and dividing by the number of items answered, following the method described in Connelly and colleagues (Connelly, et al., 2006). The possible range for mean community environment was 1 to 3, with 3 representing a less supportive community environment. Cronbach's alpha in the NSCAW sample is .86 (Cassidy & Asher, 1992).

Analysis plan

All analyses were conducted with IBM SPSS version 19 (IBM Corporation, Armonk, NY). The data are properly analyzed using complex sample weights that account for the sampling method and provide weighted population estimates. Data were analyzed using the complex samples procedures of SPSS, using the recommended weights to produce correct population estimates. No corrections were performed for repeated analyses; however, the number of significant differences between groups is unlikely to have occurred by chance.

Descriptive statistics and adjusted Pearson statistic tests of independence were used to examine the relationship between sibling status and all outcome variables. The complex samples module of SPSS provides an adjusted Pearson statistic test of independence in lieu of an *X2* test of independence for complex samples analysis (Rao & Scott, 1984; Rao & Thomas, 2003).

Regression equations. Analyses included linear regression and logistic regression as appropriate. Linear regression models included a contrast to allow comparison of all three sibling placement groups within the same model. Logistic

regression models included an L matrix to allow comparison of all 3 sibling placement groups within the same model.

Child demographic control variables. Preliminary analysis examining the relationship between sibling separation status and demographic variables found no significant differences by child gender. There was a significant relationship between child age, child race, and sibling separation status, as reported in Table 3.1 Thus, the only control variables were child age in months and child race.

Potential caregiver well-being control variables. Evaluation of caregiver well-being variables indicated that they were not appropriate for inclusion in the model, as discussed more fully in Chapter 3, since there were no significant between-group differences.

Sibling separation status variable. The sibling separation status variable is a three level variable, with each child assigned to a group based upon the Wave 1 questionnaire. The groups are: separated group; partially separated group; and together group.

Empirical Models.

Individual regression equations were tested for each key area of interest, using an identical equation. Linear or logistic regression was conducted as appropriate.

Sibling separation status at Wave 1 + child race + child age in months = dependent variable.

The use of contrasts (linear regression) and an L matrix (logistic regression) allowed for comparison of the relationships between all three levels of sibling separation status in a single equation.

Additional control variables. Some analyses involved the use of an additional control variable. Two examples are the issue of child behavior at time of placement, and kinship placement at Wave 1. Some have argued that sibling placement decisions may be highly influenced by the pre-existing behavioral issues of one sibling, and that subsequent behavior changes may not be related to the sibling placement decisions, but to pre-existing behavioral issues. In evaluating changes in child behavior measures from wave to wave, a control for caregiver-reported Wave 1 child behavior will be adequate to address this concern.

Sibling separation status at Wave 1 + child race + child age in months + child behavior checklist score at Wave 1 = dependent variable.

The experience of being placed in a kinship home may be quite different than placement in a foster home where the caregiver is a stranger to the child. The effect of sibling separation may vary by placement in a kinship care setting as compared to placement in a non-kin foster home. Kinship placement may add unique variance, for example, in such attachment related areas as closeness to caregiver, and feeling of belonging, over and above the effects of sibling placement status. Kinship placement at Wave 1 may also influence child outcomes at subsequent waves. The equation controlling for kinship placement status will be as follows:

Sibling separation status at Wave 1 + child race + child age in months + kinship placement status at Wave 1 = dependent variable.

Regression results will be reported by construct.

CHAPTER 3

RESULTS

Individual linear and logistic regressions were run for each of the variables of interest. Results for some demographic variables are presented from regressions run without controls. The remainder of the reported results are from individual regressions run controlling for child age in months as a continuous variable and child race as a categorical variable. The analyses were conducted using the appropriate complex sample survey procedures for use with the post-stratification analysis weights.

Although analyses were conducted using Wave 5 data, these data are not reported. The Wave 5 interviews were staggered from 59 to 96 months depending on the child's age cohort, and since the children in this subsample varied in age, results are not available for a uniform time period. Additionally, too few children remained in out of home care at Wave 5 for valid analyses to be conducted using the child out of home questionnaire responses.

Demographics

Demographics for children at Wave 1 are reported in Table 3.1. Children in the separated group were significantly older than children in the together group, $F(1, 66) = 4.118$, $p = .046$. There were no significant differences in child gender. There was a significant difference in child race between the separated and together groups, $F(1, 66) = 5.907$, $p = .018$. Sixty three percent of children in the together group were white, while less than 43% of children in the separated group were white, $F(1, 66) = 4.940$, p

= .030.

There were no significant differences between groups with regard to placement in a foster home or kin care setting at Wave 1, as reported in Table 3.2. According to caregiver report, the total number of household members was significantly smaller for children in the separated group than children in the partially separated group; however, this difference was accounted for by subtracting the child and any siblings from the household membership. There was no significant difference in the total number of separated siblings for children in the partially separated and separated groups at Wave 1. Similarly, there was no significant difference in the total number of siblings living with the child between the partially separated and together groups at Wave 1.

By the Wave 3 interview, for those children remaining in out of home placement, more than 90 % of children in the partially separated and separated groups were separated from at least one sibling, while 65 % of children placed together with all siblings at Wave 1 now reported separation from at least one sibling. At the Wave 4 interview, for those children remaining in out of home placement, more than 90 % of children in the partially separated and separated groups were separated from at least one sibling, while almost 50 % of children placed together with all siblings at Wave 1 reported separation from at least one sibling. These differences between groups were significant, as reported in Table 3.3.

Table 3.1
Child Protective Sample
Child Demographics Wave 1
Weighted Mean and Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Child Age in Months[a] (Mean)	122.92 (6.19)	136.18 (4.84)*[d]	120.28 (5.86)
Child Gender[b] (Percent Female)	52.3 (11.8)	51.1 (5.8)	52.9 (8.1)
Child Race[a]*[d]			
American Indian	8.6 (5.7)	11.2 (5.0)	5.8 (4.0)
Asian/Hawaiian/Pacific Islander[e]	0 (0)	4.4 (4.0)	2.2 (2.2)
Black	40.0 (12.2)	41.5 (7.9)	28.2 (8.6)
White	50.9 (12.1)	42.3 (7.7) *[d]	63.0 (7.7)
Other	0.6 (.3)	0.7 (.4)	0.8 (.6)
Child Race/Hispanicity[a]			
Black/Non-Hispanic	40.0 (12.2)	37.2 (8.0)	28.2 (8.6)
White/Non-Hispanic	49.5 (11.9)	39.7 (7.9)	56.3 (7.8)
Hispanic	4.8 (2.6)	7.5 (4.1)	11.6 (5.5)
Other	5.7 (5.4)	15.5 (5.6)	3.9 (2.8)

Note. Values are reported from linear regression with no covariates.
[a]*n*=250. [b]*n*=251. [c]Significant difference between Partially Separated and Together groups. [d]Significant difference between the Separated and Together groups. [e]Regression parameters could not be calculated.*p<.05. **p<.01. ***p<.001.

Table 3.2
Child Protective Sample
Placement Setting, Number of Household Members
and Sibling Separation Wave 1
Weighted Percentage and Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Placement Setting [a]			
Foster Home	44.4 (11.8)	54.6 (6.3)	38.9 (8.3)
Kin Care Setting	55.6 (11.8)	45.4 (6.3)	61.1 (8.3)
Total Household Members[b]	4.54 (.46)*[e]	3.22 (.34)***[f]	4.99 (.21)
Household Members (Excluding Child and Siblings)[c]	1.71 (.40)	2.24 (.34)	2.12 (.22)
Total Separated Siblings[d]	2.49 (.30)	2.93 (.32)	n/a
Total Siblings Living with Child[b]	1.83 (.14)	n/a	1.87 (.13)

Note. Values are reported from logistic regression with no covariates.[a]*n*=251. [b]*n*= 250. [c]*n*= 249. [d]*n*= 182. [e]Significant difference between the Partially Separated and Separated groups. [f]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.3
Child Protective Sample
Caregiver Permanent/Non-Permanent
Sibling Separation, and Cumulative Placement
Weighted Percentage and Mean Estimates

Category	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Permanent Caregiver			
Wave 2[a]	22.6 (11.9)	18.0 (6.5)	19.3 (6.3)
Wave 3[b]	45.1 (12.8)	28.1 (6.4)*[g]	48.2 (7.7)
Wave 4[c]	67.9 (9.9)	55.1 (5.9)	75.0 (7.6)
Any Sibling Separation			
Wave 3[d]	96.7 (2.6)	96.1 (1.9)**[g]	65.1 (13.5)*[h]
Wave 4[e]	91.4 (6.3)	90.8 (6.3)*[g]	49.8 (16.9)*[h]
Total No. Days Out of Home			
Waves 1 to 5[f]	646.77(122.36)	802.20 (52.45)**[g]	502.86 (91.69)
Total No. Out of Home Living Arrangements			
Waves 1 to 5[f]	1.93 (.42)	2.81 (.25)	1.90 (.46)

Note. Values for caregiver permanence and sibling separation are reported from logistic regression with covariates. Values for total out of home days and total out of home living arrangements are reported from linear regression with covariates. [a]*n*= 228. [b]*n*= 239. [c]*n*= 244. [d]*n*= 147. [e]*n*= 119. [f]*n*= 244. [g]Significant difference between the Separated and Together groups. [h]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Children in the partially separated and together groups returned to permanent homes at approximately the same rate. At Wave 3, children in the separated group were significantly less likely to live with a permanent caregiver than those in the together group, $F(1, 66) = 4.853$, $p = .031$. This difference remained significant after addition of a control variable indicating kinship placement status,, , $F(1, 66) = 4.072$, $p = .048$.

There was no significant difference between groups at Waves 2 or 4 with regard to whether the child lived with a permanent or non-permanent caregiver, as reported in Table 3.3.

Children in the separated group spent significantly longer in foster care than those in the together group, as measured by cumulative (Waves 1 to 5) number of days spent in out of home care, $F(1, 65) = 7.598$, $p = .008$. Results are reported in Table 3.3. This difference remained significant after addition of a control variable indicating whether the current placement began prior to the current child protective report, $F(1, 64) = 5.246$, $p = .025$. Similarly, in a separate analysis done after addition of a control variable indicating kinship placement status, this difference remained significant, $F(1, 65) = 4.936$, $p = .030$.

There were no significant differences between groups with regard to Wave 1 caregiver race, age, highest degree, or poverty level status, as reported in Table 3.4. With regard to employment outside the home, a distinctive pattern emerged. Caregivers of children in the separated group were significantly more likely to have either full or part-time employment outside the home than caregivers of children in the partially separated group, $F(1, 66) = 4.868$, $p = .031$, or caregivers of children in the

together group, $F(1, 66) = 8.476$, $p = .005$.

Table 3.4
Child Protective Sample
Caregiver Demographics Wave 1
Weighted Percentage Estimates

Category	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Caregiver Race Wave 1[a]			
American Indian	1.7 (1.3)	5.2 (3.0)	6.0 (3.8)
Asian/Hawaiian/Pacific Islander	0.3 (.4)	0	0
Black	38.2 (12.4)	38.1 (8.1)	26.7 (8.4)
White	58.1 (12.4)	51.4 (9.8)	64.0 (7.9)
Other	1.6 (.7)	5.3 (3.4)	3.4 (2.8)
Caregiver Race/Hispanicity Wave 1[b]			
Black/Non-Hispanic	38.0 (12.4)	38.1 (8.1)	26.7 (8.4)
White/Non-Hispanic	56.2 (12.3)	51.3 (9.8)	61.5 (7.9)
Hispanic	3.8 (1.5)	4.9 (3.3)	10.0 (5.4)
Other	2.1 (1.4)	5.6 (3.0)	1.8 (1.1)
Caregiver Age Wave 1[a]			
< 35 years	13.8 (8.1)	6.9 (2.5)	7.3 (3.4)
35 - 44 years	26.2 (8.7)	25.5 (8.3)	38.1 (8.9)
45 - 54 years	36.3 (11.4)	51.6 (11.5)	12.0 (3.9)
> 54 years	19.2 (8.8)	33.0 (7.9)	35.3 (8.7)
Caregiver Highest Degree Wave 1[b]			
Less than High School	30.1 (12.7)	12.5 (4.2)	25.6 (8.9)
High School	23.8 (7.3)	49.9 (9.5)	37.1 (6.7)
High School Plus	46.1 (11.5)	37.6 (8.3)	37.3 (8.2)
Below Poverty Level[b]	10.4 (4.1)	10.3 (4.1)	18.5 (5.7)
Full-time Employment[c]	28.4 (10.1)	52.7 (6.6)	33.3(8.1)
Full-Time or Part-Time Employment[c]	40.9 (10.3)* [c]	66.6 (6.5)**[d]	40.9 (6.6)

Note. Values for race and age are reported from linear regression without covariates. Values for poverty level and employment are reported from logistic regression with covariates.[a]n= 248. [b]n= 249. [c]n= 247. [c]Significant difference between the Partially Separated and Separated groups. [d]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Attachment: Sense of Belonging

School engagement. Results from regression analyses of mean school engagement are reported in Table 3.5. There were no significant differences between groups at any wave.

Table 3.5
Child Protective Sample
Waves 1, 3, 4 Child Report-School Engagement
Weighted Mean Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	2.94 (.15)	3.19 (.08)	3.13 (.09)
Wave 3[b]	3.14 (.16)	3.17 (.10)	3.11 (.08)
Wave 4[c]	3.08 (.10)	2.99 (.08)	3.19 (.10)

Note. Original responses were given on a 4 point scale ranging from 1 (never) to 4 (almost always). Values are reported from linear regression with covariates. [a]*n*=244. [b]*n*=235. [c]*n*=236. *p<.05. **p<.01. ***p<.001.

Peer relationships. Children reported on their relationship with peers on the LONGSCAN Loneliness and Social Dissatisfaction Questionnaire, as reported in Table 3.6. There were no significant differences between groups at any wave.

Table 3.6
Child Protective Sample
Child Report-Loneliness and Social Dissatisfaction Questionnaire
Waves 1, 3, 4 Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Total Score Wave 1[a]	37.26 (3.19)	32.01 (1.93)	30.73 (1.68)
Total Score Wave 3[b]	31.77 (5.39)	28.81 (2.01)	28.97 (1.89)
Total Score Wave 4[c]	30.92 (3.93)	30.62 (1.54)	30.48 (1.78)

Note. Higher scores indicate more positive peer interaction. Values are reported from linear regression with covariates. [a]*n*=193. [b]*n*=215. [c]*n*=236. [d]Significant difference between the Partially Separated and Separated groups. [e]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Future expectations. There was little pattern to the responses at Wave 1 with regard to future expectations. Children in the partially separated group rated the chances of being married by age 25 to be significantly higher than those in the separated group, $F(1, 58) = 25.833$, $p = .000$, or than those in the together group, $F(1, 58) = 7.693$, $p = .007$. Children in the together group rated the chances to be married by age 25 to be significantly higher than those in the separated group, $F(1, 58) = 8.245$, $p = .006$. Results for Waves 1, 3 and 4 are presented in Table 3.7.

Relationship with caregivers. There was no significant difference between groups at any wave with regard to mean relatedness score as assessed by questions from the Rochester Assessment Package for Schools. The mean relatedness score was above 3 on a 4 point scale (with higher values representing better relationships with caregivers) for each group at each wave, as reported in Table 3.8.

Closeness to caregivers. A mean closeness to caregiver score was calculated for each wave. There was no significant difference between groups at Wave 1. At Wave 3, children in the separated group had significantly higher mean closeness to caregiver scores than those in the together group, $F(1, 58) = 12.132$, $p = .001$. Results are reported in Table 3.9. Additional analyses were conducted on individual binary-coded variables regarding the activities the child engaged in with each caregiver. Children in the separated group did not have significantly less interaction with caregivers than children in the other groups.

Table 3.7
Child Protective Sample
Child Report-Future Expectations
Waves 1, 3, 4
Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1			
Chances to live to be at least 35[a]	4.42 (.20)	3.97 (.17)	4.40 (.21)
Chances to be married by 25[b]	3.96 (.27) ***[k]	2.23 (.19)**[l]	3.05 (.20)**[m]
Chances to graduate from high school[c]	4.65 (.17)	4.53 (.15)	4.31 (.22)
Chances to have a good job by age 30[c]	4.16 (.30)	4.06 (.22)	4.04 (.21)
Chances to have child/family when you are older[d]	3.86 (36)	3.18 (.26)	3.71 (.36)
Chances to have a child before age 18[a]	1.40 (.18)	1.49 (.16)	1.20 (.10)
Wave 3			
Chances to live to be at least 35[e]	4.78 (.13)*[k]	4.10 (.22)	4.60 (.10)
Chances to be married by 25[f]	3.20 (.62)	2.73 (.18)	2.77 (.21)
Chances to graduate from high school[g]	4.68 (.12)	4.62 (.10)	4.68 (.14)
Chances to have a good job by age 30[f]	4.62 (.16)	4.46 (.16)	4.29 (.16)
Chances to have child/family when you are older[f]	3.64 (.53)	3.74 (.16)	3.72 (.34)
Chances to have a child before age 18[e]	1.70 (.27)	1.38 (.13)	1.20 (.07)
Wave 4			
Chances to live to be at least 35[h]	4.82 (.09)*[k]	4.27 (.17)	4.46 (.12)**[m]
Chances to be married by 25[i]	3.50 (.47)	3.31 (.29)	2.97 (.32)
Chances to graduate from high school[j]	4.86 (.09)**[k]	4.28 (.18)	4.42 (.17)*[m]
Chances to have a good job by age 30[j]	4.72 (.13)**[k]	4.00 (.16)	4.40 (.11)
Chances to have child/family when you are older[j]	4.40 (.22)**[k]	3.35 (.24)*[l]	3.65 (.20) **[m]
Chances to have a child before age 18[j]	1.42 (.17)	1.44 (.13)	1.26 (.09)

Note. Results were reported on a scale ranging from 1 (no chance) to 5 (It will happen). Some questions included an additional value, 6 (It already happened). Values are reported from linear regression with covariates. [a]*n*=139. [b]*n*=137. [c]*n*=140. [d]*n*=138. [e]*n*=169. [f]*n*=168. [g]*n*=170. [h]*n*=203. [i]*n*=205. [j]*n*=204. [k]Significant difference between the Partially Separated and Separated groups. [l]Significant difference between the Separated and Together groups. [m]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.8
Child Protective Sample
Child Report-Relationship to Caregiver
Mean Relatedness Scale from the Rochester Assessment Package for Schools
Waves 1, 3, 4
Weighted Mean Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	3.29 (.11)	3.38 (.09)	3.33 (.10)
Wave 3[b]	3.13 (.20)	3.36 (.09)	3.27 (.08)
Wave 4[c]	3.23 (.12)	3.20 (.08)	3.22 (.12)

Note. A mean relatedness score was calculated from the subscale scores for parent emotional security, involvement, autonomy support, and structure. Subscale scores were calculated after some items were reverse-coded, so that higher scores represent a more positive relationship with caregivers. Responses were given on a 4 point scale. Values are reported from linear regression with covariates. [a]*n*=149. [b]*n*=146. [c]*n*=174. *p<.05. **p<.01. ***p<.001.

Table 3.9
Child Protective Sample
Waves 1, 3, 4 Child Report Mean Closeness to Caregiver
Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	4.40 (.27)	4.01 (.20)	3.92 (.20)
Wave 3[b]	3.96 (.28)	4.48 (.14)** [d]	3.79 (.16)
Wave 4[c]	3.90 (.18)	4.30 (.11)	4.03 (.20)

Note. A mean closeness to caregiver score was calculated from four questions (how close child feels to primary caregiver, how much primary caregiver cares about child, how close child feels to secondary caregiver, and how much secondary caregiver cares about child). Original responses are reported on a scale ranging from 1 (not at all) to 5 (very much). Values are reported from linear regression with covariates. [a]*n*=114. [b]*n*=144. [c] *n*=174. [d]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Out of home placement.

Satisfaction with caseworker services and long-term permanence. Children reported on their satisfaction with caseworker services and long-term permanence at Waves 1, 3 and 4, as reported in Table 3.10. There were no significant differences regarding satisfaction with caseworker services at any wave. At Wave 4, children in

the together group had significantly lower long-term permanence scores than children in the separated group, $F(1, 48) = 6.427$, $p = .015$, or than those in the partially separated group, $F(1, 48) = 5.424$, $p = .024$.

Table 3.10
Child Protective Sample
Child Report-Satisfaction with Caseworker
and Long-term Permanence
Waves 1, 3, 4
Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Satisfaction with caseworker services			
Wave 1[a]	10.53 (.40)	10.36 (.46)	9.79 (.41)
Wave 3[b]	9.47 (.61)	11.03 (.47)	9.72 (.75)
Wave 4[c]	10.85 (.33)	10.22 (.35)	10.23 (.50)
Long-term permanence			
Wave 1[a]	12.38 (.35)	12.84 (.37)	12.45 (.37)
Wave 3[b]	10.87 (.45)	11.64 (.39)	11.47 (.42)
Wave 4[c]	11.99 (.46)	12.21 (.45)*[d]	10.31 (.50) *[e]

Note. Project-created questions were used to create scores. Some questions were reverse-coded. Higher score indicates greater satisfaction or feeling of permanence. Values are reported from linear regression with covariates. [a]n=249. [b]n=147. [c]n=119. [d]Significant difference between the Separated and Together groups. [e]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Visitation. At Waves 1, 3, and 4, children in out of home care reported on the frequency of visitation with mother and father. Children who indicated that they did not know their "real mom" or real dad" skipped out of questions relating to that parent, as did children whose parent was deceased. Results are reported in Table 3.11. At Wave 1, children in the separated group had contact with their mothers significantly less frequently than those in the partially separated group, $F(1, 65) = 13.1767$, $p = .000$, or those in the together group, $F(1, 65) = 11.253$, $p = .001$. At subsequent waves, differences between groups were no longer significant. At Wave 1,

children in the partially separated group reported significantly greater frequency of contact with fathers than those in the separated group, $F(1, 58) = 5.109$, $p = .028$. Similarly, at Wave 3, children in the partially separated group reported significantly greater frequency of contact with fathers than those in the separated group, $F(1, 42) = 10.786$, $p = .002$. These differences remained significant after addition of a variable indicating kinship placement status.

Table 3.11
Child Protective Sample
Child Report on Family Contact
Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
How often child sees mother			
Wave 1[a]	3.59 (.25)***[g]	2.41 (.23)**[h]	3.62 (.29)
Wave 3[b]	2.26 (.28)	2.98 (.25)	3.03 (.50)
Wave 4[c]	2.95 (.50)	3.09 (.34)	2.35 (.35)
How often child sees father			
Wave 1[d]	3.66 (.49)*[g]	2.29 (.26)	3.14 (.38)
Wave 3[e]	4.02 (.71)**[g]	1.61 (.20)	2.77 (.80)
Wave 4[f]	2.54 (.33)	1.91 (.39)	1.62 (.47)

Note. Values are reported from linear regression with covariates. Responses reported on a scale ranging from 1 (never) to 6 (every day).[a]*n*=225. [b]*n*=129. [c]*n*=103. [d]*n*=169. [e]*n*=91. [f]*n*=75. [g]Significant difference between the Partially Separated and Separated groups. [h]Significant difference between the Separated and Together groups. [i]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

At Waves 1, 3, and 4, children in out of home care who were separated from at least one sibling reported on the frequency of sibling contact with their separated sibling(s). Results are reported in Table 3.12. There was no significant difference between the partially separated and separated groups at Wave 1. At Wave 3, children in the together group reported significantly more frequent contact with separated siblings than those in the partially separated group, $F(1, 43) = 12.073$, $p = .001$.

Table 3.12
Child Protective Sample
Child Report on
Frequency of Contact with Separated Siblings
Weighted Mean Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	2.65 (.21)	2.65 (.22)	n/a
Wave 3[b]	1.86 (.28)	2.56 (.25)	3.14 (.22)**[d]
Wave 4[c]	2.09 (.40)	2.55 (.22)	2.03 (.29)

Note. Responses reported on a scale ranging from 1 (never) to 6 (every day). Values are reported from individual linear regression with covariates. [a]*n*=178. [b]*n*=123. [c]*n*=96. [d]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

At Waves 1, 3, and 4, children in out of home care who were separated from at least one sibling reported on the frequency of sibling contact desired. Results are reported in Table 3.13. At Wave 1, children in the separated group desired significantly more sibling contact than those in the partially separated group, $F(1, 61) = 7.585$, $p = .008$.

Table 3.13
Child Protective Sample
Child Report on Frequency of Contact Desired with Separated Siblings
Weighted Mean Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	2.59 (.10)**[d]	2.88 (.47)	n/a
Wave 3[b]	2.75 (.07)	2.77 (.07)	2.80 (.09)
Wave 4[c]	2.89 (.08)	2.77 (.08)	2.80 (.12)

Note. Results are mean estimate of desired contact with separated sibling. Values are reported on a three point scale ranging from 1(less than now), 2 (the same as now), to 3 (more than now). Values are reported from individual logistic regression with covariates. [a]*n*=179. [b]*n*=124. [c]*n*=96. [d]Significant difference between the Partially Separated and Separated groups. *p<.05. **p<.01. ***p<.001.

Feelings regarding visitation. At Waves 1, 3, and 4, children in out of home care reported on their feelings after visitation with their family. Results are reported in Table 3.14 At Wave 1, children in the separated group were significantly more likely than those in the together group to report positive feelings after visitation, $F(1, 64) = 4.684$, $p = .034$. At Wave 4, children in the partially separated group were significantly more likely to report positive feelings after visitation than those in the separated group, $F(1, 40) = 5.359$, $p = .026$.

Table 3.14
Child Protective Sample
Child Endorsement of Positive Feelings
after Visitation with Family
Weighted Percentage Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	34.2 (12.7)	41.7 (8.6)*[e]	16.8 (6.6)
Wave 3[b]	67.1 (13.8)	42.3 (12.3)	48.5 (11.7)
Wave 4[c]	70.7(12.5)*[d]	31.4 (11.1)	66.5 (15.9)

Note. Values are reported from individual logistic regression with covariates. [a]*n*=217. [b]*n*=126. [c]*n*=97. [d]Significant difference between the Partially Separated and Separated groups. [e]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Report on kin/foster home and family of origin. Children in out of home care provided a wealth of information about their current placement, their relationship with kin/foster caregivers, and their feelings about their family of origin. Results are reported in Table 3.15. At Wave 1, children in the partially separated group were significantly more likely to think they would be living with the current caregiver next year than those in the separated group, $F(1, 65) = 4.218$, $p = .044$, or those in the

together group, $F(1, 65) = 4.383$, $p = .040$. At Wave 1, children in the together group were significantly less likely to have reported trying to leave their current placement than those in the partially separated group, $F(1, 66) = 6.583$, $p = .013$, or those in the separated group, $F(1, 66) = 9.4$, $p = .003$. Also at Wave 1, children in the together group were significantly more likely than those in the partially separated group to report that living with their mother or father would be different than before, $F(1, 65) = 10.461$, $p = .002$. Results from Waves 3 and 4 are reported in Tables 3.16 and 3.17.

Table 3.15
Child Protective Sample
Wave 1 Child Report on Foster/Kin Care Home and Family of Origin
Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Child likes people lives with[a]	89.0 (8.5)	83.8(6.1)	92.6 (2.9)
Child feels like part of the family[b]	90.7 (5.2)	91.0 (4.1)	94.3 (2.9)
Child can live there until grown up[c]	63.6 (12.1)	62.4 (8.6)	69.6 (7.8)
Child thinks will be living with caregiver next year[d]	72.6 (9.7)*[i]	49.7 (10.0)	50.9 (8.2)*[k]
Child asked to stop living there[a]	7.8 (5.5)	23.9 (6.9)	21.4 (9.0)
Child has tried to leave here before[a]	8.6 (4.8)	10.6 (4.2)**[j]	0.5 (0.5)*[k]
Child wants this as permanent home[c]	40.2 (12.8)	37.3 (8.4)	28.5 (6.0)
Child wants caregiver to adopt child[e]	14.2 (5.4)	24.4 (5.3)	13.4 (6.1)
Child thinks will ever live with parents again[f]	66.1 (13.5)	67.2 (7.1)	85.4 (5.6)
Living with mother/father will be different than before[g]	57.7 (13.1)	54.1 (8.3)**[j]	88.9 (5.1)*[k]
Child misses anyone from old neighborhood[h]	85.6 (5.7)	77.5 (6.8)	72.5 (7.2)

Note. Values are reported from logistic regression with covariates. [a]n=250. [b]n=239. [c]n=231. [d]n=211. [e]n=228. [f]n=230. [g]n=224. [h]n=249. [i]Significant difference between the Partially Separated and Separated groups. [j]Significant difference between the Separated and Together groups. [k]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.16
Child Protective Sample
Wave 3 Child Report on Foster/Kin Care Home
and Family of Origin
Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Child likes people lives with[a]	79.0 (16.0)	90.9 (6.1)	94.2 (5.2)
Child feels like part of the family[b]	91.4 (6.3)	91.9 (4.4)	81.1 (10.8)
Child can live there until grown up[c]	92.4 (4.5)	82.9 (6.3)	79.1 (12.8)
Child thinks will be living with caregiver next year[d]	92.4 (4.1)	81.5 (7.5)* [k]	55.9 (16.4)* [l]
Child asked to stop living there[e]	22.0 (15.6)	10.5 (5.8)	9.3 (5.8)
Child has tried to leave here before[e]	4.3 (3.1)	16.3 (7.8)	6.8 (5.9) [l]
Child wants this as permanent home[d]	70.3 (15.9)	58.1 (10.4)* [k]	26.1 (8.8)* [l]
Child wants caregiver to adopt child[f]	66.1 (15.8)	45.1 (10.4)	31.1 (12.2)
Child thinks will ever live with parents again[g]	44.0 (17.0)	36.1 (11.4)**[k]	69.8 (8.7)
Living with mother/father will be different than before[h]	45.4 (17.3)	57.5 (8.9)	81.8 (7.1)
Child misses anyone from old neighborhood[i]	84.9 (7.5)	74.9 (8.2)	79.8 (7.4)

Note. Values are reported from logistic regression with covariates. [a]*n*=146. [b]*n*=126. [c]*n*=142. [d]*n*=137. [e]*n*=147. [f]*n*=136. [g]*n*=134. [h]*n*=128. [i]*n*=145. [j]Significant difference between the Partially Separated and Separated groups. [k]Significant difference between the Separated and Together groups. [l]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.17
Child Protective Sample
Wave 4 Child Report on Foster/Kin Care Home
and Family of Origin
Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Child likes people lives with[a]	99.6 (.5)*[j]	79.0 (10.1)	67.5 (18.0)**[l]
Child feels like part of the family[b]	99.1 (1.0)	94.4 (5.2)	70.1 (22.1) *[l]
Child can live there until grown up[c]	81.3 (12.3)	72.4 (11.4)	88.4 (8.1)
Child thinks will be living with caregiver next year[d]	84.3 (11.2)	61.1 (11.9)**[k]	97.1 (2.1)
Child asked to stop living there[a]	27.3 (16.3)	39.7 (10.5)	9.5 (7.8)
Child has tried to leave here before[a]	4.5 (3.0)	11.6 (7.5)	5.0 (4.8)
Child wants this as permanent home[e]	26.6 (11.2)	45.4 (10.9)	60.6 (17.3)
Child wants caregiver to adopt child[f]	29.5 (12.7)	29.6 (10.1)	52.2 (18.1)
Child thinks will ever live with parents again[g]	81.1 (10.2)*[j]	35.5 (11.1)	61.0 (19.1)
Living with mother/father will be different than before[h]	92.4 (5.4)**[j]	50.0 (10.6)	60.0 (19.4)
Child misses anyone from old neighborhood[i]	60.6 (19.4)	63.5 (10.2)	73.9 (11.7)

Note. Values are reported from logistic regression with covariates.
[a]*n*=119. [b]*n*=100. [c]*n*=113. [d]*n*=109. [e]*n*=115. [f]*n*=110. [g]*n*=99. [h]*n*=104. [i]*n*=117.
[j]Significant difference between the Partially Separated and Separated groups. [k]Significant difference between the Separated and Together groups. [l]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Attachment: Well-being

Resiliency. Results regarding total protective factors are reported in Table 3.18. There was no significant difference at Waves 1, 3 and 4 between groups with regard to total protective factors.

Parental monitoring. Results regarding parental monitoring score from Wave 1, 3 and 4 are reported in Table 3.19. At Wave 1, the partially separated group had significantly lower parental monitoring scores than those in the separated group, $F(1, 58) = 11.313$, $p = .001$. At Wave 4, the separated group had significantly lower parental monitoring scores than those in the together group, $F(1, 65) = 4.067$, $p = .048$.

Depression. Children completed the Children's Depression Inventory at Waves 1, 3 and 4. At Wave 1, children in the separated group had significantly higher standard scores for negative self-esteem than those in the together group, $F(1, 65) = 4.966$, $p = .029$. At Wave 3, children in the separated group had significantly lower standard scores for interpersonal problems than those in the together group, $F(1, 65) = 5.512$, $p = .022$. Results are reported in Table 3.20.

Table 3.18
Child Protective Sample
Child Report- Total Protective Factors from the Longscan Resiliency Scale
Waves 1, 3, 4
Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	4.17 (.25)	4.49 (.14)	4.03 (.43)
Wave 3[b]	4.62 (.28)	4.56 (.13)	4.59 (.13)
Wave 4[c]	4.53 (.15)	4.10 (.24)	4.57 (.12)

Note. Values are reported from linear regression with covariates. [a]*n*=117. [b]*n*=146. [c]*n*=179. *p<.05. **p<.01. ***p<.001. Table 3.19

Table 3.19
Child Protective Sample
Child Report-Parental Monitoring
Waves 1, 3, 4
Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	3.75 (.11)** [d]	4.16 (.05)	3.85 (.14)
Wave 3[b]	4.02 (.08)	3.80 (.10)	3.99 (.09)
Wave 4[c]	4.07 (.16)	3.84 (.11)* [e]	4.12 (.11)

Note. Values are reported from linear regression with covariates. Higher numbers represent greater parental monitoring. [a]*n*= 142. [b]*n*= 172. [c]*n*= 204. [d]Significant difference between the Partially Separated and Separated groups. [e]Significant difference between the Separated and Together groups.*p<.05. **p<.01. ***p<.001.

Table 3.20
Child Protective Sample
Child Report-Children's Depression Inventory
Waves 1, 3, 4
Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1			
Depression: Negative Mood[a]	52.92 (3.14)	50.50 (1.14)	50.49 (2.66)
Depression: Interpersonal Problems[b]	49.35 (1.28)	47.72 (1.24)	51.90 (1.74)
Depression: Ineffectiveness[a]	49.90 (1.91)	45.86 (1.64)	50.12 (1.77)
Depression: Anhedonia[a]	56.13 (6.29)	49.61 (1.08)	50.99(2.56)
Depression: Negative Self Esteem[a]	47.54 (1.64)	47.41 (1.03)*[g]	44.49 (1.06)
Total Standard Score[c]	52.24 (3.13)	47.79 (1.19)	49.08 (2.10)
Wave 3			
Depression: Negative Mood[d]	45.88 (2.19)	48.66 (1.66)	47.09 (1.26)
Depression: Interpersonal Problems[e]	48.64 (1.83)	47.18 (1.12)*[g]	52.86 (1.90)
Depression: Ineffectiveness[d]	50.74 (4.20)	45.55 (1.15)	48.44 (1.94)
Depression: Anhedonia[e]	49.82 (3.92)	47.38 (1.61)	49.64 (1.39)
Depression: Negative Self Esteem[d]	46.88 (2.64)	44.51 (.76)	44.56 (1.52)
Total Standard Score[d]	47.77 (3.28)	45.69 (1.07)	47.58 (1.40)
Wave 4			
Depression: Negative Mood[f]	49.21 (2.97)	46.86 (1.24)	45.93 (1.73)
Depression: Interpersonal Problems[f]	49.56 (2.43)	50.41 (1.29)	48.49 (1.52)
Depression: Ineffectiveness[f]	48.96 (3.13)	48.66 (1.12)	48.0 (2.04)
Depression: Anhedonia[f]	47.09 (2.21)	47.80 (1.26)	46.29 (1.00)
Depression: Negative Self Esteem[f]	44.33 (1.52)	45.10 (.74)	45.19 (.90)
Total Standard Score[f]	47.05 (2.82)	46.80 (.97)	45.50 (1.53)

Note. Values are reported from linear regression with covariates. [a]*n*=222. [b]*n*=221. [c]*n*=223. [d]*n*=235. [e]*n*=234. [f]*n*=240. [g]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Child behavior. Children completed the Achenbach Youth Self Report at Waves 1, 3 and 4. Results are reported in Table 3.21. There was no significant difference between groups at Wave 1. At Wave 3, children in the separated group had significantly higher total standard scores than those in the together group, $F(1, 58) = 4.584$, $p = .036$. At Wave 4, children in the separated group had significantly higher internalizing standard scores than those in the together group, $F(1, 64) = 4.141$, $p = .046$, and significantly higher total standard scores than those in the together group, $F(1, 64) = 5.725$, $p = .020$.

Table 3.21
Child Protective Sample
Child Report-Achenbach Youth Self Report (YSR)
Waves 1, 3, 4
Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1			
Internalizing Standard Score[a]	47.60 (2.77)	49.05 (1.22)	44.68 (2.56)
Externalizing Standard Score[a]	57.15 (3.15)	51.64 (2.73)	49.29 (3.75)
Total Standard Score[a]	54.16 (2.73)	51.61 (2.07)	48.06 (3.36)
Wave 3			
Internalizing Standard Score[b]	44.86 (3.86)	48.11 (2.00)	45.26 (1.66)
Externalizing Standard Score[b]	53.21 (4.39)	54.38 (1.89)	50.76 (1.62)
Total Standard Score[b]	49.61 (4.00)	53.06 (1.21) *[d]	48.69 (1.65)
Wave 4			
Internalizing Standard Score[c]	48.76 (2.28)	49.34 (1.64)* [d]	44.11 (1.88)
Externalizing Standard Score[c]	55.53 (3.64)	53.90 (1.42)	51.60 (2.29)
Total Standard Score[c]	51.70 (3.45)	53.77 (1.55) *[d]	47.71 (1.87)

Note. Values are reported from linear regression with covariates. [a]n=117. [b]n=146. [c]n=179. [d]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Caregivers completed the Achenbach Child Behavior Checklist at Waves 1, 3 and 4. At Wave 1, children in the partially separated group had significantly higher

externalizing standard scores than those in the separated group, $F(1, 66) = 4.284$, $p = .042$. At Wave 4, children in the partially separated group had significantly lower internalizing standard scores than those in the separated group, $F(1, 66) = 4.156$, $p = .046$. Results are reported in Table 3.22.

Additional regression analyses using a project-created categorical variable indicating whether a child was in the normal, borderline, or clinical range for the total standard score of the Achenbach Child Behavior Checklist were conducted. There were no significant differences at Waves 1, 3 and 4.

Table 3.22
Child Protective Sample
Caregiver Report-Achenbach Child Behavior Checklist Ages 4-18 (CBCL)
Waves 1, 3, 4
Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1			
Internalizing Standard Score[a]	60.27 (2.29)	59.19 (1.72)	56.90 (1.65)
Externalizing Standard Score[a]	65.86 (2.33)*[d]	60.15 (1.77)	60.84 (2.33)
Total Standard Score[a]	65.85 (2.24)	61.82 (1.93)	61.20 (2.20)
Wave 3			
Internalizing Standard Score[b]	53.01 (1.86)	57.42 (2.24)	55.90 (2.50)
Externalizing Standard Score[b]	60.35 (1.73)	58.99 (1.50)	61.08 (1.87)
Total Standard Score[b]	58.88 (1.35)	60.34 (1.65)	60.35 (1.93)
Wave 4			
Internalizing Standard Score[c]	52.46 (2.30)*[d]	57.83 (1.56)	55.05 (1.86)
Externalizing Standard Score[c]	56.62 (2.22)	60.19 (2.01)	59.84 (2.00)
Total Standard Score[c]	56.21 (2.01)	61.31 (1.89)	58.80 (1.94)

Note. Values are reported from linear regression with covariates. [a]$n = 248$. [b]$n = 239$. [c]$n = 244$. [d]Significant difference between the Partially Separated and Separated groups. [e]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Caregivers completed the Behavior Problems Index at Wave 2, as reported in Table 3.23. Children in the partially separated group had significantly lower internalizing scores than those in the separated group, $F(1, 62) = 5.060$, $p = .028$.

Table 3.23
Child Protective Sample
Caregiver Report-Behavior Problem
Wave 2 Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Pro-Social Score[a]	17.76 (.42)	17.24 (.55)	17.08 (.41)
Behavior Problem Total Score[a]	52.74 (2.22)	53.04 (2.27)	53.95 (2.09)
Behavior Externalizing Score[a]	21.20 (1.23)	19.70 (1.06)	21.23 (.95)
Behavior Internalizing Score[a]	6.41 (.22)* [b]	7.11 (.30)	6.83 (.40)
Behavior Other Score[a]	25.12 (.97)	26.23 (1.04)	25.89 (.89)

Note. Each total score represents a sum score of individual item responses. Higher scores represent greater endorsement of behavior problems. Individual item responses were reported on a three point score ranging from 1 (not true) to 3 (very true or often true). Values are reported from linear regression with covariates. [a]*n*=224. [b]Significant difference between the Partially Separated and Separated groups. *p<.05. **p<.01. ***p<.001.

Child Service receipt. Caregivers reported on whether the index child took prescription medication for a behavioral problem. Results from Waves 1, 2, 3 and 4 are reported in Table 3.24. At Wave 1, significantly more children in the separated group than the partially separated group took prescription medication for a behavioral problem, $F(1, 66) = 7.747$, $p = .007$, or than those in the together group, $F(1, 66) = 6.036$, $p = .017$. Additional analyses were run adding a control variable indicating whether the placement began prior to the current child protective report. These regression results were no longer significant once the control was added. There was no significant difference between groups at any of the subsequent waves.

Table 3.24
Child Protective Sample
Caregiver Report- Child takes prescription medication for behavioral problem
Weighted Percentage Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	8.8 (4.8)** [e]	30.7 (7.3) *[f]	11.8 (5.1)
Wave 2[b]	22.2 (10.5)	33.4 (7.9)	25.8 (8.7)
Wave 3[c]	22.6 (10.1)	36.5 (7.4)	28.2 (10.6)
Wave 4[d]	15.9 (7.1)	24.3 (5.7)	22.9 (10.5)

Note. Values are reported from individual logistic regression with covariates. [a]*n*=248. [b]*n*=228. [c]*n*=239. [d]*n*=245. [e]Significant difference between the Partially Separated and Separated groups [f]Significant difference between the Separated and Together groups.*p<.05. **p<.01. ***p<.001.

Attachment: Singled out child

Trauma. Post-traumatic Stress standard scores for Waves 1, 3 and 4 are reported in Table 3.25. There was no significant difference between groups at Waves 1 and 3. At Wave 4, children in the together group had significantly lower scores than those in the separated group, $F(1, 66) = 4.127$, $p = .046$.

Table 3.25
Child Protective Sample
Child Report-Posttraumatic Stress (PTS) Subscale of
Trauma Symptom Checklist for Children
Waves 1, 3, 4 Weighted Mean Standard Score Estimate

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	55.72 (5.51)	49.00 (1.60)	50.40 (2.38)
Wave 3[b]	51.71 (5.43)	48.49 (1.40)	48.74 (2.13)
Wave 4[c]	51.66 (2.83)	51.02 (1.46)*[d]	47.34 (1.16)

Note. Values are reported from linear regression with covariates. [a]*n*=194. [b]*n*=215. [c]*n*=241.[d]Significant difference between the Separated and Together groups. *p<.05. **p<.01.***p<.001.

Child maltreatment.

Prior out of home living and child protective history. At Wave 1, children reported on whether they had lived apart from their parents in any other location (any other foster home, relative's home, or places other than the child's own home). At least 40% of children in each group reported a prior out of home experience. Caseworkers reported at Wave 2 on prior formal out of home placements for the index child, and prior child protective reports. There were no significant differences between groups. Prior formal out of home placement ranged from 15.4% for the partially separated group to 20.3% for the together group, to 21.5% for the separated group. Almost 50 % of the children had been listed on a prior child protective report. The current placement began during the current child protective report for at least 55 % of children in each group. Children in the partially separated group were significantly more likely to have the placement begin during the current child protective report than those in the separated group, $F(1, 65) = 9.779$, $p = .003$. (Results reported in Table 3.26).

Child Report. Children reported on their experience of maltreating behavior by adult caregivers on the Parent-Child Conflict Tactics Scale. Results from Waves 1, 3, and 4 are reported in Table 3.27. At Wave 1, children in the partially separated group were significantly less likely to report past year psychological aggression by a caregiver than those in the separated group, $F(1, 48) = 10.034$, $p = .003$, or those in the together group, $F(1, 48) = 4.402$, $p = .041$. At Wave 4, children in the together group were significantly less likely to report severe or very severe physical assault in the past

year than those in the partially separated group, $F(1, 62) = 4.047$, $p = .049$.

Caseworker report. Child protective caseworkers reported on the most serious maltreatment allegation in the child protective report leading to involvement in the study. Children in the separated group were significantly more likely to have an allegation of emotional maltreatment than those in the partially separated group, $F(1, 64) = 11.239$, $p = .001$, or those in the together group, $F(1, 64) = 7.198$, $p = .009$.

Table 3.26
Child Protective Sample
Prior Child Protective History and Out of Home History
Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Caseworker report Wave 2			
Prior Child Protective Report(s)[a]	49.1 (12.7)	49.5 (8.6)	48.3 (11.6)
Prior Out of Home Placement[b]	15.4 (6.1)	21.5 (7.9)	20.3 (7.6)
Current placement began with this Child Protective Report[c]	86.9 (5.0) **[e]	55.0 (9.3)	67.7 (13.3)
Child report Wave 1			
Child lived without parent in any other foster home, relatives' home, or places beside own home[d]	40.5 (12.5)	55.2 (6.1)	48.7 (10.4)

Note. Values are reported from logistic regression with covariates. [a]*n*=203. [b]*n*=196. [c]*n*=214. [d]*n*=240. [e]Significant difference between the Partially Separated and Separated groups.*p<.05. **p<.01. ***p<.001.

Table 3.27
Child Protective Sample
Child Report-Parent-Child Conflict Tactics Scale
Weighted Mean Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Psychological Aggression Past Year			
Wave 1[a]	17.6 (8.7)** [e]	78.1 (7.5)	58.8 (15.9)* [f]
Wave 3[b]	61.4 (16.3)	45.2 (8.2)	60.7 (12.3)
Wave 4[c]	35.0 (9.2)	52.8 (9.4)	12.2 (4.4)
Psychological Aggression Ever			
Wave 1[ag]	38.5 (18.2)	85.1 (5.6)	58.8 (14.9)
Wave 3[b]	61.4 (16.3)	56.4 (8.4)	66.7 (12.3)
Wave 4[c]	70.1 (15.0)	69.2 (8.1)	41.7 (12.0)
Severe or Very Severe Physical Assault Past Year			
Wave 1[a]	9.0 (5.1)	35.5 (10.8)	9.1 (7.1)
Wave 3[b]	11.5 (7.6)	48.3 (15.9)	40.2 (16.6)
Wave 4[cg]	27.6 (13.9)	13.6 (6.1)	4.9 (3.0) * [f]
Severe or Very Severe Physical Assault Ever			
Wave 1[a]	9.0 (5.1)	37.3 (10.9)	30.5 (16.4)
Wave 3[b]	9.3 (5.6)	26.1 (8.2)	29.9 (13.0)
Wave 4[c]	30.7(13.8)	23.2 (6.7)	18.8 (10.8)

Note. Values are reported from logistic regression with covariates. [a]*n*= 108. [b]*n*=143. [c]*n*=166. [e]Significant difference between the Partially Separated and Separated groups. [f]Significant difference between the Partially Separated and Together groups. [g]Regression parameters could not be calculated.*p<.05. **p<.01. ***p<.001.

Table 3.28
Child Protective Sample
Most Serious Child Maltreatment Allegation Wave 1[a]
Weighted Percentage Estimates

Category	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group*[c] *Estimate (SE)*
Physical Maltreatment[b]	32.2 (12.7)	15.9 (4.9)	18.8 (8.1)
Sexual Maltreatment[b]	18.1 (8.2)	11.1 (4.5)	5.8 (2.9)
Emotional Maltreatment[b]	3.2 (1.9) **[d]	22.7 (6.8)**[e]	3.6 (2.3)
Physical Neglect[b]	25.2 (7.9)	14.1 (6.0)	19.7 (5.4)
Neglect-No Supervision[b]	20.0 (8.8)	25.9 (8.4)	33.7 (9.2)

Note. Values are reported from individual logistic regressions with covariates. [a]*n*=226. [b]*n*=225. [c]Significant difference between the Partially Separated and Together groups for the linear regression using the categorical child abuse type variable without covariates. [d]Significant difference between the Partially Separated and Separated groups. [e]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Lack of parental contact. At Waves 1, 3, and 4, children in out of home care reported on the frequency of visitation with mother and father, including whether they had no contact with the parent. Children who indicated that they did not know their "real mom" or real dad" skipped out of questions relating to that parent, as did children whose parent was deceased. Binary-coded variables were created by collapsing responses to frequency of visitation questions. Results are reported in Table 3.29. At Wave 1, children in the separated group were significantly more likely to report having no contact with their mothers than those in the partially separated group, $F(1, 65) = 26.881$, $p = .000$, or those in the together group, $F(1, 65) = 7.741$, $p = .007$. Similarly, at Wave 1, children in the separated group were significantly more likely to report having no contact with their fathers than those in the partially separated group, $F(1, 58) = 6.016$, $p = .017$.

Additional regression analyses were carried out after addition of a control variable indicating whether the current placement began prior to the current child

protective report. These differences remained significant after addition of the additional control variable. At Wave 1, children in the separated group were significantly more likely to report having no contact with their mothers than those in the partially separated group, $F(1, 64) = 18.534$, $p = .000$, or those in the together group, $F(1, 64) = 15.824$, $p = .000$. Similarly, at Wave 1, children in the separated group were significantly more likely to report having no contact with their fathers than those in the partially separated group, $F(1, 56) = 5.594$, $p = .022$.

Regression analyses were also conducted after addition of a control variable for kinship placement status. These differences remained significant after addition of the additional control variable. At Wave 1, children in the separated group were significantly more likely to report having no contact with their mothers than those in the partially separated group, $F(1, 65) = 25.673$, $p = .000$, or those in the together group, $F(1, 65) = 7.213$, $p = .009$. Similarly, at Wave 1, children in the separated group were significantly more likely to report having no contact with their fathers than those in the partially separated group, $F(1, 58) = 7.945$, $p = .007$.

Child Risk-taking

Early sexual activity. Children age 11 and up reported on sexual activity at Waves 1, 3, and 4. Analyses are reported from one variable, whether the child had ever had vaginal intercourse. There were no significant differences between groups with regard to sexual activity. (Results reported in Table 3.30)

Alcohol and other drugs and tobacco use. Children age 11 and up reported at Waves 1, 3, and 4 with regard to use of alcohol and other drugs and tobacco. (Results reported in Table 3.30). Responses were collapsed to create binary variables

regarding lifetime use of alcohol and other drugs and use of tobacco. At Wave 1, children in the together group were significantly less likely to have ever used alcohol and other drugs than those in the partially separated group, $F(1, 50) = 5.425$, $p = .024$. At Wave 3, children in the partially separated group were significantly less likely than those in the separated group to have ever used tobacco, $F(1, 58) = 4.794$, $p = .033$.

Delinquency. Children age 11 and up reported on participation in delinquent acts at Waves 1, 3, and 4. The total delinquency score from the Self Report of Delinquency is reported in Table 3.31. There were no significant differences between groups with regard to delinquent behavior.

Table 3.29
Child Protective Sample
Child Report on Lack of Parental Contact
Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Child never sees mother			
Wave 1[a]	7.9 (3.4)***[g]	55.5 (6.6)**[h]	17.0 (8.1)
Wave 3[b]	57.6 (13.0)	32.8 (9.7)	35.1 (13.7)
Wave 4[c]	34.5 (18.0)	27.7 (9.5)	33.9 (21.0)
Child never sees father			
Wave 1[d]	21.3 (7.3)*[g]	54.1 (9.7)	34.9 (10.4)
Wave 3[e]	32.0 (13.9)	68.4 (10.9)	54.5 (18.5)
Wave 4[f]	32.7 (16.3)	66.6 (11.8)	65.7 (17.9)

Note. Values are reported from logistic regression with covariates. Responses regarding contact with parents were originally reported on a scale ranging from 1 (never) to 6 (every day) and were recoded into a binary variable.[a]*n*=225. [b]*n*=129. [c]*n*=103. [d]*n*=169. [e]*n*=91. [f]*n*=75. [g]Significant difference between the Partially Separated and Separated groups. [h]Significant difference between the Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.30
Child Protective Sample
Child Report- Risk-taking Behaviors
Waves 1, 3, 4 Weighted Percentage Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Ever had vaginal intercourse			
Wave 1[a]	11.3 (6.8)	27.4 (10.2)	7.8 (6.6)
Wave 3[b]	13.4 (7.2)	36.9 (8.9)	28.7 (9.1)
Wave 4[c]	20.6 (11.8)	36.0 (7.8)	26.1 (9.1)
Used alcohol or other drug ever			
Wave 1[d]	37.9 (18.5)	43.3 (8.8)	7.6 (6.4) *[i]
Wave 3[e]	25.2 (9.7)	51.1 (8.5)	34.3 (11.3)
Wave 4[f]	54.0 (14.2)	50.7(7.8)	36.1 (11.4)
Used tobacco ever			
Wave 1[d]	8.4 (5.4)	41.9 (8.6)	15.0 (9.5)
Wave 3[e]	15.6 (6.8)* [h]	45.0 (8.0)	24.0 (10.1)
Wave 4[g]	24.0 (12.1)	46.4 (8.1)	23.0 (8.0)

Note. Values are reported from logistic regression with covariates. [a]*n*= 104. [b]*n*= 139. [c]*n*= 168. [d]*n*= 111. [e]*n*= 145. [f]*n*= 174. [g]*n*= 171. [h]Significant difference between the Partially Separated and Separated groups. [i]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.31
Child Protective Sample
Child Report-Total Delinquency Score
Waves 1, 3, 4, Weighted Mean Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	4.57 (2.14)	4.08 (1.65)	2.67 (1.41)
Wave 3[b]	2.04 (.76)	2.08 (.56)	0.77 (.36)
Wave 4[c]	4.10 (1.47)	2.34 (1.06)	3.94 (1.75)

Note. Values are reported from linear regression with covariates. [a]*n*= 111. [b]*n*= 145. [c]*n*= 174. *p<.05. **p<.01. ***p<.001.

Potential caregiver well-being control variables

Major depression. The CIDI-SF depression subscale was administered to permanent caregivers of children. At Wave 3, more than 28% of permanent caregivers of children in each group met the diagnostic criteria for major depressive disorder.

There were no significant differences at Wave 3. At Wave 4, permanent caregivers of children in the together group were significantly less likely to meet the criteria for major depressive disorder than those in the separated group, $F(1, 57) = 8.117$, $p = .006$, or those in the partially separated group, $F(1, 57) = 5.391$, $p = .024$. (Results reported in Table 3.32).

Mental and physical health. Permanent and non-permanent caregivers were administered the Short Form 12 (SF-12) with regard to mental and physical health. This measure provides total standardized scores for mental and physical health. Results from Waves 1, 3 and 4 are reported in Table 3.33. At Wave 1, caregivers of children in the separated group had significantly lower physical health scores than caregivers of children in the together group, $F(1, 65) = 4.315$, $p = .042$. Since all children in the study were in out of home care at Wave 1, these results reflect the self-reported physical health of kin care or foster care caregivers.

Table 3.32
Child Protective Sample
Permanent Caregiver Depression
Weighted Percentage Estimates

Category	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 3[a]	47.5 (17.6)	28.8 (13.1)	43.7 (13.4)
Wave 4[b]	32.3 (14.2)	39.5 (11.1)** [c]	3.2 (2.2) *[d]

Note. Values are reported from logistic regression with covariates [a]*n*=93. [b]*n*=134. [c]Significant difference between the Separated and Together groups. [d]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.33
Child Protective Sample
Caregiver Report-Caregiver Mental and Physical Health
Short Form 12 (SF-12)
Waves 1, 3, 4 Weighted Mean Standard Score Estimates

Variable	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Physical Health Standard Score			
Wave 1[a]	46.53 (2.26)	46.08 (1.57) *[d]	50.38 (1.22)
Wave 3[b]	43.61 (2.96)	49.39 (1.60)	48.05 (1.64)
Wave 4[c]	47.44 (3.08)	46.78 (1.51)	46.34 (2.13)
Mental Health Standard Score			
Wave 1[a]	53.07 (.88)	54.67 (1.44)	52.48 (1.65)
Wave 3[b]	49.93 (2.84)	53.18 (1.90)	52.62 (1.33)
Wave 4[c]	48.75 (3.28)	51.50 (1.54)	51.46 (1.21)

Note. Lower standard scores represent greater impairment of activity due to health problems. Values are reported from linear regression with covariates. [a]*n*=234. [b]*n*=237. [c]*n*=243. [d]Significant difference between the Separated and Together groups. [e]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Social support. Permanent caregivers reported on social support at Waves 3 and 4. Results are presented in Table 3.34. At Wave 4, permanent caregivers of children in the separated group had significantly lower mean number of social supports than those in the partially separated group, $F(1, 57) = 5.103$, $p = .028$, or than those in the together group, $F(1, 57) = 4.716$, $p = .034$. At Wave 3, permanent caregivers of children in the partially separated group had significantly lower mean satisfaction with the level of social support available than those in the together group, $F(1, 46) = 11.978$, $p = .001$, or those in the separated group, $F(1, 46) = 13.944$, $p = .001$.

Community environment. Permanent and non-permanent caregivers reported on their community environment at Waves 1, 3 and 4. A mean community environment score was created for each wave. There was no significant difference

between groups at any time point with regard to mean community environment, as reported in Table 3.35.

Table 3.34
Child Protective Sample
Caregiver Report- Mean Social Support
Weighted Mean Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Mean No. Of Social Supports			
Wave 3[a]	2.52 (.79)	2.81 (.46)	3.31 (.60)
Wave 4[b]	4.42 (.87)* [c]	2.32 (.36)** [d]	3.19 (.29)
Mean Social Support Satisfaction Score			
Wave 3[a]	2.75 (.15)** [c]	3.43 (.10)	3.30 (.07)** [e]
Wave 4[b]	3.20 (.09)	3.26 (.11)	3.35 (.12)

Note. Results are mean community environment, on a scale ranging from 1 (most supportive) to 3 (least supportive). Values are reported from individual linear regression with covariates.[a]*n*=94. [b]*n*=135. [c]Significant difference between the Partially Separated and Separated groups. [d]Significant difference between the Separated and Together groups. [e]Significant difference between the Partially Separated and Together groups. *p<.05. **p<.01. ***p<.001.

Table 3.35
Child Protective Sample
Caregiver Report- Mean Community Environment
Weighted Mean Estimates

Wave	Partially Separated Group *Estimate (SE)*	Separated Group *Estimate (SE)*	Together Group *Estimate (SE)*
Wave 1[a]	1.42 (.11)	1.30 (.04)	1.37 (.03)
Wave 3[b]	1.56 (.17)	1.41 (.05)	1.43 (.05)
Wave 4[c]	1.71 (.19)	1.43 (.06)	1.50 (.06)

Note. Results are mean community environment, on a scale ranging from 1 (most supportive) to 3 (least supportive). Values are reported from individual linear regression with covariates.[a]*n*=247. [b]*n*=238. [c]*n*=244. *p<.05. **p<.01. ***p<.001.

CHAPTER 4

DISCUSSION

The current study examined the relationship between sibling placement status for foster children and child well-being in order to test the proposition that quality of attachment would be related to child well-being. The study also explored the relationship between child and caregiver characteristics and sibling placement status.

Attachment

If sibling relationships are attachment relationships, then separation from siblings would likely be detrimental to the formation of new relationships. A decreased ability to form new bonds with temporary caregivers, as well as a lessened sense of belonging, poorer child well-being, and greater risk-taking would be anticipated to have an association with sibling separation. Overall, there was little support for the hypothesis that children's sibling relationships could be characterized as attachment relationships. There was little evidence for a separate effect on child well-being from separation from siblings at Wave 1, over and above the effect of separation from parents.

Attachment: sense of belonging. There was no evidence to support the hypothesis that children's sense of belonging to the foster home would be predicted by sibling separation status, with those separated from siblings having less of a sense of belonging to the foster home. Children's reports regarding school engagement, peer

relationships, future expectations, relationship with caregivers and closeness to caregivers were not significantly related to sibling separation status.

There was limited support for the hypothesis that children's feelings toward their family of origin will be predicted by sibling separation status, with sibling separation predicting less positive feelings. At Wave 1, children in the separated group were significantly less likely than children placed with all siblings to report that living with their parents would be different than before, an indicator of less positive appraisal of familial capacity to change.

Child well-being. There was little support for the hypothesis that separation from siblings would predict poorer child behavior and mental health. At Wave 1, children did not differ by separation status with regard to resiliency, self-reported child behavior, and child behavior categorized as clinical, borderline and non-clinical based on caregiver report.

Attachment: singled out child. There was support for the hypotheses regarding children separated from siblings being singled out or differentially treated. As predicted, at Wave 1, children separated from siblings had significantly less contact with their mother and father than other children, with 55.5% of children separated from all siblings reporting no contact with their mother, and 54.1% of children reporting no contact with their father at Wave 1. Also as predicted, children separated from siblings were significantly more likely to have a most serious maltreatment allegation of emotional abuse than children placed with some or all siblings.

However, analyses based on child self-report measures had mixed results. There was no difference between groups with regard to child report of trauma symptomatology at Waves 1 and 3, although results at Wave 4 were in the expected direction. With regard to child report of psychological aggression by caregivers, there was only mixed support for the hypothesis.

Children separated from all siblings at Wave 1 did not experience significantly more placement disruption than other children, as would be predicted by the singled-out hypothesis (Dance & Rushton, 2005; Rushton & Dance, 2003a). However, children separated from all siblings at Wave 1 did experience significantly longer cumulative stays in foster care, ., consistent with some prior research (Webster, et al., 2005).

Child Risk-taking. There was no support for the hypothesis that sibling separation would be connected to greater risk-taking behaviors. Children did not differ by sibling separation status with regard to self-report of early sexual activity and delinquent behavior.

Kin Care. There was no support for the hypothesis that children placed with siblings would be more likely to be in kin care homes. Nor, for children separated from all siblings, was kin care associated with less time in foster care or more frequent visitation with parents. Children separated from all siblings spent more cumulative days in foster care, and had less frequent visitation with parents than those placed with at least one sibling, regardless of kinship placement status.

Implications for practice

The proposition that children separated from siblings are a distinct group with greater behavioral problems is not supported by the current analysis. Rather, it appears that in this nationally representative sample, sibling separation is a foreseeable consequence of current foster care practices. In the current study, for children separated from siblings at study inception, sibling separation continued during foster care placement for more than ninety percent of children, while the majority of children placed with all siblings at study inception who remained in care were eventually separated from at least one sibling. These findings are consistent with the literature (Linares, et al., 2007; Staff & Fein, 1992; Wulczyn & Zimmerman, 2005).

Demographics. Two child demographic characteristics were significantly related to sibling separation status. Older children were significantly more likely to be separated from their siblings, consistent with previous findings (Hegar, 2005). Children of color were significantly more likely to be separated from all their siblings than white children. Particular care should be taken in making sibling placement decisions so that these inequities do not persist.

Father involvement. Children in the partially separated group had more frequent contact with fathers than children in either of the other groups, suggesting that differing parentage may have played a role in the sibling placement decision, and thus in father's visitation frequency. In a study of father involvement in permanency planning for children in kinship care, father involvement varied depending on family structure, with fathers in one-father families and fathers with more than one child in the family more involved with case planning than fathers in multi-father families and

fathers with only one child in the family (O'Donnell, 2001). Child welfare efforts historically focused on mothers, with little effort put into involving fathers in needed services and permanency planning. Services that are available may not be tailored to meet father's needs (Greif, Finney, Greene-Joyner, Minor, & Stitt, 2007; Huebner, Hartwig, White, & Shewa, 2008; O'Donnell, Johnson, D'Aunno, & Thornton, 2005). Recently, a number of strategies have been identified to engage fathers in the child welfare system (Gordon, Oliveros, Hawes, Iwamoto, & Rayford, 2012). (O'Donnell, 2001). Two small studies using secondary analysis of case-level data suggest that increased father involvement may lead to higher rates of family reunification and shorter stays in foster care (Coakley, 2007, 2013). Additional effort should be placed on involving not only mothers but fathers in case planning and contact with children.

Sibling contact. Children in all groups desired at least as much or more contact with separated siblings as they were currently receiving, consistent with prior research (Festinger, 1983). However, children had contact with separated siblings relatively infrequently, with mean frequency of contact with separated siblings for each group ranging from less than once per month to biweekly. In child welfare practice, attention should be focused on ensuring regular, consistent contact with separated siblings for children in care.

Caregiver characteristics. At Wave 1, caregivers of children separated from all siblings were significantly more likely to work outside the home, and caregivers of children separated from all siblings had significantly poorer physical health. This suggests that caregiver capacity to care for multiple foster children may have

influenced placement decisions. Increased support services to keep siblings together either in their family of origin or in the same foster home may ameliorate this issue.

Limitations and Future Directions

Although this study was conceptually based in attachment theory, there was no direct measure of attachment style. Attachment style was measured indirectly through its likely effect on child outcomes. Future research should include direct measures of attachment style, sibling attachment and parentification, and child experience of unfair parental differential treatment.

Information regarding sibling placement decisions was not available for analysis. Due to small sample size, it was not possible to restrict the study sample to children who were placed in out of home care after the child protective report leading to study eligibility was received. Future research should include information regarding sibling placement decisions to allow for adequate exploration of the decision-making process.

Since all of the children in the current study had been placed in out of home care, all had experienced separation from family of origin. Essentially the study explored whether separation from siblings added an additional insult to child well-being over and above any effects of parental separation for children in out of home care. The majority of children remaining in care after Wave 1 eventually experienced sibling separation, and thus it was not possible to compare outcomes for children based on later wave sibling separation status, or to control for later wave sibling separation.

The current project did not include examination of sibling relationship quality, sibling conflict, sibling support, sibling functioning and child experience of parentification, since such measures were not available in the data. Additionally, information was not available about sibling co-residence or separation for children in permanent homes. Future studies should include examination of the quality of sibling relationships prior to and during foster care placement, as well as information about sibling separation for children in permanent homes.

Conclusion

Siblings may provide an important source of social support, friendship and instrumental support to one another from childhood to later life. For children in foster care, sibling separation is often a matter of course either upon an initial foster care placement, or as foster care placement continues. Yet there has been inadequate attention paid to the immediate and long term consequences of sibling separation on children in foster care. The meaning of sibling connections for foster children, whose connection to parents and adult caregivers has been disrupted, is an important area meriting study.

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