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Separation from siblings: Associations with placement adaptation and outcomes among adolescents in long-term foster care

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Abstract

Although practice guidelines support the placement of siblings in the same foster home whenever possible, sibling groups are frequently separated. Little empirical knowledge is available to understand why siblings are separated or how different sibling placement patterns are related to children's placement adaptation and permanency outcomes. These questions were investigated using data from a study involving telephone interviews with the caseworkers and foster parents of a cross-sectional sample of 197 randomly selected young adolescents in long-term, traditional family foster care. Placement outcomes, including placement disruption, reunification, and adoption, were followed prospectively for five years. Results of multivariate analyses indicate that adolescents who were placed alone after a history of joint sibling placements were at greater risk for placement disruption than those who were placed with a consistent number of siblings while in foster care. This association was mediated by a weaker sense of integration and belonging in the foster home among youth placed alone with a history of sibling placements. Unexpectedly, youth placed alone, either throughout their stay in foster care or after a history of sibling placements, were less likely to exit to adoption or subsidized guardianship than youth with consistent joint sibling placements.

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1. Introduction

Siblings often enter foster care together, but until recently, there has been little focus on the importance of their relationships (Drapeau, Simard, Beaudry, & Charbonneau, 2000; Shlonsky, Webster, & Needell, 2003). Research has rarely investigated why siblings are separated or the potential consequences of separation. Given the life-long support that is potentially provided by sibling relationships (Hegar, 1988a; Tucker, McHale, & Crouter, 2001), it is important to understand these issues. In the past two decades, sibling relationships have been increasingly recognized as playing a role in children's development (Boer & Dunn, 1992; Hegar, 1988a; Tucker et al., 2001). Concurrently, child welfare practice guidelines, legislation, and litigation have recognized the potential benefits of sibling relationships by supporting the placement of siblings in the same home whenever joint placements are not detrimental to individual children. In actual practice, however, siblings are often still separated. Estimates of the percentage of children placed without any siblings range from 23% to 75% (Staff & Fein, 1992). Children in traditional foster care are at particularly high risk for separation from all of their siblings, with rates about double those for children placed in kin care (Needell et al., 2004; Shlonsky et al., 2003). In Illinois, over 50% of all children in traditional family foster care in 1998 were placed without any siblings in the same home (Leathers, 2000), although the majority of these children also had siblings in care. In California, 42% of children in traditional family foster care who had siblings also in care were placed without siblings in 2003 (Needell et al., 2004).

Given the high incidence of sibling separation, particularly in traditional family foster care, understanding the dynamics of sibling separation is essential. The present study investigated two related questions in a sample of adolescents placed in long-term, non-relative family foster care. The first question addressed why siblings are separated while in care. The second question explored how different patterns of sibling separation and placement are related to permanency outcomes and placement adaptation in traditional family foster care.

1.1. *Why siblings are separated*

Several related reasons for separating siblings are described in the child welfare literature. Caseworkers and advocates have frequently cited difficulty in finding and maintaining placements for sibling groups as a reason for separation (Hegar, 1988a; Ward, 1984). This explanation points to inadequate placement resources, which is supported by Hegar's (1988a) finding that two-thirds of the caseworkers in a public agency were highly pessimistic about finding joint placements for sibling groups. Relatives, who might have a greater commitment to related children than traditional foster parents, are more likely to provide joint placements than traditional unrelated foster care providers (Needell et al., 2004; Shlonsky et al., 2003). Differences in the needs of children might also contribute to the decision to split sibling groups. Previous research indicates that siblings are more likely to be placed in different homes or be separated after joint placement if there is a greater gap in their ages or if a child is developmentally disabled (Drapeau et al., 2000; Hegar, 1993; Shlonsky et al., 2003). The degree of difficulty in caring for the sibling group

due to behavior problems or conflictual relationships has also been presented as a counter-indication for joint placement of siblings (Boer & Spiering, 1991; Hegar, 1988b; Ward, 1984). This might explain the finding that older sibling groups are more likely than younger sibling groups to be separated (Drapeau et al., 2000; Hegar, 1993; Staff & Fein, 1992), as sibling groups are likely to be more difficult to care for as children reach adolescence and present more behavior problems (Cohen et al., 1993). Risk to one child by another, as in cases of sibling sexual or physical abuse, is also sometimes a reason for separating siblings (Hindle, 2000). And finally, problems related to “enmeshed” sibling relationships (in which siblings are overly involved and allow for little individuality), intensified allegiance to biological families, and consequent friction with foster parent have been described as reasons for separating siblings (Hegar, 1988b; Ward, 1984).

Although each of these factors is thought to contribute to sibling separations, the role that each factor plays in decisions to separate siblings is unclear. Descriptive data on caseworkers’ reasons for placing siblings separately are not available, and the correlational data linking child and sibling group characteristics and sibling separation are contradictory. For example, although behavior problems have been associated with placement of children separately from their siblings (Boer Westenberg, & van Ooyen-Houben, 1995), a recent study involving 150 sibling groups found that behavior problems were not related to decisions to separate siblings (Drapeau et al., 2000). Identifying the reasons why siblings are separated is an essential first step toward adequate service planning. If siblings are primarily separated due to a lack of placement resources, for example, a systemwide focus on resource development would be indicated. In contrast, if behavior problems and conflictual relationships are primarily implicated, simply recruiting and supporting foster parents who are willing to accept sibling groups would be an inadequate strategy to increase the number of joint sibling placements.

1.2. Sibling separation, placement adaptation, and placement disruption

Although practice guidelines support maintaining sibling ties in order to preserve family attachments and provide support to children in care (Palmer, 1995), little research has systematically investigated how separation from siblings affects foster children. However, the few existing studies indicate some support for the potential for siblings to assist each other in adapting to substitute care. Premature disruption of foster home placements, an indicator of serious problems with placement adaptation, has been found to occur less often among children placed with siblings than among children who have been separated. In a British study of foster home disruptions that included 88 children in long-term foster care, 50% of children placed in care alone experienced a placement disruption, as compared to 26% of children placed with some of their siblings and 33% who were placed with all siblings (Berridge & Cleaver, 1987). Another study (Staff & Fein, 1992) exploring the effects of separation among 108 pairs of siblings also found that pairs placed together were significantly more likely to both stay in the initial placement than pairs who were initially placed separately. Two older English studies also examined associations between placement stability and joint placements, with one (Trasler, 1960, cited in Hegar, 1988a) reporting increased placement stability and another (Parker, 1966, cited in Hegar, 1988a) reporting no association between placement stability and separation of siblings.

The results of the studies conducted to date indicate that, as a whole, joint placements are likely to be more stable than placements in which siblings are separated.

However, none of these studies tested factors that might explain the apparent association between placement stability and sibling placements, such as greater externalizing behavior problems among children placed alone. Siblings who are initially placed separately or who are separated from their siblings after an initial joint placement are more likely to have behavior problems than siblings who are placed together (Aldridge & Cautley, 1976; Staff et al., 1993). As recognized by the researchers involved in the reported studies, behavior problems may have resulted in both placement without other siblings and the difficulties with foster home adaptation that led to the placement disruption. Externalizing behavior problems (e.g., oppositional, defiant, aggressive, and delinquent behaviors) are of particular concern, given the evidence for the increased risk for placement disruption that is associated with externalizing behavior problems. In contrast, internalizing problems such as depression and anxiety have not been shown to be associated with risk for placement disruption (Cooper et al., 1987; Newton, Litrownik, & Landsverk, 2000; Proch & Taber, 1987). In the present study, externalizing behavior problems are controlled for in all of the models tested, in order to examine the association between sibling separation and placement disruption independently from the effect of behavior problems.

Previous research also provides little information about the processes that might lead to increased rates of disruption among children placed alone. Differences in placement disruption rates are assumed to be due to greater difficulty with adapting to foster placement among children who are placed alone as compared to those who are placed with siblings, but this hypothesis has never been tested. Placement adaptation is a process likely to involve both behavioral (e.g., participation in activities, compliance with structure) and affective (e.g., comfort with setting, feeling of belonging) components. Siblings placed together might be more comfortable with their move to a foster home because of the support and continuity of relationships provided by joint placement, leading to a greater sense of belonging and stronger relationships with foster parents. Although this hypothesis has not been tested, findings from a small dissertation study (Cutler, 1984) are consistent with it. Among 62 children, half who were placed alone and half who were placed with siblings, those placed alone were reported to have more difficulty with becoming a member of their foster family. Children placed alone were less emotionally involved with their foster families and generally more emotionally detached than children who were placed with siblings. These findings contradict the hypothesis that children placed alone might be more emotionally involved with their foster families than jointly placed siblings, who might form a subsystem that is resistant to becoming integrated into a foster family. However, these associations might also be explained by behavior problems, which were not controlled in this study.

1.3. Sibling separation and permanency outcomes

Another area in which information about sibling placement patterns and outcomes is particularly needed relates to permanency outcomes, including both reunification and adoption. In a study conducted by Aldridge and Cautley (1976), foster parents reported

that they thought reunification was more likely when siblings were placed jointly rather than separately, but rates of reunification of different sized sibling groups under different placement conditions have not been reported. Joint placement of sibling groups might positively affect reunification through several different processes. Aldridge and Cautley reported greater allegiance to biological families among children placed with their siblings, which might encourage caseworkers to delay terminating parental rights and positively affect the likelihood of reunification. Furthermore, biological parents might have an easier time visiting siblings who are placed together, since fewer problems with scheduling and cancellations might occur with one foster family than with two or more. However, joint placement of siblings is likely to lead to an expectation that all will move together if reunification is to occur. The management and support of an entire sibling group might be more difficult than a single child for parents struggling to regain custody, lessening chances for reunification.

Similarly, joint placements could affect adoption rates both positively and negatively. Aldridge and Cautley (1976) also reported that biological families were disruptive to the placement 30% of the time in joint placements as compared to 16% of the time in single-child placements; if these types of disruptions are more common in joint placements, they might discourage adoption by foster parents if reunification is not possible. Joint placements could also preclude prospective adoptive parents from adopting a single foster child if they were not able or willing to adopt the entire sibling group. Alternatively, if jointly placed children experience greater placement stability, the longer period of time in the placement could result in the development of stronger relationships in the foster home, increasing chances for adoption.

1.4. The present study

Most of the available studies that address questions related to sibling separation are quite old and have methodological limitations, including cross-sectional rather than prospective designs and the use of bivariate analyses that do not control for the effects of factors that might explain the relationships between sibling separation and outcomes. The research presented in this article addressed some of these limitations by measuring placement outcomes prospectively, using multivariate analyses, and including variables such as behavior problems that could account for the findings reported in earlier studies. Because the sample was selected cross-sectionally (that is, from the population of young adolescents currently in care at a particular point in time), the study questions focused on how experiences of separation prior to the child's placement at the beginning of the study related to subsequent adaptation and outcomes. The findings from this study do not generalize to all children in foster care as they enter adolescence. Adolescents in care for a long period of time are over-represented in this sample, as the length of time a child is in care is proportionate to chances for selection into a cross-sectional sample. However, the cross-sectional sample selected for this study does reflect the experiences and needs of a specific child welfare subpopulation that practitioners are likely to have particular difficulty in serving, as young adolescents who have remained in care for over a year are perceived to have poor chances for either adoption or reunification (Barth & Berry, 1987; Kemp & Bodonyi, 2000). Thus, although the findings do not generalize to all children

entering foster care, the findings contribute to knowledge about the reasons for sibling separation and its consequences among a significant subpopulation of foster children.

In addition to providing descriptive data on the reasons for sibling separation, two specific hypotheses were tested. These hypotheses included the following:

- 1) Children who had been placed with a stable number of siblings throughout their stay in foster care were expected to have higher levels of foster home integration and sense of belonging than either children separated from all of their siblings or children placed with a varying number of siblings during their time in foster care.
- 2) Children placed with a stable number of siblings during their stays in foster care were expected to have a lower risk for placement disruption. This association was expected to be mediated by foster home integration and sense of belonging.

Because previous research specifically focused on sibling separation and permanency outcomes has not been conducted, the models testing the association between sibling placements and permanency outcomes were exploratory and no specific relationships were hypothesized.

2. Methods

2.1. *Methodological issues unique to studying siblings in foster care*

Studying siblings in foster care presents several significant methodological issues. The experiences of groups of siblings might be the primary interest, but modeling individual and group-level effects is complicated by the fact that children from the same family might enter care at different points in time, be placed in a homes together at different points and then separated, never be placed together, or even never live together. Sibling groups in families involved in child welfare services are often large, further complicating attempts to model placement patterns. For example, a pair of siblings might move together twice and then be separated from each other when one enters a residential setting (a separation) and the other is placed with a different sibling (both a separation and a reunification). Two other siblings from the same family might be living with a different foster family throughout the same time period (a stable joint placement). Attempting to statistically model the wide variation placement patterns over time and the effects of these patterns would be extremely difficult, and so researchers have generally either selected one child from the sibling group and then studied effects of separation on the selected child (see Boer et al., 1995) or studied pairs of siblings (see Drapeau et al., 2000; Staff & Fein, 1992). However, studying pairs of siblings presents additional methodological issues. When children are in sibling groups larger than two, the pair to be studied must be selected from the larger group. This obscures differences in the experiences and outcomes for children placed jointly with more than one other sibling.

Another issue concerns the definition of a sibling. Most practitioners and researchers would be likely to count children with different fathers as siblings, but what if a second child is born several years after the first child entered care and is placed with paternal

relatives? Should this child be considered separated from his or her sibling? Similarly, the relationships of step and foster siblings who have lived together for several years can present ambiguities. Ideally, the effect of the separation experience would be examined in the context of the individual meaning that the sibling relationship has to the child prior to placement.

An additional factor that has not been acknowledged in previous research concerns the role of a child's developmental stage in influencing a child's reaction to separation. Sibling relationships evolve and change over time (Buhrmester & Furman, 1990). During infancy, separation from siblings is not likely to impact adaptation as it would during childhood. During adolescence, relationships with siblings are less intense than during childhood as adolescents differentiate from their families and focus more on peer relationships (Hetherington, Henderson, & Reiss, 1999; Stocker & Dunn, 1994). Because adolescents spend less time with siblings than previously, they might react differently to separation than during childhood. Developmental changes in sibling relationships should be recognized in future research by either testing models separately for children and adolescents of different ages or focusing studies on particular age groups.

Finally, how to define a sibling separation is unclear. When pairs of siblings are the focus of study, separations can be clearly defined as the separation of the pair initially, upon placement, or after a joint placement occurs for a period of time. But when sibling groups are large, as they usually are in child welfare populations, separations can occur when a child is separated from all other siblings or when three are placed in one home and three are placed in another. Children could be primarily affected by either the loss of siblings, due to grief reactions, or by the number of siblings in joint placement, due to retaining the familiarity and support provided by each sibling. If separations are detrimental to children, focusing on singleton placements would be supported, as the negative effect of being separated from all other siblings would be most pronounced. But deciding on how to categorize other separations and placement patterns is more difficult.

2.2. Methodological choices in the present study

This study addressed the difficulty in disentangling the wide variation in sibling placement patterns by testing associations between placement outcomes and different types of sibling placement patterns. Individual children, rather than entire sibling groups, were the unit of analysis. In instances in which two children from a sibling group were both randomly selected for the study, one child in the pair was randomly selected for inclusion in the study to prevent correlations between subjects that would normally occur within sibling groups. Because the study involved a cross-sectional sample of foster children who had already been in care for a year or longer, a strategy for coding both current and historical patterns of sibling placements was needed. Simply testing associations between the number of siblings placed together at a fixed point in time and outcomes would ignore the potential effects of the sibling placement patterns that preceded the selected placement. For example, instability in the number of siblings placed together over time might be associated with different outcomes than joint placements that are consistent over time.

This issue was addressed by identifying and coding discrete patterns of sibling placements. Examining patterns is an ideal way to analyze complex historical or longitudinal information that is not necessarily expected to have a linear relationship with outcome variables (Bergman, 2001). Patterns involving consistent placement without siblings, history of unstable sibling placements, and separations from siblings while in care were expected to be associated with problems with placement adaptation and increase risk for placement disruption. Children were expected to benefit from the presence of stable relationships with siblings who were placed in the same home with them, regardless of the number of placements that the siblings experienced together. In addition, number of siblings jointly placed was expected to be less important than consistency in sibling relationships.

Patterns of sibling placement were coded into four basic types. First, *placement alone in all placements* included children who had been placed without siblings in all of their placements throughout their spell in foster care. These children experienced a separation from all of their siblings at the point when they entered foster care. Second, *placement alone at interview with history or sibling placements* included all children who were placed alone in 1997, but had a history of joint sibling placements. These children all had been placed with one or more siblings in earlier placements, but had been separated from these siblings prior to the interview in 1997. Third, *placement with siblings with history of inconsistency* included children placed with one or more siblings in 1997 who had a history of instability in the number of siblings jointly placed over time. These children had been previously placed with a varying number of siblings over time, and so had experienced separations and perhaps reunions at different points during their foster care spell. Fourth, *placement with siblings in all placements with consistency* included all children who had remained with the same number of siblings during all of their placements prior to the interview. Too few children had been placed with all of their siblings consistently throughout their stay in foster care ($n=7$) to reliably analyze this group, so the “placement with siblings with consistency” group included both those who had never experienced a sibling separation and those who had experienced a separation at entry into foster care but no additional separations after entry. Additional information about how each of these categories was coded is found in the measures section.

Size of sibling group and history of placement movement were included as control variables in all multivariate models, since placement with a stable number of siblings, size of sibling group, and placement movement are not necessarily independent. Children could experience stability in the number of siblings in their placements as they move from home to home together, but movement might increase chances that some children would be placed elsewhere, leading to instability in the number of siblings placed together.

To test whether benefits were increased when more siblings were placed together (providing “additive benefits”), associations were also tested between placement adaptation, placement outcomes, and the number of siblings placed together in both the first placement in the current foster care spell and the placement at the time of the start of the study. However, a linear association was not expected between number of siblings in placement and positive outcomes; instead, patterns that involved instability and ultimately placement without any siblings were expected to be associated with difficulties with

adaptation. The proportion of siblings not in placement with the child was also coded for use in analyses, but again, this factor was not expected to be significantly related to outcomes. Stable relationships with one or more siblings in shared placements, rather than number of siblings not included in the placement, were expected to be related to positive outcomes.¹

In this study, choices about the definition of “sibling” were limited by the use of preexisting data to code sibling placements and separations. These data were created by investigations workers who entered initial identification codes into electronic data files. Half and step siblings were coded as siblings if they lived with the same caregiver at the time of the investigation; thus, half siblings with different mothers were unlikely to be classified as siblings.

Because the sample used for this study was selected cross-sectionally (in contrast to a cohort sample, in which children entering within a period of time would be selected), the results are only indicative of the potential benefits or risks of young adolescents’ placement with siblings after placement in foster care for a year or longer. The findings of this study are not likely to generalize to all children entering care, most of whom will be in care for much shorter periods of time than the children in this study. However, this study provides an initial test of the relationships between sibling placements and placement adaptation and outcomes among young adolescents in long-term foster care. Any associations detected between sibling placement patterns and placement adaptation and outcomes might suggest risks or benefits that are potentially relevant to service planning for other young adolescents in long-term foster care. In addition, the findings from this study will provide a starting point for additional research in this area with cohort and cross-sectional samples of children of different age groups.

2.3. *Sample*

The sample consisted of 197 adolescents who were selected in 1997 as a part of a larger study of placement experiences (e.g., placement movement, time in group care, parental contact, and sibling separation) and foster children’s behavior problems (see [Leathers, 2002](#)).

A restricted age range (12 or 13 years old at time of selection) was chosen for the sample to minimize variations in needs, experiences, and behavior that are due to developmental differences of children and adolescents ([Cohen et al., 1993](#)). Similarly, to minimize variation in experiences while in care, only children who were currently placed in traditional foster care and had been in care between one and eight years were eligible. Children who enter care as infants or toddlers and then remain in foster care longer than eight years (cross-sectionally, about 14% when this sample was selected) were not included because these children are more likely than other foster children to have

¹ This expectation is supported by findings that suggest that children who are separated from all siblings have the greatest risk of placement disruption. Modeling proportion placed together or separately would obscure the experience of placement alone. For example, a child from a sibling group of six who was placed with two other siblings could receive the same value for a variable modeling a proportion placed together as the sibling from a sibling group of two who was placed alone.

significant disabilities and multiple problems, leading to distinctly different experiences while in care (Block & Libowitz, 1983; Meezan & Shireman, 1985). All children's cases had been opened in Cook County, Illinois. Cook County includes Chicago and 75% of the children placed in foster care statewide. Children who were severely or profoundly mentally retarded were excluded, as were 12 children who had moved to group care, been adopted, or been reunified before the interviews could be completed.

The sample for the present study includes all children who (1) had at least one interview completed with their foster parent or caseworker in 1997 or 1998, and (2) had at least one other sibling in foster care. Fourteen (7%) of the children included in the original study had no siblings. Interviews were completed with 182 foster parents and 192 caseworkers, and a total of 200 children with siblings had at least one of the interviews completed. Three cases were deleted due to incomplete data for several key variables examined in the study, so the final size of the sample was 197. The response rates for foster parents and caseworkers were 82% and 86%, respectively. All 197 cases were used in descriptive and bivariate analyses, but only cases with complete data were included in the multivariate analyses. Demographic data for all children in the sampling frame were available through electronic data files maintained by the state, so that differences between the sample and the population of children meeting selection criteria could be tested. Children included in each of the analyses were not statistically different from the children who could not be included due to missing information, or from the entire population of children in the state who met selection criteria, in terms of their age, race, sex, number of previous placements, and time in care.

2.4. Data collection

Data collection involved three sources: (1) foster parents (almost always foster mothers) of selected children in 1997, (2) caseworkers of selected children in 1997, and (3) administrative data files maintained by the state child welfare agency.

Telephone interviews were used to collect information from foster parents and caseworkers. Interviews were conducted by the author and three second-year female social work masters students who were trained for three days in basic telephone survey techniques. One interview was conducted with the foster parent and the caseworker of each child, with all interviews occurring between July 1997 and March 1998. The interviews were used to collect information about the reasons that siblings were separated, children's emotional and behavioral disturbance, integration into the foster home, and parental visiting. Throughout this paper, the placement at the time of the interview is referred to as "the placement in 1997," although some interviews did occur during the first few months of 1998.

Electronic data files maintained by the state were used to collect demographic information, time in care, number of siblings in care, the number of placements experienced prior to the interview, and the number of siblings placed with the selected child placement at the time of the interview and each placement experienced prior to the interview. In addition, placement disruption and permanency outcomes, including reunification, adoption, and subsidized guardianship, were collected prospectively through May 2002, using electronic data files.

2.5. Measures

2.5.1. Reasons for sibling separation

Caseworkers responded to several questions about sibling separation for all children who had siblings in foster care who were not currently placed with one or more their siblings when the interview occurred (i.e., in 1997 or 1998). First, caseworkers chose from three categories that described why the siblings had been separated: (1) the children had different needs, which could not be met in the same placement; (2) a placement could not be found which could take two or more siblings; and (3) the foster parent requested that one be moved because of behavior problems, but wanted to keep the others. In addition, options to provide another reason or to say that they did not know were provided in this question. Open-ended follow up questions were then asked to collect information about the other reasons and the differences in the needs of the children if one of these two categories had been chosen. Caseworkers were allowed to provide as many reasons as applied to the selected child's separation from siblings, and then were finally asked what the most important reason was for separation. From these questions, a variable that coded the most important reason for sibling separation for each case was created. Final categories were created using information from all of the questions. In cases in which too little information was available (e.g., a caseworker indicated that the children's needs were different, but did not specify how), the "unknown" category was chosen. The final categories included (1) couldn't find a placement for the sibling group; (2) foster parent requested one child be removed because of behavior problems; (3) different behavioral/mental health needs or too many behavior problems for one foster family; (4) sexual risk posed by one sibling to others; (5) behavior problems and placement availability equally important; (6) siblings not in care now, or entered at a different time; (7) different needs due to age differences; (8) children split by gender; (9) different paternity led to split; and (10) unknown why separated.

2.5.2. Sibling placements

Information about placements collected from electronic placement files at the time of the interview with foster parents was used to create all sibling placement variables. Several variables were created to code different categories of sibling separation and joint placement. First, variables were created that included a count of siblings in the child's placement at the time of the interview, a count of siblings in the child's first placement, and a count of each child's total number of siblings in foster care. Second, dummy variables coded four distinct patterns of joint placement and history of separation: (1) placement alone in all placements (i.e., throughout the child's spell in foster care); (2) placement alone at the time of the interview, with a history of joint sibling placements; (3) placement with siblings with inconsistency (i.e., with a history of variation in the number of siblings jointly placed over time); and (4) placement with siblings with consistency in the number jointly placed over time.

Categories were decided upon based on the expectation that a child would benefit from stability in siblings relationships and that other patterns of placement with siblings might have varying effects on placement adaptation. Sibling placement variables were created using information about the number of siblings in the child's placement at entry

into care, at the end of each placement experienced by the selected child, and at the time of the interview. Children in placements with siblings who had a history of instability in number of siblings in placements over time may have experienced a loss, a gain, or, at different points, both a loss and a gain in the number of siblings with whom they were placed. They might also have had periods in which they were placed alone. They might have experienced just one placement (if they entered the placement alone, and then had a sibling placed with them) or have experienced multiple placements. Children who experienced placement with a stable number of siblings over time may or may not have experienced placement disruptions; some children had stayed together in one placement, and others had moved together from placement to placement, sometimes multiple times.

Because information was not available regarding moves of siblings in and out of a foster home while the child remained in the home, or the names of the siblings in each home, stability might be overestimated by the sibling placement stability variable. This would occur if an additional sibling was placed in the home more than 30 days after the start of the child's placement and then also removed prior to the occurrence of either the placement ending or the interview with the foster parent. Similarly, it is possible that some children who appeared from the available data to have always been placed alone did have some relatively brief periods of time in joint placements. Because the information that could be collected about sibling placement patterns did not include names or other unique identifiers for siblings, siblings who were placed with the same number of siblings in more than one placement might also have experienced a substitution of siblings. For example, a child might move from a foster home in which their sibling remained to another in which a different sibling was placed. These types of situations are expected to be rare, but might have led to an overestimation of the number of children who experienced consistency in their sibling relationships.

2.5.3. Foster home integration

Foster home integration was measured by adapting a three-item measure of foster and biological parent attachments created by Fanshel (1982) for use by caseworkers, and later modified for use in research by Poulin (1985). Neither Fanshel nor Poulin tested the reliability or validity of this measure. Although these items were used to create measures called "attachment" by both Poulin and Fanshel, in this study, the measure is referred to as a measure of foster home integration rather than attachment because the measures do not involve in-person assessments, as would be required to measure attachment as it is traditionally conceptualized (e.g., Bowlby, 1969).

Because the original question measuring foster family attachment included two dimensions (child's perception of belonging in the foster home and probable reaction to being removed from the home), this item was split into two questions. These two questions were asked of both the foster parent and the caseworker. For each item, caseworkers and foster parents chose from descriptions of five different levels of belonging or reaction to being removed from the home. For example, for the "perception of belonging in the foster home" items, the categories ranged from "First, child does not appear to feel like a part of the family" to "Fifth, child is deeply integrated within the family and experiences foster parents as own family." Three items were used to create the foster family integration

measure: foster parent assessment of belonging, caseworker assessment of belonging, and caseworker assessment of probable reaction to being removed from the home. One item asked of the foster parent (probable reaction to being removed from the home) was dropped, because this item reduced the internal consistency of the measure considerably. For this item, foster parents were more likely than caseworkers to report that the child would be very distressed if removed from the home, and the mean value was higher than all of the other three items. The internal consistency of the three-item measure was .60, as measured by Cronbach's alpha. The low internal consistency of this measure is most likely due to the small number of items included in the scale and the inclusion of related but distinct aspects of foster home integration (i.e., attachment/belonging and reaction to removal). All three items were significantly correlated ($r_s > .33$, $p_s < .01$).

2.5.4. Placement disruption

All placements that were terminated after the interview was completed with foster parents and followed by placement in another nonpermanent placement for the selected youth were coded as disruptions. Moves to temporary placements (e.g., hospitalizations, emergency shelters) and runaway episodes that were followed by a return to the foster placement prior to the temporary placement or runaway were not counted as disruptions. Moves for the purposes of permanency for the selected youth (e.g., to the biological parent's home or an adoptive home for the youth) were also not counted as disruptions.

2.5.5. Permanency outcomes

Permanency outcomes were tracked for approximately five years, through May 2002 when the youth were 17 or 18 years old. Outcomes of reunification, the finalization of an adoption, and the legal transfer of guardianship from the state to a caregiver through subsidized guardianship (an option for some children during this time period through a demonstration project) were coded as permanency outcomes in three separate variables. Adolescents who remained in foster care through the follow-up period were coded as not having attained permanency. Youth who attained permanency after the foster parent was interviewed and then returned to substitute care during the follow-up period were also coded as not having attained permanency.

2.5.6. Externalizing behavior problems

Externalizing behavior problems was measured using questions assessing the severity of oppositional defiant and conduct disorder symptoms from the Children's Symptom Inventory (CSI; [Gadow & Sprafkin, 1997](#)). Both the foster parent and the caseworker completed the CSI. The CSI questions are based on symptoms of disorders as defined in DSM-IV ([American Psychiatric Association, 1994](#)). As with other behavior checklists, the CSI provides a continuous measure of symptom severity. This continuous measure is used in the present study, rather than a dichotomous measure created using clinical cut off scores. The oppositional defiant and conduct disorder subscales of the CSI have been demonstrated to have adequate reliability and validity ([Gadow & Sprafkin, 1997](#)). The scores are highly correlated with delinquent behavior scores ($r > .70$, both subscales) obtained using the Child Behavior Checklist ([Achenbach & Edelbrock, 1981](#)), and clinical cut off scores are associated with psychiatric diagnoses as determined by a child and

adolescent psychiatry outpatient center (sensitivity .71 and specificity .8 for conduct disorder, sensitivity .63 and specificity .7 for oppositional defiant disorder; [Gadow & Sprafkin, 1997](#)).

In the present study, the conduct disorder and the oppositional defiant items were highly correlated for both the foster parent and the caseworker ratings ($r_s > .70$). When combined into measures of total behavior problems as reported by foster parents and caseworkers, Cronbach's alpha was .89 and .91 for foster parents and caseworkers, respectively. The foster parent and caseworker ratings of total behavior problems were significantly correlated ($r = .42$), and so were averaged to create a single estimate of behavior problems. The Cronbach's alpha for all of the foster parent and caseworker items included in this measure is .92.

2.5.7. Other control variables

Other control variables included demographic characteristics, placement movement prior to the 1997 placement, time in placement selected in 1997, and frequency of maternal visiting. The detail regarding the measurement of control variables can be found in previous publications (see [Leathers, 2003](#)).

2.6. Analyses

A hierarchical ordinary least squares regression analysis was used to test whether sibling placement patterns were associated with foster home integration. In this model, all control variables were entered in the first step. Control variables included race, sex, age, years in foster care as of interview date, total number of siblings, number of previous placements prior to the selected placement, type of placement at the time of the foster parent interview (specialized or regular family foster care), years in the selected placement as of the interview date, and behavior problems as reported during the interviews. A group of variables coding three of the sibling placement patterns was entered in the second step of the model; placement with a consistent number of siblings was the reference group to which the other patterns were compared. To determine whether multicollinearity had affected the significance of the beta coefficients obtained, squared variance inflation indices and tolerance statistics were examined for each regression equation.

Logistic regression analyses were used to test predictive models for placement disruption, reunification, and combined adoption/subsidized guardianship. Logistic regression was chosen instead of a survival analysis because the incidence of placement disruption was of interest and the length of follow up (until age 17 or 18) ensures that the outcomes being studied will have occurred. In the reunification model, adolescents who returned home were compared with adolescents who remained in foster care or were in adoptive or subsidized guardianship homes. In the adoption/subsidized guardianship model, youth who were adopted or exited to legal guardianship were compared to youth who remained in foster care. It was assumed that reunification would preclude adoption or subsidized guardianship even if foster families were interested in adoption, and so children who were reunified were not included in the test of the adoption and combined adoption/subsidized guardianship models. In each permanency model, frequency of visiting by the

child's mother was included as an additional control variable, since parental visiting is predictive of permanency outcomes (Fanshel, 1982; Fanshel & Shinn, 1978; Mech, 1985; Milner, 1987).

To assess the adequacy of the logistic regression models, the model chi-square and the Hosmer and Lemeshow goodness-of-fit test statistic were examined. Baron and Kenny's (1986) criteria were used to determine whether foster home integration mediated the association between sibling placement patterns and placement disruption. These criteria specify that mediation has occurred if (1) significant associations occur between the independent variable, the dependent variable, and the potential mediator; and (2) the association between the independent and dependent variable is weaker after controlling for the mediator. A probability level of .05, assuming a two-tailed test, was used to identify statistically significant relationships in all analyses.

3. Results

3.1. Response rate and sample characteristics

As shown in Table 1, sibling groups were large. Before deleting youth from the sample who were only children, the average number of siblings was 5.39 in 1997, and the modal and median number of siblings was 5. Because the data on sibling group size were collected in 1997, when the sample was selected, any additional siblings who entered care after the start of the study would not be included in this count. Almost half of the sample was placed without any other siblings at the time of the interview with the foster parent, but only 14% of children had never been placed with a sibling, revealing the variation in sibling placements over time. Just 14 (7%) of the youth were placed with all of their siblings. Variation over time in the number of siblings jointly placed was the most common sibling placement pattern: 36% of children were placed with at least one other sibling in 1997 but had experienced inconsistency in the number of siblings in their placements prior to 1997. Percentages placed with sibling groups of different sizes, sibling placement patterns, permanency outcomes, and placement disruption rates are shown in Table 1.

3.2. Reasons why siblings were separated

Caseworkers were able to respond to the questions about why siblings had been separated at some point prior to their placement in 1997 for 82% of the children, as shown in Table 2. After listing all relevant reasons for separations, caseworkers rank ordered behavior problems (36%) and a lack of placement resources (33%) as the most important reasons for separating siblings. Behavioral and mental health problems resulted in separations due to foster parent requests to have a single child removed from a home while other siblings remained, differences in siblings' behavioral and mental health needs that required different types of placements, and behavior problems that could not be met by a single foster family. Additionally, sexual risk posed by one sibling to others was mentioned for 6% of the children.

Table 1
Demographic characteristics and placement outcomes (N=197)

	%	Mean	S.D.
Sex			
Male	49		
Female	51		
Race			
African American	82		
White	8		
Hispanic	9		
Other race	1		
Age on 6/30/97			
12 years old	58		
13 years old	42		
Years in foster care as of 6/30/97		4.63	1.80
Years in current placement at interview in 1997		2.41	1.77
Number of placements in foster care as of 6/30/97		4.23	2.36
Number of siblings on 6/30/97		5.39	2.17
Number of siblings in placement ^a			
None	46		
One	30		
Two	15		
Three	6		
Four	1		
Five or more	2		
Sibling placement pattern ^a			
Placed with siblings, consistent in all placements	18		
Placed with siblings, history of inconsistency	36		
Placed alone at interview, history of sibling placement	32		
Placed alone in all placements	14		
Permanency outcomes as of 5/30/02			
Reunification	14		
Adoption	19		
Subsidized guardianship	9		
Still in foster care	58		
Disruption of placement at interview in 1997 or 1998 occurred	56		

Total percentages may not equal 100 due to rounding.

^a At time of foster parent interview in 1997 or 1998.

3.3. Sibling separation and foster home integration

Two different sibling placement patterns were found to be significantly associated with less integration into the foster home after controlling for the child's behavior problems and other child and placement characteristics (see Table 3). As compared to children who had been placed with a consistent number of siblings, children who were either placed alone at the interview, with a history of joint sibling placements, and children placed with siblings at the interview, with an inconsistent history of sibling placements, were reported to be less integrated into their foster homes at the time of the interview in 1997. The model explained a total of 19% of the variance in foster home integration. Sibling separation patterns explained 3% of the variance after entering all

Table 2

Caseworker report of most important factor leading to prior sibling separation ($n=183$)

Reason	%
Couldn't find a placement for all	33
Foster parent requested one child be removed because of behavior problems	11
Different behavioral/MH needs or too many behavior problems for one foster family	19
Sexual risk posed by one sibling to others	6
Behavior problems and placement availability equally important	4
Siblings not in care, or entered at a different time	3
Different needs due to age differences	2
Children split by gender	1
Different paternity led to split	1
Unknown why separated	19

Fourteen children were placed with all of their siblings, and so caseworkers did not provide reasons why siblings were separated. Total percentage does not equal 100 due to rounding.

control variables. When sibling placement patterns were entered into the model first, before the control variables, sibling placement patterns accounted for 8% of the variance in foster home integration and all three of the sibling placement pattern variables were significantly associated with lower integration ($ps<.05$; not shown). Additional post hoc analyses suggest that the length of time in the current placement at the time of the interview partially explained the association between sibling placement patterns and foster home integration; when time in current placement was entered in the model first, 4% of the variance in foster home integration was accounted for by sibling placement patterns. In contrast, when behavior problems were entered first, 7% remained accounted for by sibling placement patterns (not shown).

Table 3

Hierarchical regression results: prediction of foster home integration ($N=196$)

Variable	Without sibling placement patterns				With sibling placement patterns			
	<i>B</i>	S.E.	β	P-value	<i>B</i>	S.E.	β	P-value
Constant	4.49	.20		<.01	4.69	.21		<.01
Control variables								
Placements prior to interview	-.04	.02	-.13	.11	-.03	.02	-.09	.27
Years in placement at interview	.08	.04	.22	.02	.06	.04	.17	.08
Behavior problems at interview	-.45	.13	-.24	<.01	-.46	.13	-.25	<.01
Sibling placement patterns								
Placed with siblings in all placements, consistent								
Placed with siblings, history of inconsistency					-.32	.13	-.23	.01
Placed alone at interview, history of sibling placements					-.35	.14	-.25	.01
Placed alone in all placements					-.25	.16	-.13	.12

Additional control variables that are not shown include sex, race, years in foster care, total number of siblings, and frequency of maternal visits in past 6 months. All control variables not shown were nonsignificant ($ps>.20$). Results shown for the model after all blocks of variables have been entered. $R^2=.19$ for control variables; $\Delta R^2=.03$ for sibling placement patterns. Adjusted $R^2=.12$ for control variables; Δ adjusted $R^2=.02$ for sibling placement patterns. Range for foster home integration 1–5, with 5 indicating highest level of integration.

3.4. Sibling separation and placement disruption

A child's sibling placement pattern had a significant bivariate association with disruption of the foster home placement in 1997 [$\chi^2(3, N=197)=8.01, p<.05$, not shown]. Children who had been placed consistently with the same number of siblings throughout their stay in foster care were much less likely to experience a placement disruption than children with other sibling placement patterns. Just 36% of children with a history of consistent joint placements experienced disruptions subsequent to the interview. In comparison, placement disruptions occurred for 56% of children placed with siblings with an inconsistent history of sibling placements and 59% of children who had always been alone. Children placed alone who had a history of joint sibling placement were most likely to experience a placement disruption (65%). No significant differences in the disruptions rates of children placed with one, two, and three or more siblings at the time of the interview were found.

After controlling for child and placement characteristics and behavior problems, placement alone in 1997 with a history of sibling placements predicted placement disruption, more than doubling a child's risk for disruption, as shown in Table 4. At the trend level, placement alone in all previous placements and inconsistent placement with

Table 4
Logistic regression analyses predicting placement disruption

Variable	Without foster home integration (n=196)				With foster home integration (n=196)			
	Log-odds coefficient	S.E.	Wald	OR	Log-odds coefficient	S.E.	Wald	OR
Constant	-.60	.74	.64	.55	3.89	1.53	6.48	49.05*
Control variables								
African American race	.70	.41	2.96	2.01***	.88	.43	4.21	2.42*
Placements prior to interview	-.02	.09	.03	.98	-.04	.09	.21	.96
Years in placement at interview	-.23	.13	3.21	.79***	-.19	.13	2.09	.83
Behavior problems at interview	1.07	.48	4.98	2.93*	.69	.50	1.90	2.00
Sibling placement patterns								
Placed with siblings in all placements, consistent	.	.	.	.	.	.	.	.
Placed with siblings, history of inconsistency	.58	.45	1.69	1.79	.30	.47	.43	1.36
Placed alone at interview, history of sibling placements	.99	.50	3.91	2.68*	.70	.52	1.84	2.01
Placed alone in all placements	.73	.56	1.66	2.07	.53	.59	.83	1.70
Foster home integration					-.97	.29	11.59	.38**

Additional control variables that are not shown include sex, years in foster care, total number of siblings, placement type, and frequency of maternal visiting in past 6 months. All control variables not shown were nonsignificant ($ps>.40$). Likelihood ratio for overall model without foster home integration=23.41, $df=11, p<.05$. Hosmer and Lemeshow test statistic=6.14, $df=8, p=.63$. Likelihood ratio for entire model after including foster home integration=36.21, $df=12, p<.01$. Hosmer and Lemeshow test statistic=4.35, $df=8, p=.82$.

* $p<.05$.

** $p<.01$.

*** $p<.1$.

siblings were also found. The coefficient for placement alone at interview with a history of sibling placement was nonsignificant after foster home integration was included in the model (see Table 4), supporting the hypothesis that weaker foster home integration mediates the association between disruption and placement alone with a history of sibling placements. For both placement disruption models, the Hosmer and Lemeshow statistics were nonsignificant ($ps>.60$), indicating adequate model fit.

In additional analyses, associations were tested between the number of siblings in the 1997 placement, the proportion of siblings not in the foster home in 1997, and placement disruption. In models with all control variables entered, neither of these variables was significantly associated with placement disruption ($ps>.30$).

3.5. Sibling separation and permanency outcomes

Children who were placed alone in 1997, either with a history of placement with siblings or only a history of placement alone, were significantly *less* likely to be either adopted or in subsidized guardianship homes than children who were placed with a consistent number of siblings in all their placements, as shown in Table 5. The odds that

Table 5
Logistic regression analyses predicting reunification and adoption

Variable	Reunification ($n=195$)				Adoption/subsidized guardianship ($n=167$)			
	Log-odds coefficient	S.E.	Wald	OR	Log-odds coefficient	S.E.	Wald	OR
Constant	.07	2.30	<.01	1.07	-2.07	1.88	1.21	.13
Control variables								
African American race	-.47	.61	.60	.62	-.96	.51	3.45	.38***
Years in foster care	.14	.22	.40	1.15	.27	.15	3.34	1.31***
No. of maternal visits in 6 months	.09	.02	17.83	1.09**	-.09	.05	2.98	.91
Foster home integration	-.33	.41	.67	.72	.70	.34	4.09	2.01*
Sibling placement patterns								
Placed with siblings in all placements, consistent	.	.	.	.	.	.	.	.
Placed with siblings, history of inconsistency	-.11	.77	.02	.90	-.14	.51	.07	.87
Placed alone at interview	.49	.79	.38	1.63	-1.25	.61	4.19	.29*
Placed alone in all placements	1.19	.84	2.02	3.29	-1.74	.78	4.99	.17*

Additional control variables that are not shown include sex, total number of siblings, years in placement at time of interview, placement type, behavior problems, and number of placements before the interview. All control variables not shown were nonsignificant ($ps>.10$). Contrast group for reunification includes children adopted, in subsidized guardianship, and in long-term foster care. Likelihood ratio for overall reunification model=42.32, $df=13$, $p<.001$. $N=195$ due to deletion of cases with missing data from this analysis. Hosmer and Lemeshow test statistic=6.17, $df=8$, $p=.63$. Contrast group for adoption/ subsidized guardianship (SG) includes children in long-term foster care. $N=167$ due to deletion of reunified children and cases with missing data from this analysis. Likelihood ratio for overall adoption/SG model=37.48, $df=13$, $p<.01$, Hosmer and Lemeshow test statistic=17.36, $df=8$, $p=.03$.

* $p<.05$.

** $p<.01$.

*** $p<.1$.

children with either of these sibling placement patterns would be adopted or in subsidized guardianship arrangements was less than 30% of the odds for children placed with a consistent number of siblings. However, in this model, the Hosmer and Lemeshow statistic was significant ($p=.03$), indicating poor model fit and misspecification. Exploration of possible moderating variables revealed that the association between foster home integration and adoption/subsidized guardianship varied for African American children and children of other races (i.e., white, Hispanic, Asian, or other). Modifying the model by including an interaction term for other race and foster home integration revealed that the effect size of foster home integration was significantly smaller for other race children than for African American children. In this model, the Hosmer and Lemeshow statistic was nonsignificant ($p=.79$) and placement alone in 1997, either with a history of placement with siblings or a history of placement alone in all previous placements, continued to be significantly associated with placement disruption ($OR<.25, p<.05$). Because of the small number of other race children, problems with multicollinearity occurred for race, foster home integration, and the interaction term in this model. Since the model misspecification did not affect the coefficients for the variables of interest in this study, the original model is presented in [Table 5](#).

None of the sibling placement patterns were significantly related to whether or not the identified child returned home (see [Table 5](#)). In this model, only frequency of maternal visiting was related to increased chances for reunification. Each additional maternal visit in the past 6 months increased the odds of reunification by 9%. Tests of model fit indicated adequate fit for the reunification model.

4. Discussion

The bivariate findings from this study are consistent with the findings of several earlier studies ([Berridge & Cleaver, 1987](#); [Staff & Fein, 1992](#); [Trasler, 1960](#)) that indicate that children placed with siblings experience more stability in their care than children who are separated from siblings. This study extended these findings by testing specific hypotheses about predictors of disruption in multivariate models. In these analyses, young adolescents in long-term foster care who had a history of consistent placement with the same number of siblings throughout their stay in foster care were less likely to experience a placement disruption than the adolescents who had been separated from all of their siblings after a history of joint sibling placements. However, only this placement pattern was related to disruption after controlling for demographic and placement characteristics. Youth who had either been placed without siblings throughout their entire stay in foster care or were placed with siblings inconsistently were no more likely to experience a disruption than youth with consistent joint placements.

This study also began to address the question of why placement disruption might be more common among children who experience separations from all of their siblings while in care. Although behavior problems are greater among both children placed alone ([Boer et al., 1995](#)) and those who experience a placement disruption ([Newton et al., 2000](#); [Widom, 1991](#)), behavior problems did not account for the increased risk for placement disruption among youth separated from all of their siblings while in care. Instead, the

degree to which youth were integrated within their foster homes appeared to play a role in the increased risk for placement disruption these youth. As hypothesized, caseworkers reported that youth placed with a consistent number of siblings throughout their stay had a stronger sense of integration and belonging in their foster homes than those who were either separated from all of their siblings while in foster care or placed with siblings inconsistently over time. In addition, foster home integration mediated the risk for disruption among those who experienced separations while in care: after including foster home integration and belonging in the model predicting placement disruption, the effect of placement alone with a history of joint placement was nonsignificant.

Although this set of findings appears to support the notion that the adolescents in this sample who were placed in consistent joint placements had a lower risk for placement disruption because they had better adaptation to foster care, the underlying processes explaining these associations are unknown. Perhaps children who are placed with the same siblings throughout their stay in foster care have an increased capacity to form attachments, which facilitates their adaptation and bonding with foster parents. Stronger attachments with foster parents might be protective during times of stress when the placement might otherwise end prematurely. However, this increased capacity to form relationships might not be due to the consistency of sibling relationships over time. Instead, other factors, such as capacity for positive attachments or greater social skills, could explain both the consistency of sibling placements (e.g., due to fewer conflicts between the children) and the stronger relationships with foster parents. Children placed with siblings consistently might also have benefited from their joint placements in another, unmeasured way that was responsible for both the consistency in their joint placement and their positive placement outcomes. For example, the foster parents who cared for consistently placed sibling groups might be particularly altruistic and have a strong motivation to provide stable care to children, which could lead them to work harder than other foster parents to maintain the children's placement. Controlling for history of placement movement might only partially capture this effect. Clearly, additional research that explores these possibilities is needed. Research with a wider population of foster children and in states with different characteristics will be particularly useful, as the reported study was conducted in a single state with a sample of young adolescents who had all been in care for at least a year.

The present study also explored the potential for joint sibling placements to affect rates of reunification and adoption. The results from these analyses were unexpected. Joint placement of siblings was thought to have potentially both positive and negative effects on permanency outcomes, and overall, no positive or negative effects on permanency outcomes were hypothesized. Consistent with this expectation, sibling placements were not related to reunification rates, suggesting that joint placements do not either increase or decrease chances that children will be reunified with their parents. Only frequency of maternal visiting increased chances for reunification, consistent with previous research (Fanshel, 1982; Leathers, 2003; Mech, 1985; Milner, 1987). However, a strong, unexpected association between joint placement and adoption was found: children placed with the same number of siblings consistently throughout their stay in foster care had a significantly higher chances for adoption or subsidized guardianship than children placed alone. This finding raises many questions. How might the fact that

children are placed with siblings affect children, foster parents, or caseworker as they consider adoption? Could the children in this sample, who were 12 or 13 years old at the time of the interviews, have expressed a greater interest in adoption and subsidized guardianship when they were placed with siblings? Could foster parents and caseworkers have felt that obtaining permanency for sibling groups was particularly urgent, leading to greater efforts to support the adoption of siblings? The greater sense of belonging in the foster home among children placed with siblings was not found to be responsible for their higher rates of adoption; greater chances for adoption were found even after controlling for foster home integration. Given the challenges of obtaining permanency for children as they enter adolescence, understanding whether joint sibling placements increase the odds for adoption in other samples and, if so, why this occurs, could provide information that could inform policy and programmatic decisions relevant to increasing permanency outcomes.

Overall, the findings from this study and the previous studies that have been conducted to date indicate that consistent placement with siblings may benefit foster children. Given these benefits, understanding the reasons why siblings have been separated is a highly relevant question that the research reported in this article began to investigate. Results suggest that two factors account for most of the decisions to separate siblings at some point during their time in foster care: first, a lack of placements that will accept sibling groups, and second, children's emotional and behavioral problems. The demographics and needs of foster children cannot be separated from the lack of available placements for sibling groups. Notably, the average size of the sibling groups in this study was large: the modal sibling group size was five and 29% of the youth were from sibling groups with seven or more children. The older a youth is, the longer the time period that additional children might be added to the family. The size of these sibling groups puts into context the task confronting caseworkers as they attempt to find and maintain joint sibling placements and may explain the very small proportion of children who were placed with all of siblings. However, findings from the present study also suggest that large joint sibling group placements are not necessary for children to benefit from joint placements; consistency of placement with siblings rather than number placed together was associated with better adaptation and more positive outcomes.

4.1. Limitations

Additional research is needed to replicate these findings and to learn more about why siblings are separated and how sibling placement patterns affect children's placement outcomes. In particular, research in which children of different ages are followed from the time that they enter foster care until they exit care is needed. The findings from the reported study cannot be generalized to all foster children, as the sample was selected cross-sectionally from young adolescents in an urban area who had been in care for at least a year. As discussed earlier, cross-sectional selection of a sample over-represents children who remain in care a longer period of time. The experiences of children who remain in care for brief periods of time might be very different from the experiences of the children selected for the reported study. These differences must be understood before these findings are assumed to apply to other children.

In addition, research that includes prospective reporting on the reasons for separation is needed; the retrospective reporting by caseworkers on the reasons for separating siblings resulted in a high percentage of missing data for this variable and might have led to bias as caseworkers attempted to rationalize or reconstruct past decisions. The measure of reasons for separating siblings also did not allow caseworkers to describe the complex dynamics that might have led to separations from multiple siblings over time, since the measure did not assess factors that were most important at different points with each of the youth's siblings.

Future research should also involve the collection of more detailed information about sibling placement patterns over time. In this study, consistency in the number of children in the foster care placement at the beginning and end of the placements was used as a proxy for stability in placements with siblings. As discussed in the methods section, this method might have led to the overestimation of sibling placement stability, since this coding strategy would not detect cases in which one sibling left the placement trajectory and another entered in the middle of the placement. Sibling separations that occurred at entry into foster care also would not have been detected if the child's sibling never entered foster care. Additionally, the lack of collection of data regarding the quality of sibling relationships and behavior problems over time is a limitation of this study that might have affected the results. The small proportion of variance in foster home integration associated with sibling placement patterns, for example, indicates that sibling placement patterns might be just one of many factors that might contribute to a child's level of integration and belonging in a foster home. Characteristics of the foster parent providers or sibling groups that were not measured in the present study, such as greater conflict between siblings, might be more salient variables that should be considered in future studies.

The perceptions of children and youth themselves are also an important component that should be included in future research. In this study, only foster parents and caseworkers were interviewed, leading to limitations in some of the measures. Assessment of foster home integration and belonging, in particular, should be measured by asking children rather than foster parents and caseworkers about their perceptions. Children and youth might also provide valuable information about how to best separate large sibling groups when this must occur due to placement limitations. Siblings who are separated solely on the basis of gender or age, for example, might be separated from their closest family members based on a caseworker's arbitrary decision. The perspectives of the children and youth who are personally affected by placement decisions are likely to provide the most compelling information about the effects of these decisions.

Finally, randomized intervention trials are needed to understand how programs that include efforts to maintain sibling groups in the same home affect placement adaptation and outcomes. The associations found in this study would not necessarily be found in programs focused on maintaining consistent joint sibling placements. For example, special programs focused on maintaining sibling groups by employing professional foster care providers might increase consistent joint placements, but might also result in lower rates of adoption than in other programs, due to the decreased incentives to adopt among professional foster parents (Testa & Rolock, 1999). To understand how to structure

programs to produce the best outcomes for children and their families will require collaboration between researchers and program administrators so that specific components of programs can be systematically tested and modified.

4.2. Policy and practice implications

If the findings from this study are replicated, there are several implications for policy and practice in child welfare settings. Caseworkers reported that inadequate placement resources were a significant factor leading to separation in this sample. If this is the case, increased capacity for sibling groups should be supported by new policies. The number of placements with single children (46% in the present study) might be reduced by fairly simple strategies, such as holding foster placements that will accept more than one child for sibling groups rather than using the placement for the first single child needing placement. The results of this study do not suggest that keeping all siblings in a large sibling group together is needed for young adolescents in long-term foster care to potentially benefit from their joint placements. Given the difficulties that caseworkers are likely to have when attempting to place a large sibling group in a single home (just 14 adolescents were placed with all siblings at the time of the interview in this study), a more appropriate focus might be on understanding how to create stable joint sibling placements. However, it should be recognized that the scope of this study was limited; although placement with a larger number of siblings did not appear to affect outcomes either positively or negatively, if joint placement assists children in forming lifelong ties with their siblings, placement with more siblings might provide greater benefits in early, middle, or even late adulthood.

In addition, foster parents and caseworkers are likely to need targeted training on how to care for sibling groups, which is likely to be complicated by the need to care for some siblings with behavior problems and, in some cases, siblings whose behavior problems might seem to be exacerbated when they are placed together. In the reported study, caseworkers believed that issues related to the behavior problems of one or more siblings were the most important reason for separations for 36% of the children in the sample, a slightly higher percentage than were separated due to inadequate placement resources. Simply increasing the pool of foster parents who are willing to care for sibling groups does not assure that providers will have the ability to meet entire range of their needs. Often, caseworkers would indicate that siblings had been separated because one or more children needed a different type of placement (e.g., specialized foster care), due to their behavior or other mental health problems. This pattern points to the tendency of foster care programs to be structured to care for children with specific characteristics (e.g., special behavior needs, medical needs, etc.) rather than to care for sibling groups consisting of children with varying needs. These programmatic decisions have multiple unintended consequences, such as the separation of siblings and the need to move some children as their needs change. Given the association between stable sibling placements over time and positive outcomes, avoiding these types of separations should be emphasized. Creative alternatives should be tested in which foster parents are specifically trained and provided with ongoing support in order to care for individual sibling groups.

4.3. Conclusions

The findings of the study reported in this article provide support for the view that placing children separately from their siblings should be avoided for several practical reasons. If future research confirms that consistent joint sibling placements increase placement stability, children's perceptions of belonging, and perhaps even the rates of adoption of older children by foster parents, the increased costs of assuring that such placements are available and adequately supported could be easily justified. Additional research in this area is important, as understanding how sibling separations and structured interventions designed for siblings affect placement outcomes is needed to appropriately plan for service provision. Yet, regardless of the results of studies that document the effects or lack of effects of sibling separation, maintaining sibling relationships is important from a humanitarian and philosophical perspective. Previous foster children are more likely to report dissatisfaction with frequency of contact with siblings (63%) than dissatisfaction with frequency of contact with parents (44%; Festinger, 1983). Lawsuits and legislation have resulted from the work of activists and former foster children who have fought for the recognition of sibling ties. The maintenance of sibling ties might be particularly important for children in foster care given the enormity of the losses that they have already experienced. As one child in Cutler's (1984, p. 69) study stated when asked why he thought that siblings should be placed together, "If they couldn't see their mom and daddy, at least they'd have themselves." Sibling relationships should be respected and supported because of their intrinsic value as well as their tangible benefits.

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