Intervening to Improve Outcomes for Siblings in Foster Care: Conceptual, Substantive, and Methodological Dimensions of a Prevention Science Framework

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Abstract

In recent years, the child welfare field has devoted significant attention to siblings in foster care. Policymakers and practitioners have supported efforts to connect siblings via shared foster placements and visitation while researchers have focused on illuminating the empirical foundations of sibling placement and sibling intervention in child welfare. The current paper

synthesizes literature on sibling relationship development and sibling issues in child welfare in the service of presenting a typology of sibling-focused interventions for use with foster youth. The paper provides two examples of current intervention research studies focused on enhancing sibling developmental processes and understanding their connection to child welfare outcomes. The paper concludes by presenting an emerging agenda informing policy, practice, and research on siblings in foster care.

1. Introduction

A historic concern within child welfare systems is the disruption of sibling bonds when youth are removed from a home due to substantiated child maltreatment. Roughly two-thirds of foster youth nationally have at least one sibling in foster care (Shlonsky, Elkins, Bellamy, & Ashare, 2005; Child Welfare Information Gateway, 2013), with many of these youth placed in separate residences while in foster care. The importance of preserving and strengthening sibling bonds is reflected at the federal level in the Fostering Connections to Success and Increasing Adoptions Act of 2008, which requires reasonable efforts to co-place siblings in foster residences, as well as in Child and Family Service Review state indicators pertaining to sibling co-placement (McCormick, 2010). Over half of state child welfare systems have policies prioritizing the placement of foster youth with siblings in the same physical residence in order to support the ability of foster youth to establish and maintain lifelong sibling ties (Gustavsson & MacEachron, 2010; Herrick & Piccus, 2005).

These federal and state policies undergird current child welfare practices concerning sibling co-placement and relationship development. Foster care caseworkers commonly seek to place siblings in the same physical residence upon the entry of youth into foster care, and this effort is generally understood to be the most common sibling-focused intervention undertaken in foster care. Estimates of the percentage of siblings who come into foster care at the same time and who are subsequently placed with at least some of their siblings range from 59% (Tarren-Sweeney & Hazell, 2005) to 78% (Wulczyn & Zimmerman, 2005), although it is clear that older children and children removed from their biological household at different time points are much less likely to be placed with their siblings (Hegar, 2005). Relationships between siblings in foster care are often critical in providing youth with a sense of connection, emotional support, and continuity as they are removed from much that is familiar to them (e.g., their home, biological parent(s), school, and peers) in the aftermath of child maltreatment and subsequent removal. Strong and consistent sibling relationships among foster youth have been found to be associated with enhanced reunification (Akin, 2011; Albert & King, 2008; Webster et al., 2005) and mental health and well-being (Davidson-Arad & Klein, 2011; Linares, Li, Shrout, & Brody, 2007; Tarren-Sweeney & Hazell, 2005).

The growth of sibling research in child welfare reflects interdisciplinary attention to sibling investigation and in particular to understanding the strength and nature of the sibling bond and its consequences for foster youth and other at-risk populations. Prosocial sibling relationships provide important opportunities for youth to learn and practice social skills and to develop strategies for negotiation, conflict resolution, and cooperative activity in familiar and unfamiliar settings. Research on non-foster care populations finds that the quality of sibling relationships may positively affect adolescent identity, self-esteem, and peer relationships (Kramer & Bank, 2005) and may be associated with decreased behavior

problems and improved educational outcomes (Bank, Patterson, & Reid, 1996; Conger & Reuter, 1996; Linares, Li, Shrout, & Brody, 2007). This general sibling literature suggests that sibling relationships can influence social and emotional development (Daniels, Dunn, Furstenberg, & Plomin, 1985; McHale & Gamble, 1989) by serving as important contexts for social learning and growth (East & Khoo, 2005; Patterson, 1986). The sibling relationship often serves as a powerful vehicle of socialization (Bank, Burraston, & Synder, 2004; Snyder, Bank, & Burraston, 2005); and the loss of opportunities for sibling bonding may therefore be especially consequential for foster youth (Herrick & Piccus, 2005).

The current paper aims to enhance understanding of opportunities and methods for policy interventions (e.g., co-placement) and psychosocial intervention with siblings in foster care to promote sibling relationship quality and related prosocial youth outcomes. The sibling relationship may provide a non-stigmatizing point of entry into the family for prevention programming (Feinberg, Sakuma, Hostetler, & McHale, 2012). Due to the high levels of risk that foster youth face and the potentially positive influences that sibling co-placement and relationship development have, developing and testing promising interventions to facilitate and enhance the sibling experiences of youth in foster care is critically important. Our analysis of the child welfare literature as well as interdisciplinary sibling research suggests a normative orientation towards (a) the development of interventions that may promote sibling relationship development regardless of co-placement and (b) testing and refining sibling-focused interventions with foster youth, with particular attention to enhancing their immediate effects on sibling relationship quality as well as more distal influences on youth mental health, educational, and permanency outcomes. This orientation reflects a prevention science framework for developing, testing, and implementing child welfare interventions that target essential levers of change for foster youth.

Our analysis is organized as follows. Section two provides a summative review of the interdisciplinary literature on the importance of sibling relationships for foster youth and the mechanisms through which sibling co-placement and sibling relationship development are associated with beneficial outcomes for at-risk youth. This section provides essential considerations for intervention development by suggesting that sibling co-placement alone should not be viewed as a proxy for prosocial sibling and/or peer relationship development. In section three, we develop a typology of preventive interventions focused on sibling relationship development and in particular differentiate between policy interventions focusing on sibling identification and placement versus those that promote the development and sustainment of prosocial bonds between siblings in foster care. Section four summarizes two psychosocial intervention studies focused on enhancing sibling relationship quality among foster youth. These studies exemplify current efforts to develop and test preventive interventions with siblings in foster care. The final section reflects on knowledge gaps in research, policy, and practice with siblings in foster care, and presents an agenda for child welfare practice and research that highlights the essential role of sibling intervention with foster youth.

2. Contextualizing Sibling Relationships in Foster Care

Understanding of the sibling relationship in foster care and its value may be enhanced by examining: 1) definitions of 'siblings' in foster care and laws and policies concerning the sibling relationship in foster care; 2) research on the experiences of siblings in foster care as well as the perspectives of children on sibling contact; and 3) evidence concerning the consequences of high-quality interactions and relationships between siblings. These interrelated research and policy-practice domains are summarized in Table 1.

2.1. Conceptual and Administrative Issues Pertaining to Siblings in Foster Care

Siblings are commonly defined as individuals who share at least one biological parent, and incorporated in some definitions is a requirement of living together for a period of time. No universally accepted definition of siblings in foster care exists, and researchers and child welfare systems have employed different conceptual and operational understandings in conducting sibling-focused investigations. A review of sibling placement in foster care (Washington, 2007) illustrated that many studies did not clearly describe how siblings were defined. Some studies (e.g., Wulczyn & Zimmerman, 2005) used practical constraints that limited the definition of sibling (e.g., sharing the same biological mother) whereas others (e.g., Folman, 1998; Gardner, 2004) did not specify who 'brother' and 'sister' were, thereby allowing individual participants to decide. An international review of sibling placement and adoption (Hegar, 2005) described how the definition of a sibling varied across studies, with some silent on the topic and others defining siblings however the agency defined them at the time data were collected. State-level differences in the definition of siblings and in policies about sibling co-placement can also pose a challenge for understanding and enhancing outcomes for siblings in foster care.

Despite the lack of definitional consensus, state child welfare systems have generally sought to promote sibling placement. Some states, such as California, Illinois, and New York, have recognized the importance of siblings through specific legislation prioritizing sibling placement. For example, in California a sibling is defined as 'a child related to another person by blood, adoption, or affinity through a common legal or biological parent' (California Legislative Counsel, 2003); and California statute requires that caseworkers make 'diligent efforts' to place siblings together or provide sibling contact (Shlonsky, Elkins, Bellamy, & Ashare, 2005, p. 702).

A challenge that Lery and colleagues (2005) highlight, however, is that youth (particularly half- and step-siblings) that meet these criteria may not always have been identified as such by child welfare systems. Administrative databases are often used to determine whether sibling relationships exist for children in foster care, but the completeness and accuracy of these data depend on a number of factors, including caseworkers' ability to collect and record detailed information, family members' provision of detailed information, and the development of specific routines for gathering sibling-specific information (Lery, Shaw, & McGruder, 2005). Additionally, administrative databases are often constructed to collect information on primary caregivers—who are usually mothers—and their children involved in the current episode of child maltreatment (e.g., Shlonsky et al, 2003), with the implication that administrators and researchers utilizing these particular databases may not be able to easily identify all siblings and half-siblings. Data extraction approaches that artificially limit the number of siblings available for any given analysis may also reduce practitioners' and child welfare systems' understanding of sibling groups (Lery, Shaw, & McGruder, 2005).

2.2. Sibling Experiences in Foster Care

Children in a sibling group do not always experience the same substitute care settings, and a large proportion of youth who enter care are separated from their siblings at one or more points during their foster care stay (approximately two-thirds based on past and current reports) (Kosonen, 1996; Wulczyn & Zimmerman, 2005). Siblings may not be placed in the same home initially and each child's placement may change over time and thereby be associated with different experiences and individual and family transitions (Drapeau et al., 2000). With recent research efforts focused on siblings' experiences as they relate to placement type, language has been developed to identify siblings who are living together (intact), placed with some (i.e., 'splintered', in which the child has at least one sibling in the home) or removed from all (i.e., 'split', where the child has no siblings in the home) of their

siblings (Hegar & Rosenthal, 2011). Additionally, when children become involved in the child welfare system and start living with a new family, they may encounter additional youth (e.g., foster siblings, cousins) who become part of their lives. These kin, non-kin, and even fictive sibling relationships may not always have a biological component but may hold strong emotional and social importance to youth particularly when promoted by cultural norms and/or in multi-family living situations (Sen & Broadhurst, 2011).

Although placement with or without siblings has been a focal point of research, information on the frequency and quality of contact between siblings in foster care is much more limited. Lundstrom and Sallnas (2012) describe the considerable body of research on parent-child contact in foster care and highlight the lack of attention that has been devoted to contact between siblings in care. They also describe how the perspectives of children about their sibling relationships are essential yet often unconsidered. The variety of definitions used by studies to understand what constitutes regular versus less frequent contact between siblings has made comparison of the information that has been collected problematic and thus has hampered the development of a basic understanding of opportunities for and frequency of sibling interaction in foster care. Nevertheless, a strong theme emerging from U.S. and international studies is that youth in foster care indicate that they desire more contact with their siblings (Biehal et al., 2010; Fernandez, 2006; Timms & Thoburn, 2003), with as many as 77% of children wanting to see their siblings more often (Chapman et al., 2004). Using data collected from young adult foster alumni, Pecora (2010) demonstrated that these individuals had more frequent contact with their siblings than their parents. Considered together, these studies emphasize the importance of sibling connections for foster youth.

2.3. The Importance of Sibling Relationship Development

The general sibling literature provides child welfare researchers, practitioners, and policymakers with useful information about the ways in which sibling relationships may help and harm. Feinberg, Solmeyer, and McHale (2012) note that as the third rail in family systems, sibling relationships are universal, powerful, and drive development in positive and negative ways. For the past few decades, sociological and psychological studies have demonstrated the ways in which siblings serve as friends, advocates, allies, playmates, models, and socialization agents for positive and negative behavior (Brody, 1994). Sibling relationships can influence social and emotional development (Daniels, Dunn, Furstenberg, & Plomin 1985; McHale & Gamble, 1989) as well as serve as important contexts for individual learning (East & Khoo, 2005; Patterson, 1986). Although sibling relationships grow and change over time, studies have shown that during some life stages (particularly during late childhood through adolescence) youth may report spending more free time with their siblings than with friends, parents, or even by themselves (McHale & Crouter, 1996; Tucker, McHale, & Crouter, 2008).

While siblings may serve as essential socialization agents, sibling bonds have been studied much less frequently than parent-child relationships. Sibling relationships have some parallels to parent-child relationships in that siblings may serve as models or guides, but sibling bonds are also characterized with higher levels of reciprocity since they are relative equals. Because siblings are a subset of children's peers and often serve as the primary peer relationships in childhood, sibling relationships are also a starting point for developmental influence (Dunn, 2002). Pike, Coldwell, and Dunn (2005) have documented that sibling interactions provide unique opportunities for learning prosocial behaviors and developing positive skills such as offering companionship. Kramer (2010) provides a list of criteria for judging the quality of prosocial sibling relationships, including: positive engagement; cohesion; shared experiences that build support, social and emotional understanding, and perspective taking; emotional regulation and behavioral control; forming neutral or positive

attributions; conflict management and problem solving; and responding to parental differential treatment practices.

These essential components of successful sibling relationships have garnered support from studies of siblings across the early childhood-to-late adolescence developmental arc. Positive sibling relationships, in particular, have the ability to provide opportunities for learning and practicing prosocial skills, may serve as a buffer for the negative emotions that accompany families in transition (Dennis, Cole, Wiggins, Cohen, & Zalewski, 2009), and may influence child and later adult behavior and mental health (Waldinger, Valliant, & Orav, 2007). This is because positive social experiences among siblings frequently generate positive emotions and provide opportunities to practice coping strategies that are beneficial to children during times of stress. Research has also demonstrated that sibling groups can provide emotional security and social support needed to adjust to unstable life situations (Hegar, 1986; Kempton, Armistead, Wierson, & Forehand, 1991).

Conflictual sibling relationships can also affect child outcomes and future adjustment, and the degree of sibling conflict present during critical developmental transitions often determines whether these outcomes are positive or negative. Conflict is a common facet of sibling relationships, and if youth have the skills to work through interpersonal difficulties, exposure to this lower level of conflict can be viewed as constructive. In fact, some evidence suggests that sibling conflict management may be linked to increases in social competence (Bedford, Volling, & Avioli, 2000), and some investigators have focused specifically on sibling conflicts as opportunities for youth to practice problem solving strategies (Siddiqui & Ross, 2004; Smith & Ross, 2007; Stormshak, Bellanti, & Bierman, 1996). When unmanaged, however, sibling conflict may result in verbal and physical aggression and likely plays a role in the development of internalizing symptoms and externalizing behavior. In a series of carefully-controlled studies, Bank and colleagues determined that the effects of sibling conflict during childhood and early adolescence could be seen in poor outcomes across multiple domains (i.e., mental health, antisocial behavior, educational performance, criminal justice involvement) and that these effects persisted in some instances over decades (Bank, Patterson, & Reid, 1996; Bank & Burraston, 2001; Bank, Burraston, & Snyder, 2004). These results, which reinforce those from other investigators (Patterson, 1982; Snyder & Stoolmiller, 2002), persisted even when controlling for key parental processes such as discipline and supervision as well as other peer relationships. Thus, high levels of sibling conflict may be associated with different negative outcomes in childhood, adolescence, and early adulthood.

Different theoretical approaches may be used to understanding the development of sibling relationships in the context of broader changes in family systems. Whiteman, McHale, & Soli (2011) apply psychoanalytic-evolutionary, social psychological, social learning, and family-ecological systems perspectives to explain sibling relationships in childhood and adolescence. Since sibling relationships often evolve over the full developmental lifespan, Whiteman and colleagues mention other frameworks that may also be useful in understanding this important family bond in adulthood including life-course and feminist perspectives. Waid (in press) argues that family-ecological and social learning-based approaches may be most useful in understanding sibling relationships among children and youth in foster care given their unique needs. As family systems theory suggests, family processes and dynamics are best understood when studied holistically. The sibling subsystem is an important element of the family system, and children and families operate within the larger social environment and its multiple layers of proximal and distal contextual factors. Social learning theory has commonly been used to understand sibling relationship dynamics, but can also be used to explain interactive processes occurring between siblings

and their caregivers or other key adults and the consequences of these processes for individual and family outcomes.

These empirical and theoretical studies imply that interventions targeted at reducing sibling conflict and enhancing sibling relationship quality may reduce youth problem behaviors and mitigate challenges in the home for foster youth (e.g., coercive foster parent-child interactions). When youth are placed into care, the sibling relationship is frequently the most viable ongoing relationship; and the development and maintenance of a positive sibling relationship may serve as a source of resilience when other familial resources are unavailable (Feinberg et al, 2012; Kramer, 2010). The sibling relationship also provides a prototype for peer relationships, as sibling relationships are often a training ground for later peer relationships and an avenue for peer choice and influence (Lewin et al., 1993; Stormshak et al., 1996). The promise of sibling intervention as a platform for preventing and addressing foster youth problem behaviors, therefore, rests not only on the sibling relationship but on the bi-directional and complex linkages between sibling, parental, and peer influences.

3. Sibling Relationship Quality as a Lever for Intervention with Foster Youth

Although the general sibling literature highlights attributes of sibling relationships that may be beneficial and/or detrimental for children, little research exists concerning promising intervention approaches to support the relational needs of sibling in foster care. Classes of interventions focused on enhancing sibling relationship quality can be understood through a prevention science framework applied to youth in foster care settings. This section presents a typology of sibling-focused interventions based on the prevention science rubric of universal, selected, and indicated/targeted preventive interventions (Cavaleri, Olin, Kim, Hoagwood, & Burns, 2011) and discusses the possible applicability and value of sibling-focused interventions with youth in foster care.

3.1. Universal Sibling Placement Strategies

As can be seen in Table 2, the dominant intervention approach with siblings in foster care is co-placement and/or visitation, in which placement decisions reflect federal and state child welfare policies promoting the maintenance of sibling bonds whenever feasible. These universal strategies include co-placement and visitation policies and in some instances attention to the needs of siblings (via needs assessments). In practice, the application of these policies may be inconsistent and prone to systemic barriers including: court decisions preventing coterminous co-placement; the lack of suitable foster homes allowing for the housing of large sibling groups; placement changes and other permanency transitions; and logistical limitations on the frequency of visitation between siblings who have positive relationships but are not co-placed (Child Welfare Information Gateway, 2013; McCormick, 2010). However, when successful, the application of co-placement and visitation policies can be considered a non-targeted and universal prevention approach that indirectly seeks to enhance sibling bonds and permanency (Akin, 2011; Albert & King, 2008; Holloway, 1997; Staff & Fein, 1992; Webster et al., 2005).

3.2. Selective Prevention Models for Sibling Relationship Development

Selective preventive interventions focused directly on sibling relationship development can reflect and build on existing universal approaches to improve or maintain positive sibling relationships in normative populations. These models often involve the application of school-based interventions for youth deemed at-risk for developing social-behavioral problems. For example, the *Siblings Are Special* (SAS) program is a school-based intervention targeting the relationship between older and younger siblings in grade school

through a 12-session weekly curriculum. SAS includes activities designed to improve sibling relational skills and cognitions in the sibling relationship context, with some separate parent training to reinforce these relational skills. The SAS intervention has been shown to be feasible (Feinberg, Sakuma, Hostetler, & McHale, 2012) and program participation has been associated with positive sibling relationship quality as well as subsequent child and parent outcomes (Feinberg, Solmeyer, Hostetler et al., 2012). Another intervention, *More Fun with Sisters and Brothers* (Kennedy & Kramer, 2008), focused on improving relationship quality with 4–8 year old siblings through development of emotional regulation competencies and pro-social behaviors over five one-hour weekly sessions. In this program, siblings learned skills in small group sessions and parents monitored the sessions and learned how to reinforce the curriculum. Findings showed improvement in emotional regulation and sibling relationship quality for program participants, with modest positive effects on warmth and reduced need for parent intervention (Kennedy & Kramer, 2008). In the context of foster care, such models may be targeted to at-risk sibling dyads or groups, where the parent training components are designed to help relative or non-relative foster parents support prosocial sibling relationship maintenance and development in addition to preventative co-placement or regular sibling visitation efforts.

From a selective prevention standpoint, child welfare systems may also introduce targeted and therapeutic interventions that promote sibling relationship quality when co-placement and regular visitation are not possible, or when co-placement and visitation are not considered advisable due to concerns about the nature of a particular sibling relationship. In fact, out-of home placement may be viewed as a potential strategy for disrupting coercive patterns in the family system that may have led to sibling maltreatment. For positive sibling relationships, such selective intervention can prevent the deterioration of sibling bonds due to systemic factors. This approach assumes that the sibling relationship can be a vehicle for positive growth and attainment of transferable skills, particularly social skills that can be practiced and applied to other sibling and/or peer relationships. Further, although 'deviancy training' through the sibling relationship is a risk, Feinberg and colleagues (2012) argue that the possibility of an iatrogenic effect may be limited by intervening with siblings prior to adolescence, when siblings may not yet be engaged in antisocial or collusive behavior. Additionally, earlier intervention can focus on increasing relational warmth while also lowering sibling conflict (Feinberg, Solmeyer, & McHale, 2012). In this situation, maltreatment exposure and subsequent foster care placement may be considered a risk factor justifying targeted and therapeutic intervention.

One selective prevention model is designed to improve sibling relationship dynamics when there is an identified older sibling with conduct problems (Bank et al., 2002; 2004). In a randomized evaluation of parent training programs with and without a secondary sibling component, sibling dyads in the intervention group attended curriculum-based sessions focused on enhancing the sibling relationship, increasing socially skilled behavior, and reducing conflict and aggression. As with the normative interventions described above, parents were specifically trained to reinforce the sibling curriculum. Findings showed that adding the sibling sessions to the parent management training model was associated with lower parent-reported antisocial behavior, more academic progress, and more positive peer associations (Bank et al., 2002; 2004). In an approach more specific to foster placement-related risk factors, Gnaulati (2002) has argued for sibling co-therapy to strengthen sibling bonds in the face of family dissolution or reorganization due to divorce or placement in foster care. In these situations, co-therapy may help siblings process maltreatment, loss, and uncertainty, and may enhance odds of reunification or co-placement (Gnaulati, 2002, p. 78, citing Lewis, 1995). However, co-therapy is contraindicated when siblings are at markedly different developmental stages, or when a younger or more submissive sibling idealizes a sibling with antisocial tendencies (Gnaulati, 2002). Thus, targeted approaches to enhancing

sibling relationships can be applied when foster placement is the identified risk factor, particularly when there are systemic barriers to relationship development or maintenance, but with the same consideration of other risk factors specific to the sibling dyad or group that might make relationship development problematic.

3.3. Indicated/Targeted Interventions

In the case of potentially problematic sibling relationships and/or siblings situated in particularly troubled family environments, targeted, therapeutic intervention focused in part on the sibling bond may also be incorporated into comprehensive or multilevel approaches. In these settings, family-based efforts may seek to enhance sibling relationship development in the context of parent and/or child focused programming. Stormshak and colleagues (2009) present a flexible, intensive, and family-focused program model (*EcoFIT and/or Family Check-Up*) in terms of proximal effects on sibling relationship quality through family management training with parents (e.g., managing sibling collusion), but have not yet directly targeted or examined effects on sibling bonding. Similarly, Brotman and colleagues (2005) describe an intervention for pre-school siblings of adjudicated youth, focused on parent-child interactions and concurrent group training. There is no direct intervention on sibling bonding or the older siblings' behavior (although parents were encouraged use their new skills with the older youth), but the authors found reductions in older sibling antisocial behavior and improved peer relations. Alternatively, a parent-only intervention approach developed by Ross and colleagues (Siddiqui & Ross, 2004; Smith & Ross, 2007) specifically trains parents to use mediation to manage sibling conflict. Overall, improved sibling relationship quality may enhance the functioning of the larger family system, whether these are biological or foster family contexts, and any of these approaches may be adapted as part of a comprehensive effort to manage challenging household dynamics involving problematic sibling relationships for foster youth.

Although selective and indicated intervention in the sibling context with foster youth has been limited, the approaches described here suggest that sibling relationships may be leveraged in ways that improve individual sibling outcomes as well as interpersonal relational qualities between siblings, parents, and peers. In the context of sibling relationship quality in foster care, this preventive approach assumes that beneficial sibling qualities can be targeted and enhanced. Additionally, intervention assumes that detrimental relationship qualities can be reduced with siblings in foster care. Therefore, problematic sibling relationships are intervenable, whether siblings are co-placed or not. With the exception of sibling co-therapy, all of the approaches described here include parent training as a factor in the delivery of the sibling-based intervention. This is an outstanding issue when considering how such interventions may work in foster care settings, where a consistent, long-term parent relationship cannot be assumed.

4. Foster Care Intervention Models Targeting Sibling Relationship Quality

This section describes two preventive interventions designed to improve sibling relationship quality among youth in foster care. These intervention studies are summarized so as to provide examples of intervention studies involving foster youth and being delivered in child welfare contexts. *Promoting Sibling Bonds* is reviewed first given its focus on younger foster child dyads between the ages of 5–11 and its promising efficacy results. *Supporting Siblings in Foster Care*, which was begun more recently and which serves sibling dyads between 7–15 years old, is then reviewed.

4.1. Promoting Sibling Bonds

Promoting Sibling Bonds (PSB) is a CDC-funded, 8-week preventive intervention targeting maltreated sibling pairs ages 5–11 years placed in the same foster home. The intervention study was implemented across three community-based child welfare agencies in New York City. As a family-based intervention, *PSB* was developed to: (a) equip children with new prosocial competencies; (b) reinforce positive parenting and train foster parents in conflict mediation strategies that support their children's newly acquired competencies; and (c) promote skill generalization in the foster home. In a recent randomized trial (Linares et al., in press), the authors evaluated program uptake (enrollment and retention for assessments and attendance) and short-term outcomes for youth randomly assigned to the *PSB* intervention compared to youth receiving as-usual foster care services. Program goals/ outcomes included increasing sibling positive interaction, reducing conflict during play, and promoting conflict mediation strategies. It was hypothesized that training in parent-assisted mediation would facilitate conflict resolution by siblings (e.g., helping them reach win-win scenarios) leading to less conflict during interactive play and less sibling aggression in the foster home.

4.1.1. Program Curriculum and Components—*Sibling, parent, and joint sibling-parent* program components are delivered in a package to single families at the foster agency by a trained two-clinician team. The *sibling* component targets the following skill areas: cooperating, taking turns, and sharing; developing consistent consequences for sibling aggression; emotional self-regulation (*Take a Break);* developing prosocial behavior alternatives (*Turn Your Behavior Around)*; supporting your sibling and identify common ground; and problem solving and finding mutually-acceptable solutions. The *parent* component focuses on: sibling cooperation and communication; consistent consequences for sibling aggression; the power of positive attention; self-regulation for yourself and for the children; and developing an organized approach to problem solving/mediation (*Get Ready to Listen; Get the Story Straight and the Feelings Right; Help Children Name the Problem; Brainstorm; and Try a Solution*). The *joint* component targets: barriers in the home; tracking and applying consequences to specific behaviors; controlled practice; and CanDo charts. Program strategies are based on doing rather than talking, and are incentivized through the frequent use of social and tangible rewards. Games and activities are chosen based on their potential for dyadic success and developmental appropriateness for siblings.

4.1.2. Study Participant Characteristics—The sample was drawn from age-eligible sibling pairs at three participating child welfare agencies during a two-year period starting in 2009. From 68 age-eligible sibling pairs, 20 pairs were found ineligible, 26 declined participation, and 22 pairs were enrolled. From 22 enrolled sibling pairs, 13 pairs were randomized to the intervention group and 9 pairs to a comparison as-usual care group. Children and foster parents in both study groups continued to receive services as prescribed by their foster care agencies. Sibling pairs were between 7.2 and 9.7 years of age; from ethnic minority backgrounds (Latino, African American, and mixed); 90% had experienced child neglect; and 57.3% showed elevated (T ≥ 60) CBCL externalizing scores.

4.1.3. Program Uptake—Eleven children completed 6 or more of the 8 sessions (M=6.62, S.D.=2.79), while 8 foster parents completed at least 6 of the 8 sessions (M= 4.92, S.D.=3.45) in an average duration of 10.72 weeks (S.D.=2.46). All intervention families completed assessments; one comparison family dropped out of the study after the pre-intervention assessment. There was occasional missing data for specific measures.

4.1.4. Measures—The Sibling Interaction Quality (SIQ; Kramer, 2010) instrument was adapted to assess the dyadic quality of the sibling interaction and conflict in the foster home

under two standard play conditions: floor puzzle and game play. Two observational measures were coded: *positive interaction* ($\alpha=0.77$) consisted of 18 items; and *negative interaction* ($\alpha=0.94$) was comprised of 15 items. *Conflict* (defined as dyads exhibiting three opposing interactive turn units) was coded based on 5 items (compromise, win/lose, no resolution, reconciliation, requests parent intervention). *The Conflict Checklist* (Smith & Ross, 2007) was adapted to assess parent intervention following sibling disputes in the foster home. Using 10 codes, we coded for the *number of mediation and non-mediation strategy types.* The *Sibling Aggression Scale* (SAS; Linares, 2008) is a 13-item scale assessing verbal/indirect aggressive acts (insult, swear, isolate, yell, destroy; $\alpha=0.63$) and physical/ direct (push, kick, threaten, grab, beat-up, throw, twist, slap; $\alpha=0.74$) aggressive acts administered separately for older and younger child as perpetrators.

4.1.5. Data Analyses—Preliminary analyses were conducted to assess for baseline intervention vs. control group differences regarding child characteristics (including age, gender, ethnicity, length of placement in the current foster home, type of child maltreatment, elevated behavior problems, and mental health services) and foster parent characteristics (including age, years of school completed, number of children in the home, kinship status, and preferred spoken language). In primary analyses and following an intent-to-treat methodology, PROC GLM analyses (SAS; version 9.2) were used to test group mean differences in dyadic-level measures (e.g., sibling interaction quality and number of parental strategies) assessed at the end of the intervention; logistic regression analyses were used to test dichotomous outcome measures (e.g., conflict). For child-level measures, GLM analyses were conducted separately for the older and the younger child. Baseline scores and child age were used as covariates in multivariate analyses. Due to the small sample size no moderator analyses were conducted.

4.1.6. Results—At post-intervention, intervention pairs showed lower conflict during the floor puzzle activity than did comparison pairs ($\chi^2(1,17)=4.39$, $p<0.05$). After adjusting for baseline scores and child age, foster parents in the intervention group reported a higher number of parental mediation strategies than those in the comparison group ($F(17)=4.75$, $p=0.05$). Foster parents in the intervention group reported lower sibling physical aggression from the older child toward the younger child than foster parents in the comparison group ($F(20)=4.78$, $p<0.05$). No significant group differences were found for sibling interaction quality (positive or negative), conflict during the game play condition, parental non-mediation, verbal aggression from older toward younger child, or verbal and physical aggression from younger to older child.

4.1.7. Conclusion—Program feasibility involving training needs, attendance, observational protocol, and study outcomes was promising. The feasibility of master-level clinicians implementing the manualized and prescribed intervention in the highly unstable world of foster care is also a program accomplishment. Staff training needs are critical in designing a large clinical trial aimed at program sustainability.

Despite study limitations (i.e., a small sample size and no follow-up data), the *Promoting Sibling Bonds* program targets an important untapped family resource in foster care that deserves further scrutiny. Based on this pilot trial, increased programmatic efforts to address the needs of high-risk siblings in foster homes and evaluate the effects of such programming on foster sibling dyads seem feasible and warranted.

4.2. Supporting Siblings in Foster Care

Supporting Siblings in Foster Care (SIBS-FC) is an NIMH-funded randomized, community-based evaluation of a sibling relationship development intervention for at-risk foster youth

between the ages of 7–15. The intervention research study is ongoing across three of the largest counties in Oregon and will be completed in 2015. It involves a partnership between Portland State University, the Oregon Social Learning Center, and the Oregon Department of Human Services (OR DHS).

4.2.1. Basic Intervention Curriculum and Components—The SIBS-FC intervention is provided in neighborhood offices, foster homes, and project offices so as to be convenient for siblings and their foster families. The 12-session intervention was developed to enhance sibling relationships for foster youth by supporting socially skilled behavior in individual siblings and reducing sibling dyad-based conflict. Activity-based sessions address issues pertaining to social and self-regulatory skills that operate in sibling relationships and that may be critical for development (e.g., cooperation, communication, emotional self-regulation, problem solving, conflict abatement, and social relationship repair strategies). Two sessions provide specific practice in approaching adult allies (e.g., foster parents, caseworkers, relatives, attorneys, judges) to facilitate the youth-adult ally relationship and create opportunities for collaborative problem-solving.

The 12-session curriculum includes 8 skill-building sessions (focusing on introduction of skills) and 4 community-based activities that provide opportunities for skills-based practice.

- *Session 1*: Introduction.

- *Session 2*: Cooperation.

- *Session 3*: Planning community activities.

- *Community activity 1*: Practicing cooperation.

- *Session 4*: Managing feelings (emotional regulation).

- *Session 5*: Problem solving.

- *Community activity 2*: Practicing supporting each other and incorporating supportive adults into community activities.

- *Session 6*: Getting adult support.

- *Community Activity 3*: Practicing building adult alliances.

- *Session 7*: Asking people in foster care for support.

- *Community activity 4*: Practicing advocating with DHS case worker.

- *Session 8*: Staying connected.

Activities are designed to be age-appropriate and engaging, and to emphasize discovery, learning, and practice in the context of experiencing and doing rather than talking and listening. Each activity is accompanied by specific behavior change strategies used by interventionists to describe, model, and reinforce critical social relational skills in the context of natural sibling interaction. Home practice activities with parental collaboration are designed to facilitate youth generalization of skills to home and peer environments. The sessions include four additional sessions with community activities planned by siblings with assistance from project interventionists, who accompany the youth and help facilitate activities. Additionally, parent management training is offered to all foster parents with enrolled youth. The curriculum is designed to be useful for siblings co-located in the same foster residence as well as those placed in separate homes.

4.2.2. Efficacy Trial Design—The efficacy trial involves the recruitment of 170 sibling dyads and their foster parents and random assignment of the dyads to either the SIBS-FC

intervention or the as-usual foster care control group. Each older sibling in the dyad is between the ages of 11–15, with the younger sibling within 4 years of age of her/his older brother or sister. All participants are under the guardianship of Oregon DHS and have accumulated at least 90 days in care. (This latter requirement is to avoid selecting youth who may have been placed in care under short-term emergency conditions and are returned to their biological families within a few days or weeks). Randomization is conducted with yoked sibling dyads living in the same home versus yoked dyads in separate home placements, including siblings living at considerable distance from one another. The yoked randomization procedure allows for testing of whether the intervention works equally well for siblings in different living situations. Recruitment of siblings and their foster parents took place in three of the most densely populated Oregon counties in or contiguous to the Portland area.

4.2.3. Data Collection and Measurement Strategy—A multiple-agent, multiple-indicator strategy (Chamberlain & Bank, 1996) is being used to measure key constructs and gather information from youth, foster parents, caseworkers, and teachers at baseline, intervention termination (6-month post-baseline) and two follow-along points (at 6-month and 12-month post-intervention completion, respectively). Concerning *youth* data, study youth complete a face-to-face interview at each of the four major assessment points focused on the central outcome domains of mental health, educational success, quality of life, and sibling relationship quality. Included in this interview is a videotaped, 30-minute exercise aimed at exploring the sibling dyad's activity planning and problem solving skills through dialogue. *Foster parents* are asked to register their perspectives through written assessment forms on the same four major outcome domains included in the youth packet as well as to provide contextual information on the foster home itself (e.g., household income; parental education level, age, race/ethnicity, other adults/children in the home). *Caseworker* data are gathered via a web-based survey at each of the four major assessment points concerning youth placement and caseworker changes. *Teacher* data are also gathered via web-based survey with teachers reporting on the same four major outcome domains as the youth and foster parent interviews. In addition, teachers provide their perspective on how youth interact with peers and respond to classroom instructions and school rules.

Additionally, administrative, archival data on youth historic and current foster care experiences are being gathered from OR DHS on each study participant. Brief bi-monthly phone interviews are also being conducted with foster parents to track service utilization and use of support services, and to collect global ratings of sibling relationship quality, stressful events, academic success, peer activities, and contact with supportive adults and quality of life. A possible total of ten phone interviews are conducted over the entire 18-month assessment period. Fidelity of implementation is being tracked on a per-session basis by interventionists to document adherence to intervention protocols and so as to examine intervention components actively associated with major outcomes, as well as possible differences in active intervention components for siblings living together versus those living apart. Finally, costs accrued throughout the intervention are tracked on a per-session basis by interventionists with the Intervention Cost Disbursement Form (ICDF). This form captures the cost of hourly staff, transportation, and individual activity and session costs.

4.2.4. Study Hypotheses—The intervention is directed at improving sibling relationship quality for children and youth living in the same foster home as well as those living apart. Youth assigned to the SIBS-FC intervention group are expected to display greater improvements than those in the control group in sibling relationship quality as well as in developmental trajectories of adjustment across the three key outcome domains of mental health (including internalizing and externalizing behavior), academic success, and quality of life, regardless of whether they are placed together or apart. Consistent with prior sibling-

focused research, it is anticipated that enhanced sibling relationship quality will be associated with significant reductions in internalizing (Lobato, Kao, & Plante, 2005; Compton, Snyder, Schrepferman, Bank, & Shortt, 2003) and externalizing reports (Bank, Burraston, & Snyder, 2004; Bank, Patterson, & Reid, 1996; Dunn, 2005) common among foster youth, improvements in educational outcomes (Burraston, McBeath, Briggs, & Bank, revision under review; Lewin, Hops, Davis, & Dishion, 1993), and improved quality of life (Kramer & Bank, 2005). Thus, the intervention is hypothesized to have a strong proximal effect on the quality of the sibling relationship, which is then expected to moderate the trajectories of later adjustment outcomes during the one-year post-intervention follow-up period. These hypotheses will be tested using hierarchical linear models and multiple regression analyses so as to statistically control for the influence of the intervention on key proximal and distal outcome measured over time versus other key covariates, including foster care placement (siblings together or apart), race/ethnicity, stability of placement, and age and gender.

5. Discussion

In recent years, the child welfare field has devoted significant attention to siblings in foster care. Policymakers and practitioners have supported efforts to connect siblings via shared foster placements and visitation while researchers have focused on illuminating the empirical foundations of sibling placement and sibling intervention in child welfare. The current paper has sought to synthesize literature on sibling relationship development and sibling issues in child welfare in the service of presenting a typology of sibling-focused interventions for use with foster youth. *Promoting Sibling Bonds* and *Supporting Siblings in Foster Care* are examples of prevention research studies focused on enhancing sibling developmental processes and understanding their connection to child welfare outcomes. This final section presents an emerging agenda informing policy, practice, and research for siblings in foster care.

5.1. Implications for Child Welfare Policymakers and Practitioners

Despite policy and programmatic efforts to support universal sibling co-placement or visitation, sibling-focused child welfare efforts are challenged by conceptual and definitional ambiguities, cross-jurisdictional differences in policies, and lack of administrative supports for the identification of and practice with siblings in foster care. Even when agencies and caseworkers are attuned to sibling issues, it may be difficult to place large sibling groups, mixed-gender groups, or those containing adolescents. Additionally, if siblings are placed apart, caseworkers and foster parents may have few resources to support sibling visitation over time. These challenges, which highlight the often-large gap between policy goals and frontline implementation, may inhibit rather than promote sibling relational continuity unless child welfare systems devote sufficient resources to universal sibling support programming.

Emphasis should therefore be placed on the development of coherent policy and practice frameworks governing sibling relational efforts in child welfare systems. These frameworks will need to provide clarity on the following questions: What constitutes a sibling?; What relationships with other family members can help support the maintenance of sibling ties?; and, For the purposes of out-of-home placement and service planning, how are sibling relationships important for child permanency and well-being? To answer these questions, policymakers and child welfare administrators will need to develop clear definitions of siblings in foster care and promulgate the use of rapid, valid, and reliable assessment instruments to capture sibling information (e.g., Groza, Maschmeier, Jamison, & Piccola, 2003). Child welfare managers will need to ensure that frontline workers enter this

information systematically into administrative databases and use this information to inform their practice with children and families.

Although positive sibling relationships contribute to child and adolescent development and well-being, sibling bonds can also be characterized by conflict and maladaptive behavior. Child welfare systems may need to provide programmatic resources to help foster youth and adults manage sibling relationships and attend to siblings' relational needs. While they are the most common sibling-focused interventions for foster youth, sibling co-placement and visitation strategies may not adequately address siblings' needs for positive and permanent relationships unless foster parents, parents, and caseworkers are able to work with siblings directly and skillfully (Gustavsson & MacEachron, 2010; James et al., 2008; Lundstrom & Sallnas, 2011). Skilled sibling relationship management is particularly important when siblings are separated prior to or while in foster care. A more robust approach to sibling-focused programming may rest on the availability of a continuum of services ranging from universal to more targeted approaches as seen in Table 2. Services should be developmentally- and culturally-appropriate and should be suitable for sibling dyads, triads, and large sibling groups.

5.2. Implications for Child Welfare Researchers

The promise of sibling-focused intervention rests in part on its potential impact on child permanency and well-being. Much of the literature on siblings in foster care has examined placement changes and outcomes for siblings in care (Akin, 2011; Albert & King, 2008; Holloway, 1997; Staff & Fein, 1992; Webster et al., 2005). In the absence of focused intervention, research has also pointed to the risk of sibling placement disruption when one sibling exhibits a high level of externalizing problems (Linares, Li, Shrout, & Brody, 2007). Evidence suggests that placing siblings together is often positive with siblings having fewer emotional and behavioral problems over time (Hegar, 2005). Particularly when there is a positive sibling relationship, siblings may provide the emotional support and relational stability that are so critical when youth are removed from their biological household and/or foster home (Herrick & Piccus, 2005).

Efficacious sibling interventions for foster youth remain rare. While the RCTs of *Promoting Sibling Bonds* and *Supporting Siblings in Foster Care* will provide robust tests of these models, the broad-scale effectiveness, cost, and feasibility of these and other sibling-focused psychosocial interventions remain unexamined. Additionally, the full effects of sibling intervention approaches on child welfare outcomes are unclear. Can sibling-focused interventions enhance foster youths' sense of permanency and well-being through sibling relationship quality? Do youth placed with siblings integrate more fully into their foster homes, experience fewer placement changes, and develop more supportive social networks with kin and non-kin caregivers than other youth? These questions direct attention to how researchers evaluate the impact of sibling interventions and examine critical mediating pathways of change for foster youth placed with or without siblings.

Regardless of whether they are engaged in intervention research or secondary studies, child welfare researchers may face the following challenges posed by sibling-focused investigation:

- Inconsistent conceptualization and operationalization of 'siblings' across studies make it difficult to draw comparisons and establish cross-study patterns. Similarly, the lack of valid, reliable administrative data on sibling issues impedes the development of large-scale studies comparing sibling indicators across different child welfare systems/jurisdictions and over time.

- Studies of siblings in foster care are rarely anchored to relevant developmental theories (e.g., social learning theory, attachment theory) (McCormick, 2010), making it difficult to propose hypotheses involving sibling interaction and growth and challenging to understand the contexts in which sibling relationships with peers, kin, and other adults manifest themselves (James et al., 2008; Sen & Broadhurst, 2011).

- Gathering data from individuals on a shared construct such as the sibling relationship increases the cost of data collection substantially, making sibling studies expensive and at risk of being statistically underpowered particularly in the presence of missing data. Similarly, cost and other pragmatic design considerations may preclude the gathering of data from each individual in large sibling constellations, thus systematically biasing studies towards a dyadic understanding of sibling dynamics.

- Gathering data from sibling dyads or groups in foster care makes data collection efforts and study logistics much more challenging. In addition to collecting assents from youth, consents are often required from DHS, the foster parents and in some states, the biological parents. Additional efforts are also needed for tracking placement changes that occur for each sibling and consenting and collecting data from the adults involved in the lives of these young people.

- Data collection efforts often focus more on nominal, static indicators of placement (e.g., co-placed or not) than continuous, multidimensional and dynamic measures pertaining to sibling processes (e.g., frequency, quality, and consequences of sibling contact) and trajectories, thereby reinforcing the current policy-practice emphasis on sibling placement as opposed to sibling relational development.

- Many sibling relationship measures have been developed using normative samples (e.g., Furman & Buhrmester, 1985) and may not be appropriate when applied to diverse samples of foster youth. Developing valid sibling measures for use with child welfare populations may be difficult due to: the wide age ranges often present in sibling groups and the consequent challenge of developing questions that are intelligible to youth at different ages and cognitive levels; and the reliance on youth self-report despite the poor concordance often found when multi-agent studies compare youth vs. adult perceptions (Bank, Patterson, & Reid, 1996; Bank, Burraston, & Synder, 2004).

- Statistical issues associated with the non-independent, nested nature of sibling data have been described previously (Shlonsky et al., 2005; Webster et al., 2005). While different techniques including multilevel and structural equation models may be used to account for clustering of observations by sibling (e.g., Newsom, 2002; Raudenbush, Brennan, & Barnett, 1995), examples of sibling-focused child welfare investigations using these methods remain rare (e.g., Anderson & Linares, 2012; Jenkins et al., 2005).

These conceptual, theoretical, and methodological challenges to doing high-quality sibling research in child welfare are not insurmountable, as evidenced by the interdisciplinary sibling literature and prevention science literature. But they highlight the general importance of linking theory and research methodology to study essential sibling processes for foster youth. To improve understanding of the role and impact of siblings in child welfare, researchers will have to disentangle the relative influence of sibling co-placement and sibling relationship development from other covariates of foster youth outcomes. Doing so in a manner that is attentive to the complex manner in which sibling relationships develop will require the collection and analysis of longitudinal data from youth and adults yoked to a strong theoretical framework explicating how, when, why, and for whom sibling

interventions and sibling interactions are expected to influence child welfare outcomes such as permanency and well-being.

5.3. Conclusion

The promotion of sibling co-placement and sibling relationships in child welfare has proceeded at the federal and state levels despite the little that is known conclusively concerning the manner in which sibling relationships evolve and are impactful for foster youth. Sibling visitation is of high interest to policymakers and child welfare practitioners yet is supported by a research literature that has emphasized placement over developmental and relational processes. Moreover, therapeutic interventions focusing on the sibling relationship have only begun to be developed and investigated, leaving child welfare agencies and practitioners searching for evidence-based practices for use with siblings in foster care with little guidance on how to assess, support, and intervene with diverse sibling groups. This paper highlights essential considerations for the development and testing of preventive interventions for foster youth, and proposes that child welfare systems invest resources to support the developmental needs of siblings in foster care. Ideally, sibling-focused foster care interventions should be feasible to implement and responsive to the preferences of and diversity among siblings within and across families. Research is needed to develop a more coherent understanding of siblings' experiences in foster care and to ascertain the pathways through which siblings support one another across different foster care settings.

Acknowledgments

References

Akin BA. Predictors of foster care exits to permanency: A competing risks analysis of reunification, guardianship, and adoption. Children and Youth Services Review. 2011; 33:999–1011.

Albert VN, King WC. Survival analysis of the dynamics of sibling experiences in foster care. Families in Society. 2008; 89:533–541.

Anderson M, Linares LO. The role of cultural dissimilarity factors on child adjustment following foster placement. Children and Youth Services Review. 2012; 34:597–601.

Bank L, Burraston B. Abusive home environments as predictors of poor adjustment during adolescence and early adulthood. Journal of Community Psychology. 2001; 29:195–217.

Bank L, Burraston B, Snyder J. Sibling conflict and ineffective parenting as predictors of adolescent boys' antisocial behavior and peer difficulties: Additive and interactional effects. Journal of Research on Adolescence. 2004; 14:99–125.

Bank, L.; Patterson, GR.; Reid, JB. Negative sibling interaction patterns as predictors of later adjustment problems in adolescent and young adult males. In: Brody, GH., editor. Sibling relationships: Their causes and consequences. Norwood, NJ: Ablex; 1996. p. 197-229.

Bank L, Snyder J, Prescott A, Rains L. Sibling relationship intervention in the prevention and treatment of antisocial behavior. 2002 Unpublished manuscript.

Bedford VH, Volling BL, Avioli PS. Positive consequences of sibling conflict in childhood and adulthood. International Journal of Aging and Human Development. 2000; 51:3–69.

Biehal, N.; Ellison, S.; Baker, C.; Sinclair, I. Belonging and permanence. Outcomes in long-term foster care and adoption. London: BAAF; 2010.

Brotman LM, Dawson-McClure S, Gouley KK, McGuire K, Burraston B, Bank L. Older siblings benefit from a family-based preventive intervention for preschoolers at risk for conduct problems. Journal of Family Psychology. 2005; 19:581. [PubMed: 16402873]

Burraston BO, McBeath B, Briggs HE, Bank L. Modeling the effects of parent, sibling, and peer influences on adolescent academic performance. Under review.

California Legislative Counsel. Welfare and Institutes Code. 2003. Retrieved July 29, 2013 from leginfo.ca.gov

Cavaleri MA, Olin SS, Kim A, Hoagwood KE, Burns BJ. Family support in prevention programs for children at risk for emotional/behavioral problems. Clinical Child Family Psychology Review. 2011; 14:399–412. [PubMed: 22080305]

Chapman M, Wall A, Barth R. Children's voices: The perceptions of children in foster care. The American Journal of Orthopsychiatry. 2004; 74:293–304. [PubMed: 15291706]

Child Welfare Information Gateway. Sibling issues in foster care and adoption. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau; 2013.

Compton K, Snyder J, Schrepferman L, Bank L, Shortt JW. The contribution of parents and siblings to antisocial and depressive behavior in adolescents: A double jeopardy coercion model. Development and Psychopathology. 2003; 15:163–182. [PubMed: 12848440]

Conger RD, Reuter MA. Siblings, parents, and peers: A longitudinal study of social influences in adolescent risk for alcohol use and abuse. Advances in Applied Developmental Psychology. 1996; 10:1–30.

Daniels D, Dunn J, Furstenberg FF, Plomin R. Differential experience of siblings in the same family. Developmental Psychology. 1985; 27:747–760.

Davidson-Arad B, Klein A. Comparative well-being of Israeli youngsters in residential care with and without siblings. Children and Youth Services Review. 2011; 33:2152–2159.

Dennis TA, Cole PM, Wiggins CN, Cohen LH, Zalewski M. The functional organization of preschool-age children's emotion expressions and actions in challenging situations. Emotion. 2009; 9:520–530. [PubMed: 19653775]

Drapeau S, Simard M, Beaudry M, Charbonneau C. Siblings in family transitions. Family Relations. 2000; 49:77–85.

Dunn, J. Emotional development in early childhood: A social relationship perspective. In: Davidson, R.; Goldsmith, HH.; Scherer, K., editors. The handbook of affective science. Oxford, UK: Oxford University Press; 2002. p. 332-346.

Dunn J. Commentary: Siblings in their families. Journal of Family Psychology. 2005; 19:654–657. [PubMed: 16402881]

East PL, Khoo ST. Longitudinal pathways linking factors and sibling relationship qualities to adolescent substance use and sexual risk behaviors. Journal of Family Psychology. 2005; 19:571–580. [PubMed: 16402872]

Feinberg ME, Sakuma KL, Hostetler M, McHale SM. Enhancing sibling relationships to prevent adolescent problem behaviors: Theory, design and feasibility of *Siblings Are Special*. Evaluation and Program Planning. 2012

Feinberg ME, Solmeyer AR, McHale SM. The third rail of family systems: Sibling relationships, mental and behavioral health, and preventive intervention in childhood and adolescence. Clinical Child and Family Psychology Review. 2012; 15:43–57. [PubMed: 22105663]

Feinberg ME, Solmeyer AR, Hostetler ML, Sakuma KL, Jones D, McHale SM. *Siblings Are Special*: Initial test of a new approach for preventing youth behavior problems. Journal of Adolescent Health. 2012

Fernandez, E. Growing up in care: Resilience and care outcomes. In: Flynn, R.; Duddin, P.; Barber, J., editors. Promoting resilience in child welfare. Ottawa: University of Ottawa Press; 2006.

Folman RD. 'I was tooken': how children experience removal from their parents preliminary to placement into foster care. Adoption Quarterly. 1998; 2:7–35.

Furman W, Buhrmester D. Children's perceptions of the quality of sibling relationships. Child Development. 1985; 56:448–461. [PubMed: 3987418]

Gardner H. Perceptions of family: complexities introduced by foster care, Part 2: Adulthood perspectives. Journal of Family Studies. 2004; 10:188–203.

Gnaulati E. Extending the uses of sibling therapy with children and adolescents. Psychotherapy: Theory, Research, Practice, Training. 2002; 39:76.

Groza V, Maschmeier C, Jamison C, Piccola T. Siblings and out-of-home placement: Best practices. Families in Society. 2003; 84:480–490.

Gustavsson NS, MacEachron AE. Sibling connections and reasonable efforts in public child welfare. Families in Society. 2010; 91:39–44.

Hegar, RL. Unpublished doctoral dissertation. Tulane University; New Orleans, LA: 1986. Siblings in foster care: A descriptive and attitudinal study.

Hegar RL. Sibling placement in foster care and adoption: An overview of international research. Children and Youth Services Review. 2005; 27:717–739.

Hegar RL, Rosenthal JA. Foster children placed with or separated from siblings: Outcomes basedon a national sample. Children and Youth Services Review. 2011; 33:1245–1253.

Herrick MA, Piccus W. Sibling connections: The importance of nurturing sibling bonds in the foster care system. Children and Youth Services Review. 2005; 27:717–739.

Holloway JS. Outcome in placements for adoption or long-term fostering. Archives of Disease in Childhood. 1997; 76:227–230. [PubMed: 9135263]

James S, Monn AR, Palinkas LA, Leslie LK. Maintaining sibling relationships for children in foster and adoptive placements. Children and Youth Services Review. 2008; 30:90–106. [PubMed: 19122749]

Jenkins JM, Dunn J, O'Connor TG, Rasbash J. Change in maternal perception of sibling negativity: Within- and between-family influences. Journal of Family Psychology. 2005; 19:533–541. [PubMed: 16402868]

Kempton T, Armistead L, Wierson M, Forehand R. The presence of a sibling as a potential buffer following parental divorce. Journal of Clinical Child Psychology. 1991; 20:434–438.

Kennedy DE, Kramer L. Improving emotion regulation and sibling relationship quality: The *More Fun with Sisters and Brothers* program. Family Relations. 2008; 57(5):567–578.

Kosonen M. Maintaining sibling relationships: Neglected dimension in child care practice. British Journal of Social Work. 1996; 26:809–822.

Kramer, L. Quality of sibling interaction coding manual: More Fun with Sisters and Brothers, 2007–2010. University of Illinois; Urbana-Champaign, Urbana, IL: 2010. Unpublished manuscript

Kramer L. The essential ingredients of successful sibling relationships: An emerging framework for advancing theory and practice. Child Development Perspectives. 2010; 4:87–94. [PubMed: 20700389]

Kramer L, Bank L. Sibling relationship contributions to individual and family well-being: Introduction to the special issue. Journal of Family Psychology. 2005; 19:483–485. [PubMed: 16402862]

Lery B, Shaw T, MacGruder J. Using administrative child welfare data to identify sibling groups. Children and Youth Services Review. 2005; 27:783–791.

Lewin LM, Hops H, Davis B, Dishion TJ. Multimethod comparison of similarity in school adjustment of siblings and unrelated children. Developmental Psychology. 1993; 29:963–969.

Linares, LO. The Sibling Aggression Scale. NYU Child Study Center, New York University; New York, NY: 2008. Unpublished scale

Linares LO, Li MM, Shrout PE, Brody GH, Pettit GS. Placement shift, sibling relationship quality and child outcomes in foster care: A controlled study. Journal of Family Psychology. 2007; 21:736–743. [PubMed: 18179345]

Lobato DJ, Kao BT, Plante W. Latino sibling knowledge and adjustment to chronic disability. Journal of Family Psychology. 2005; 19(4):625–632. [PubMed: 16402878]

Lundstrom T, Sallnas M. Sibling contact among Swedish children in foster and residential care—Out of home care in a family service system. Children and Youth Services Review. 2012; 34:396–402.

McCormick A. Siblings in foster care: An overview of research, policy, and practice. Journal of Public Child Welfare. 2010; 4:198–218.

McHale, SM.; Crouter, AC. The family contexts of children's sibling relationships. In: Brody, GH., editor. Sibling relationships: Their causes and consequences. Westport, CT: Ablex; 1996. p. 173-195.

McHale SM, Gamble WC. Sibling relationships and adjustment of children with disabled brothers and sisters. Journal of Children in Contemporary Society. 1989; 19:131–158.

Newsom JT. A multilevel structural equation model for dyadic data. Structural Equation Modeling: A Multidisciplinary Journal. 2002; 9:431–447.

Patterson, GR. A social learning approach: III. Coercive family process. Eugene, OR: Castalia; 1982.

Patterson, GR. The contribution of siblings to training for fighting: A microsocial analysis. In: Olweus, D.; Block, J.; Radke-Yarrow, M., editors. Development of antisocial and prosocial behavior: Research, theories, and issues. Orlando, FL: Academic Press; 1986. p. 235-261.

Pike A, Coldwell J, Dunn JF. Sibling relationships in early/middle childhood: links with individual adjustment. Journal of Family Psychology. 2005; 19:523–532. [PubMed: 16402867]

Raudenbush SW, Brennen RT, Barnett RC. A multivariate hierarchical model for studying psychological change within married couples. Journal of Family Psychology. 1995; 9:161–174.

Sen R, Broadhurst K. Contact between children in out-of-home placements and their family and friends networks: a research review. Child and Family Social Work. 2011; 16:298–309.

Shlonsky A, Webster D, Needell B. The ties that bind. Journal of Social Service Research. 2003; 29:27–52.

Shlonsky A, Elkins J, Bellamy J, Ashare CJ. The other kin: Setting the course for research, policy, and practice with siblings in foster care. Children and Youth Services Review. 2005; 27:697–716.

Siddiqui A, Ross H. Mediation as a method of parent intervention in children's disputes. Journal of Family Psychology. 2004; 18:147. [PubMed: 14992617]

Smith J, Ross H. Training parents to mediate sibling disputes affects children's negotiation and conflict understanding. Child Development. 2007; 78:790–805. [PubMed: 17517005]

Snyder J, Bank L, Burraston B. The consequences of antisocial behavior in older males siblings for younger brothers and sisters: Bad days at Black Rock. Journal of Family Psychology. 2005; 19:643–653. [PubMed: 16402880]

Snyder, JJ.; Stoolmiller, M. Reinforcement and coercion mechanisms in the development of antisocial behavior: The family. In: Reid, JB.; Patterson, GR.; Snyder, J., editors. Antisocial behavior in children and adolescents: A developmental analyses and model for intervention. Washington, DC: American Psychological Association; 2002. p. 65-100.

Staff I, Fein E. Together or separate: A study of siblings in foster care. Child Welfare. 1992; 71:257–270.

Stormshak EA, Bellanti CJ, Bierman KL. The quality of sibling relationships and the development of social competence and behavioral control in aggressive children. Developmental Psychology. 1996; 32:79–89.

Stormshak EA, Bullock BM, Falkenstein CA. Harnessing the power of sibling relationships as a tool for optimizing social–emotional development. New Directions for Child and Adolescent Development. 2009; 2009:61–77. [PubMed: 19960535]

Tarren-Sweeney M, Hazell P. The mental health and socialization of siblings in care. Children and Youth Services Review. 2005; 27:697–716.

Timms, J.; Thoburn, J. Your shout! A survey of the views of 706 children and young people in public care. London: NSPCC; 2003.

Tucker CJ, McHale SM, Crouter AC. Links between older and younger adolescent siblings' adjustment: The moderating role of shared activities. International Journal of Behavioral Development. 2008; 32:152–160.

Waid J. Sibling foster care, placement stability, and well-being: A theoretical and conceptual framework. Journal of Family Social Work. in press.

Waldinger RJ, Valliant GE, Orav EJ. Childhood sibling relationships as a predictor of major depression in adulthood: A 30-year prospective study. American Journal of Psychiatry. 2007; 164:949–954. [PubMed: 17541056]

Washington K. Sibling placement in foster care: a review of the evidence. Child and Family Social Work. 2007; 12:426–433.

Webster D, Shlonsky A, Shaw T, Brookhart MA. The ties that bind II: Reunification for siblings in out-of-home care using a statistical technique for examining non-independent observations. Children and Youth Services Review. 2005; 27:765–782.

Whiteman SD, McHale SM, Soli A. Theoretical perspectives on sibling relationships. Journal of Family Theory and Review. 2011; 3:124–139. [PubMed: 21731581]

Wulczyn F, Zimmerman E. Sibling placements in longitudinal perspective. Children and Youth Services Review. 2005; 27:741–763.

Highlights

- Synthesizes the literature on sibling relationship development for foster youth.

- Develops typology of preventive interventions focused on siblings in foster care.

- Summarizes two interventions enhancing sibling relationships for foster youth.

- Presents a child welfare agenda on the essential role of sibling intervention.

Table 1

A Question-Based Rubric for Promoting Understanding of Sibling Relationships in Foster Care

Dimension	Key Questions
Conceptualization and administration	• How are siblings defined, identified, and tracked in foster care? • What policies and administrative efforts pertain specifically to siblings in foster care?
Sibling experiences	• How do siblings' living situations and foster care experiences differ? • What is the frequency and quality of interactions between siblings in foster care? • What do siblings hope for/want? How do siblings' preferences relate to the views of foster parents, caseworkers, and other adults in their lives?
The influence of sibling relationships	• What is known with confidence concerning ways to support and promote healthy relationships between siblings? • In what ways can the sibling relationship serve as a vehicle for learning and practicing other important life skills?

Table 2

A Prevention Science Framework for Sibling-Focused Interventions for Foster Youth

Prevention Level and Focus	Focal Population	Intervention Approaches
Universal: interventions not targeted to specific types of siblings	General foster youth population	• Well-defined sibling co-placement policy. • Agency-based plans for facilitation and implementation of sibling visitation. • Agency-based implementation of needs assessment for sibling groups. • Trainings for caseworkers, foster parents, and other professionals about sibling issues. • Sibling skill-building, either via group-based or one- on-one sessions focused on problem solving, conflict resolution, etc.
Selective: psychosocial interventions for sibling groups and/or individual siblings	Foster youth at risk for poor mental health and child welfare outcomes and/or youth most likely to benefit from individualized treatment	• Curricularized interventions focused on sibling relationship skill-building. • Sibling co-receipt of therapeutic services. • Avoiding sibling co-placement when advisable.
Indicated: comprehensive interventions targeting the context of siblings	Foster youth demonstrating serious needs and behaviors and who are likely to engage in further disruptive behavior	• Parenting and whole-family interventions incorporating sibling relational development. • Connection of identified siblings to appropriate community-based social services. • Sibling-focused interorganizational coordination between social service agencies, law enforcement, courts, and corrections.