

The State of Interventions for Sibling Conflict and Aggression: A Systematic Review

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Abstract

Sibling conflict and aggression is often a pervasive part of family life that parents want help managing and can have negative effects on children's well-being. The purpose of this systematic review is to evaluate current research regarding programs to reduce sibling conflict and aggression and promote positive sibling relationships. Online databases, reference lists, and Google Scholar were searched using key words and inclusion/exclusion criteria were applied. The search located five unique studies of programs focused on school-aged children. Heterogeneity of the studies precluded meta-analysis, but characteristics of the studies were systematically described. Three interventions were aimed at directly improving children's social skills and two interventions trained parents on mediation techniques to use during sibling conflicts. Overall, of the four studies that included assessment of children's social skills, the results were positive. Two of the three studies that evaluated sibling relationship quality demonstrated improved sibling interactions compared with the control group. With further research and evidentiary support, these programs have promise to modify sibling behaviors as part of current parenting education programs or as a stand-alone program to address sibling conflict and aggression.

Keywords

parenting programs, sibling aggression, sibling conflict, intervention, systematic review

Sibling conflict is frequent and occurs in some cases up to 8 times an hour (Berndt & Bulleit, 1985; Dunn & Munn, 1986). High levels of psychological, physical, and property aggression including teasing, hitting, and theft are not uncommon among siblings (Perlman & Ross, 1997). Most sibling aggression is mild in nature (Straus, Gelles, & Steinmetz, 1980/2006; Tucker, Finkelhor, Shattuck, & Turner, 2013), but about 4% of children and adolescents report being victimized severely by their sibling including receiving an injury after being kicked, beaten, or punched or had a weapon used on them during an altercation (Tucker, Finkelhor, Shattuck, et al., 2013). Sibling violence occurs more frequently than all other forms of child abuse (Finkelhor, Ormrod, Turner, & Hamby, 2005). Repeated occurrences of such behavior have been characterized as sibling bullying, and one study showed that just over 11% of 12-year-olds reported being bullied by siblings several times a week (Bowes, Wolke, Joinson, Lereya, & Lewis, 2014).

Many parents are worried about how to manage sibling conflict and express dismay at how sibling conflict and aggression makes family life difficult (see Kramer, 2004; Kramer & Baron, 1995). In fact, sibling conflict and aggression behaviors are identified by parents as the most common behavioral problem in their families (Brody & Stoneman, 1987; Prochaska & Prochaska, 1985). However, there is yet to be a systematic review of the effectiveness of interventions aimed at improving

sibling interactions. In the current article, we aim to highlight this important issue by conducting a systematic review of the literature on the state of interventions for sibling conflict and aggression.

Sibling Conflict and Aggression

Although many parents are concerned about siblings' fights and aggressive behavior toward one another (see Kramer, 2004), there has been reticence among the general public and practitioners to address it and view it as a form of family violence (Caspi, 2012; Shadik, Perkins, & Kovacs, 2013). Often sibling conflict and aggression are minimized or dismissed as harmless rivalry and a normative experience of childhood. Sibling aggression, however, is not the equivalent of rivalry. Rivalry does not necessarily include conflictive or aggressive

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behavior, and in some cases, rivalry can promote positive interactions and development (Caspi, 2012). Many parents also uphold different norms of acceptability regarding conflict management and resolution and aggressive behavior in sibling versus peer or other kinds of relationships. As evidence of these varying norms, it is notable that sibling aggression is the most common form of family violence (Straus et al., 1980/2006) and yet less frequent forms of family and peer violence have received significantly more attention (Shadik et al., 2013). The perception of normalcy of sibling aggression and the different standards of typical relationship behavior for siblings compared to other relationships likely has contributed to the lack of research, clinical, and programmatic work aimed at its reduction and acknowledgment that sibling aggression is a form of intrafamilial violence. Continued research on sibling conflict and aggression will promote sibling aggression as an important form of family violence to be addressed by professionals and practitioners working with children and families.

It is critical to advance our understanding of evidenced-based programs to reduce sibling conflict and aggression, promote positive sibling relationships, and improve family functioning. Recently, there has been some recognition of the prevalence and potential severity of sibling conflict and its consequences for children's and adolescents' well-being among the public and research communities. Cross-sectional and longitudinal research has shown, for example, that sibling conflict and aggression is associated with a variety of internalizing (e.g., depression and anxiety) and externalizing (e.g., aggression and delinquency) behaviors (Kim, McHale, Crouter, & Osgood, 2007; Stocker, Burwell, & Briggs, 2002; Tucker, Finkelhor, Turner, & Shattuck, 2013). Some work has shown that childhood sibling conflict and aggression is linked to negative adjustment in late adolescence and early adulthood (Bowes et al., 2014; Bullock, Bank, & Burraston, 2002; Garcia, Shaw, Winslow, & Yaggi, 2000; Kim et al., 2007; Stocker et al., 2002).

Children and adolescents who report just one incident of sibling victimization over the past year report lower mental health than those who have not been victimized by a sibling (Tucker, Finkelhor, Turner, et al., 2013). The frequency and intensity of siblings' conflict, the risk of sibling bullying, and the associations with poor mental and physical health suggest greater attention to sibling interventions that reduce conflict and promote warmth is needed. Given that nearly 80% of children in the United States grow up with a sibling and sibling relationships are one of the longest lasting relationships over a lifetime, it is important for researchers and clinicians to examine what interventions promote harmonious sibling relationships. Improvement in the nature of siblings' interactions will likely reduce this form of family violence.

Research Literature on Sibling Conflict and Aggression Programs

A small, growing body of research has documented the efficacy of various individual programs aimed at sibling conflict and aggression. Programs focused on teaching social skills have

been developed in an effort to promote a positive tenor to family life and potentially stave off the negative consequences of sibling conflict and aggression for individual well-being.

Initial parent training programs dealing with sibling conflict were guided by peer intervention work and aimed at reducing negative behaviors (Johnston & Freeman, 1998; Kramer, 2004). More recent programs emphasize teaching positive social skills. This change has been motivated in part by research showing that siblings play a major role in children's social and cognitive development (McHale, Kim, & Whiteman, 2006) by providing extensive opportunities for learning a host of social and cognitive skills like affect regulation, perspective taking, negotiation, and cooperation (Dunn, 2007; McHale et al., 2006). These skills are many of the skills displayed and employed during conflict resolution and are associated with greater social development and warmer sibling relationships (Smith & Ross, 2007). Some intervention programs work directly with children to enhance sibling interactions (Kramer, 2004). Other programs train parents in mediation techniques to use during sibling conflicts (e.g., Smith & Ross, 2007). In both types of programs, children directly or indirectly (through parents) learn perspective taking, social sensitivity, strategies for handling anger, and constructive alternatives for conflicts. The idea is that teaching social skills will enhance siblings' relationships with one another and be preventative of future conflicts (Johnston & Freeman, 1998). These recent programs also have improved on early programs using control groups and systematic comparisons.

In summary, sibling conflict and aggression is commonplace for many families. There is a clear need for programmatic work aimed at sibling conflict and aggression because most parents want help with how to manage it, there is growing evidence for its negative effects for children's and adolescents' well-being, and it is the most common form of family violence. The objective of this article is to conduct a systematic review of the current state of intervention research that addresses sibling conflict and aggression. We intend to identify and evaluate strategies to prevent and mitigate negative consequences of sibling conflict and aggression for children, adolescents, and their families.

Method

To assess the current state of research knowledge on sibling conflict and aggression interventions, PsycInfo (American Psychological Association), Social Science Index and Abstracts, and PubMed (National Institutes of Health) were searched using the key word "sibling" in combination with the following common terms used for this type of work: intervention, program, training, education, parenting program, parent intervention, parent training, and parent education. Duplicates were omitted. We also reviewed titles and abstracts of parent education programs whose primary focus was not on reducing sibling conflict and aggression but may have included them as an outcome of interest. Remaining abstracts were reviewed, and studies were systematically excluded if they were not in English, dated prior to

1993 (more than 25 years ago to limit the review to current approaches), unrelated to siblings, focused on animals, and not peer reviewed. Books and book chapters were retained because they can be sources of clinical studies. Reference lists of articles identified were then searched for further studies. Unpublished reports were sought via Google Scholar. Secondary exclusion criteria then were applied and studies omitted included those whose intervention was not for typically developing children (i.e., not mentally or physically disabled, part of a clinical sample, or other special samples). The relevance of studies was assessed from titles and abstracts; where this was not possible, the full article was retrieved.

Results

From more than 5,330 studies identified in initial searches of published and unpublished literature that included the key word sibling combinations, 10 potentially eligible references were found. An additional 3,224 articles and abstracts of parent education programs were searched for the possible inclusion of information sibling conflict and aggression. We were not able to identify any additional eligible studies. After applying primary and secondary criteria, five studies remained and were included in the systematic review: Kennedy and Kramer (2008), Kramer and Radey (1997), Siddiqui and Ross (2004), Smith and Ross (2007), and Thomas and Roberts (2009; see Table 1). A meta-analysis was not performed because of the small number of studies available and variations in interventions and outcome measures among the five studies. Instead, all studies were reviewed using a narrative synthesis.

Study Characteristics

Design and sample size. Each of the studies included randomized control designs (see Table 1). Sample sizes ranged from $N = 20$ (Thomas & Roberts, 2009) to $N = 95$ (Kennedy & Kramer, 2008). The other three studies had sample sizes in the 40s. None of the studies reported a power calculation.

Settings and participants. Three studies took place in both laboratory and home (Kennedy & Kramer, 2008; Kramer & Radey, 1997; Smith & Ross, 2007). The other two studies took place exclusively in the laboratory (Siddiqui & Ross, 2004; Thomas & Roberts, 2009), but the Siddiqui and Ross (2004) study also included a phone diary component (see Table 1). Only Kramer and Radey (1997) reported that two graduate-level master students assisted with data collection while being supervised by a licensed clinical psychologist. All studies had a community as opposed to a clinical sample. The two Kramer studies advertised for parents who want to improve their children's sibling relationship. None of the other studies included information about what parents were told as part of the recruitment process.

Four of the five studies (the exception was Thomas & Roberts, 2009) included two siblings who ranged in the age from 1.5 years old (Kramer & Radey, 1997) to 9 years old (Smith & Ross, 2007). Age of the participants' sibling was

unclear in one study (Thomas & Roberts, 2009). The majority of the children included in the studies were between 5 and 9 years of age (see Table 1). Equal or approximately equal numbers of the four brother and sister combinations in the experimental group were present in three studies (Kennedy & Kramer, 2008; Siddiqui & Ross, 2004; Smith & Ross, 2007). All of the studies included parents, with three including both mothers and fathers (Kennedy & Kramer, 2008; Kramer & Radey, 1997; Smith & Ross, 2007), one including only mothers (Siddiqui & Ross, 2004), and one did not indicate the gender of the involved parents (Thomas & Roberts, 2009; see Table 1).

Intervention package. All five studies had the general goal of creating harmonious sibling relationships by improving children's social skills but differed in important ways. Three of the intervention programs were aimed at directly improving children's social skills during interactions with their sibling (Kennedy & Kramer, 2008; Kramer & Radey, 1997; Thomas & Roberts, 2009). Common skills that were taught included perspective taking, problem solving, and conflict management. Two intervention packages focused on training parents on mediation techniques to use during sibling conflicts to indirectly improve children's social skills (Siddiqui & Ross, 2004; Smith & Ross, 2007).

On average, interventions were delivered on a weekly basis but one (Smith & Ross, 2007) reported longer intervals between visits (see Table 1). The number of sessions ranged from two to seven, but the extent of children's and parents' participation varied across studies. In Kennedy and Kramer's study (2008), both children and parents participated in all training sessions. In two studies, children only participated in all training sessions (whether in the lab or at home), and parents completed questionnaires at designated training sessions (Kramer & Radey, 1997; Thomas & Roberts, 2009). In the Siddiqui and Ross (2004) study, mothers participated in all laboratory sessions and kept a phone diary, and children attended one laboratory session that overlapped with mothers. Finally, in one study, parents and children participated in laboratory sessions but parents only were trained in home visits (Smith & Ross, 2007). While the Siddiqui and Ross study (2004) included a follow-up phone interview to assess continued changes, it was unclear in one study whether a follow-up assessment was conducted (Kennedy & Kramer, 2008), and three studies did not conduct a follow-up assessment (see Table 1).

Most of the control groups received no training, but in one study, the control group received books and videotapes (Kramer & Radey, 1997). Program fidelity generally was maintained for each intervention. The Smith and Ross (2007) study did have one family who dropped out late in the study and was unable to complete the final session. Kennedy and Kramer (2008) noted that all of the families participated in at least four of the five sessions of the program.

Outcomes. The outcome measures across the five studies generally fell under two categories: children's social skills and sibling relationship quality (see Table 1). None of the studies

Table 1. Intervention Packages and Effects of Sibling Interventions.

Study	Sample Size	Participants	Mean Older Sibling Age	Mean Younger Sibling Age	Conceptual or Theoretical Model	Intervention Package	Skills Taught	Data Collection Method	Follow-Up	Summary of Findings
Kennedy and Kramer (2008)	95 (55 Experimental and 40 control group)	Child, sibling, mother, and father	7 years	5 years	Emotion regulation	Four weekly laboratory training sessions, followed by one home visit 1 week pre- and post-laboratory sessions	Strengthen children's ability to independently regulate emotions	Observations of sibling relationship quality, maternal and paternal reports of emotion regulation, and sibling relationship quality	Unclear	Increased emotion regulation (e.g., more calm). Increased sibling warmth, positivity and decreased rivalry and conflict. Small effect sizes (.30 for parent report of sibling rivalry to .48 for parent report of sibling conflict.)
Kramer and Radey (1997)	42 (Split evenly among experimental and group)	Child, sibling, mothers, and fathers	5 years	1.5 years	Social skills training models	Four weekly laboratory training sessions, followed by one home visit 1 week pre- and post-laboratory sessions	Children's social skills which are fundamental to prosocial sibling interactions (6 categories taught: initiate play, accept, or appropriately decline invitation to play, perspective taking, deal with angry feelings, conflict management)	Observations of sibling social skills, maternal and paternal reports of sibling relationship quality	None	Increased positive responses to sibling's invitations to play and perspective taking. No change in initiation of play. Decline invitations to play, deal with angry feelings, and conflict management occurred too infrequently to analyze. Increased sibling warmth, decreased rivalry, status/power differential, conflict Small to medium effect sizes (.07 for father report of agonism to .76 for mother report of warmth)

(continued)

Table 1. (continued)

Study	Sample Size	Participants	Mean Older Sibling Age	Mean Younger Sibling Age	Conceptual or Theoretical Model	Intervention Package	Skills Taught	Data Collection Method	Follow-Up	Summary of Findings
Siddiqui and Ross (2004)	48 (Split evenly among experimental and control group)	Child, sibling, and mother	8 years	5 years	Mediation	Two laboratory training sessions once a week for mothers. Children attend second session. One week phone diary of sibling conflicts	Mothers trained in use of four-stage mediation procedure for sibling conflict. Stage 1: outline expectations for mediator's and siblings' roles and ground rules. Stage 2: Issues identified and areas of agreement noted. Stage 3: Through discussion of each disputant's perspectives enhance empathy. Stage 4: Solutions to issues created and agreed upon.	Audio recordings and observations of conflict discussions, child reports and interviews of conflict discussions, managing and resolving conflict, and mother's conflict responses, and maternal reports and interview of mediation use, occurrence of sibling conflict, conflict discussions, managing and resolving conflict, conflict responses	One month later	Children improved management (e.g., strategies used) and resolutions (e.g., compromise). Medium to large effect sizes (d) younger children using more reasons in conversational strategies to 2.08 trained mothers more likely to use mediational techniques than control group.)

(continued)

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Study	Sample Size	Participants	Mean Older Sibling Age	Mean Younger Sibling Age	Conceptual or Theoretical Model	Intervention Package	Skills Taught	Data Collection Method	Follow-Up	Summary of Findings
Smith and Ross (2007)	48 (Split evenly among experimental and control group)	Child, sibling, mother, and father	9 years	6 years	Mediation	Two laboratory for parents and siblings and two home visits; average time between initial laboratory and home training session was 10 days; average time between second home training and final laboratory session was 50 days.	Parents trained in use of four-stage mediation procedure for sibling conflict (see above)	Observations of sibling negotiation of one parent-nominated recurrent sibling conflict, child, sibling, maternal, and paternal reports of sibling relationship quality and behavior during sibling conflict, child interviews about a negotiation of recurrent sibling conflict, conflict scenarios, and own and sibling perspectives on observed conflict.	None	Children improved conflict management and resolution. Increased social skills (i.e., perspective taking and social understanding). No change in sibling relationship quality. Small effect sizes (.08 more apologies to .49 more child resolutions in the experimental group)
Thomas and Roberts (2009)	20 (Split evenly among experimental and control group)	Child, parents (unclear whether mothers and/or fathers)	5 years	Unclear (1.5 years average age gap)	Prosocial conflict resolution skills	Seven laboratory visits approximately once a week.	Children taught prosocial methods of sibling conflict resolution skills (e.g., verbal reasoning and acceptance of intractable disagreement)	Observations of conflict resolution skills, child and parent reports of social competency, externalizing and antisocial behavior	None	Increased prosocial methods of sibling conflict resolution. Children increased social competency. Small effect sizes (.21 for social competency to .34 improved conflict resolution skills)

exclusively used self-reported measures which are subject to reporter bias. Rather, each study used observation and parent reports to gather information on the outcomes of interest, and three studies also included children's reports (Siddiqui & Ross, 2004; Smith & Ross, 2007; Thomas & Roberts, 2009). Two studies used established observational coding systems (Kennedy & Kramer, 2008; Thomas & Roberts, 2009) in which the raters were blinded, and all studies reported interobserver reliability. Three studies used established measures to gather the perspectives of parents and children (Kennedy & Kramer, 2008; Kramer & Radey, 1997; Thomas & Roberts, 2009).

Effectiveness of Interventions

Three of the studies reported effect sizes (Kennedy & Kramer, 2008; Smith & Ross, 2007; Thomas & Roberts, 2009). Where possible, effects sizes were calculated for the other two studies. We describe the results for each of the two outcome categories: children's social skills and sibling relationship quality. The Kramer and Radey (1997) study was the only one to examine potential moderators and showed that the findings were consistent across age and gender.

Social skills. Four of the five studies included a focus on children's social skills (except Siddiqui & Ross, 2004) and, overall, improvements were found. Children in the intervention group improved their emotion regulation (Kennedy & Kramer, 2008), perspective taking (Kramer & Radey, 1997; Smith & Ross, 2007), social competency (Thomas & Roberts, 2009), and had more positive responses to their target sibling's invitations to play (Kramer & Radey, 1997). In contrast, the control children showed little change or decreased in these social skills. The effect sizes for these social skills were small (less than .25). Children in the intervention groups also increased their conflict management and resolution skills like discussing emotions, ground rules, supplying information, reasoning, compromises, reconciliations, and negotiation. The effect sizes ranged from small to large (Siddiqui & Ross, 2004; Smith & Ross, 2007; Thomas & Roberts, 2009). On some measures there was no difference between the two groups of children post intervention. For example, in the Kramer and Radey (1997) study, intervention and control group children did not differ on initiation of play with a sibling. In the Thomas and Roberts (2009) study, there were no differences in children's externalizing and anti-social behaviors.

Sibling relationship quality. Various dimensions of sibling relationship quality were examined in three studies (Kennedy & Kramer, 2008; Kramer & Radey, 1997; Smith & Ross, 2007). In two studies, compared with the control group which remained stable or grew worse, children in the intervention groups experienced improved sibling relationships. Generally, siblings experienced more warmth and positivity and less conflict and rivalry (Kennedy & Kramer, 2008; Kramer & Radey, 1997). The Kramer and Radey (1997) study also showed less power differential between the siblings post intervention. The

effect sizes were predominately small in size but ranged from .07 to .76. The Smith and Ross (2007) study showed no significant differences in positive sibling relationship quality. The authors did not address this finding perhaps because sibling relationship quality was not a central focus of the study. However, the lack of improvement in sibling relationship quality for the intervention group could be due to the intervention focusing on parenting rather than directly targeting children's conflictive and aggressive behaviors with their sibling.

Discussion

Five intervention studies aimed at improving sibling relationship quality were evaluated. Overall, the studies reviewed reported results favoring the intervention group on social skills and sibling relationship improvement. These findings suggest that sibling interventions hold promise for improving children's social and cognitive development, parenting practices, and quality of family life. In addition, these studies suggest that interventions with typically developing children can be effective in improving the nature of siblings' interactions by increasing warmth and positivity and decreasing conflict and rivalry. Such findings provide important information for evidenced-based parent programs and hold promise to reduce the most common form of family violence and improve family functioning and individual well-being. Continued intervention work and research suggesting the importance of recognizing and addressing sibling conflict and aggression for families and children could dismantle the existing differentiated norms of acceptability regarding aggressive behaviors in sibling versus other kinds of relationships and lead to it being widely acknowledged as a form of family violence.

A strength of these interventions, as highlighted in this review, was the benefit of social skills and mediation training. Regardless of whether siblings were directly or indirectly (through parents) trained, siblings gained social skills such as perspective taking, problem solving, and conflict management. However, it is important to note that the majority of studies reviewed did not include a follow-up component to ascertain the longevity of the intervention benefit for future sibling conflict and aggression. Nonetheless, practitioners working with children and families should ask about the frequency and severity of sibling conflict and aggressive behaviors and could address concerns using information from this review regarding social skills and mediation training. Because of siblings' important influence on individual development and well-being, these interventions could have important implications for children's and adolescents' extrafamilial relationships. Other work has shown that behaviors and interaction styles displayed in the sibling relationship generalize to other relationships including peer (Dunn & Herrera, 1997; Tucker, Finkelhor, Turner, & Shattuck, 2014) and romantic relationships (Doughty, Lam, Stanik, & McHale, 2015).

The interventions reviewed blended existing theory and empirical knowledge to provide insights into the practice of managing sibling conflict and aggression. Research on sibling

interventions, however, has been limited by certain methodological constraints. As with all intervention research, its quality is primarily determined by its design. The studies included in this review were quality studies but had small samples that may not be representative. In addition, most of the samples included school-aged older siblings and the age of younger siblings ranged from toddler to school-aged. The limited age range does limit the generalizability of the results, and future research is needed to examine the benefit of these interventions for siblings across childhood and adolescence. Also, it was not clear how the program packages were determined and which intensity is best for achieving the desired outcomes. In terms of social skills siblings were taught, future work would need to develop a standard list of social skills to be taught to confirm and refine the findings evident in the current review and to be able to adequately compare future findings across studies and improve practice. Although the number of studies reviewed in this article was limited, these studies can be viewed as a promising beginning point for future research of intervention aimed at sibling conflict and aggression. Continued intervention research on sibling conflict and aggression will generate greater knowledge of efficacy and effectiveness of such programs and provide evidence-based solutions for practice with families.

Recommendations

This review identified several gaps that are informed by the research literature and provide direction for additional future research and intervention work aimed at identifying strategies related to managing sibling conflict and aggression.

Parents' role. Parents' role in the interventions needs to be clarified and evaluated. In the research literature, there is a debate about whether parents should intervene and whether such intervention is beneficial. Dreikers (1964), based on the work of neo-Freudian Alfred Adler, believed that siblings fight to attract parental attention and parental involvement encourages sibling fighting. However, what may matter is not whether parents get involved, but how they get involved (Kramer, Perozynski, & Chung, 1999) and at what age. Research shows that parents tend to intervene in about half of young children's sibling conflicts (Ross, Filyer, Lollis, Perlman, & Martin, 1994). When children are young and are developing sociocognitive skills, parent involvement that teaches and guides may be important. Parents of young children who actively engage their children in perspective taking and foster social understanding among the siblings have children who have shorter disputes (Kramer et al., 1999) and warmer sibling relationships (Tucker & Kazura, 2013). Such intervention becomes less frequent when children reach adolescence (McHale, Updegraff, Tucker, & Crouter, 2000). With age, decreasing parent involvement in sibling conflicts coincides with children's and adolescents' increased social development. As children age, they gain the needed social skills and experience to be better able to resolve disputes with siblings. Notably, more parental intervention in

adolescents' sibling fights is associated with lower quality sibling relationships (McHale et al., 2000).

There was variability across the reviewed programs as to whether parents were involved in the goal of reducing sibling conflict and aggression. Of the five studies reviewed in this article, three studies targeted children and two targeted parents for the intervention and both approaches revealed benefits for children's social skills. The one mediation study that targeted parents and assessed sibling relationship quality (Smith & Ross, 2007) did not reveal improvement in siblings' interactions with one another. It remains to be seen if a combination approach where both children and parents are targeted would reveal a significant benefit above focusing on children or parents alone. If parents are included in programs for the reduction of sibling conflict and aggression, several challenges must be considered. One issue may be that parents lack accurate or adequate knowledge about child development, constructive conflict, and conflict resolution. Another issue when working with parents is gaining understanding of parents' values and expectations for sibling conflict and aggression. Some parents view conflict and aggression as a normal part of being a sibling (Finkelhor, Turner, & Ormrod, 2006; Martin & Ross, 1996; Tucker & Kazura, 2013), while others see it as benefiting children's abilities to manage extrafamilial relationships (Gelles & Cornell, 1985). Future research is needed to discover whether such attitudes and expectations are linked to the frequency of sibling conflict and parents' openness to intervention.

In addition to whether and how parents get involved in sibling fights, the gender of children and parents are important factors to consider in programs. When it comes to siblings' conflicts, a limited literature suggests that both parents' and children's gender matter as to whether a parent becomes involved and which kind of strategy a parent employed (McHale et al., 2000; Perozynski & Kramer, 1999). With young children, one study found that mothers were more likely to use a child-centered strategy (guiding and teaching) and passive nonintervention, while fathers were more likely to use control strategies (settling the fight) (Perozynski & Kramer, 1999). McHale and colleagues (2000) found that fathers were more likely to get involved in adolescents' disputes particularly with brother-brother siblings.

Community and clinical samples. The studies reviewed in this systematic review were aimed at the general population with typically developing children who are likely dealing with normal levels of sibling conflict. None of the studies included a parent who had identified a sibling conflict and aggression problem for which they were seeking help. Therefore, it is unclear whether the interventions reviewed in this article would have the same benefit for a clinical population or children experiencing high levels of sibling conflict and aggression. However, severe sibling aggression including a weapon and/or injury is more common in adolescence than it is in childhood (Tucker, Finkelhor, Shattuck, et al., 2013). As noted, sibling violence has been documented as the most common form of intrafamilial violence. Knowing whether these types of programs benefit clinical populations could be useful for child abuse and neglect programs that include a focus on sibling aggression and violence.

Table 2. Implications for Practice, Policy, and Research.

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- There benefits are of social skills and mediation training for improved sibling relationship quality and development of children's social skills. Parent training in mediation of sibling conflicts is beneficial for preadolescent children's sibling interactions.
 - Family violence and parenting training programs should incorporate information and support with regard to sibling conflict and aggression.
 - The research on sibling conflict and aggression intervention programs is limited by small samples, a focus on young children, and a lack of information on the best program package including intensity, length, and core set of skills to be trained.
 - Research on sibling conflict and aggression intervention programs should include clinical samples and determine the kind and amount of parent intervention needed at different points in children's development.
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Existing Programs

The field of parent education has grown in recent years, as parents increasingly seek expert information about parenting and the government and other institutions recognize the value of parenting programs for improving parents' skills and children's well-being. The recent initiatives of U.S. Department of Health and Human Services (DHHS) and Centers for Disease Control and Prevention (CDC) with regard to print and online parenting education initiatives demonstrate movement at the federal level to highlight a public health approach to parenting (e.g., U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2009). From this review, information could be used to create a unique program that addresses sibling conflict and aggression or incorporated into current parent training programs (see Table 2). An effective, scientifically based program exclusively focused on sibling conflict and aggression has yet to be created. For interested clinicians and researchers working directly with children, the three studies reviewed here that focused on working directly with children provide examples for the development of such an intervention. These studies showed the benefits of teaching children social skills such as perspective taking as necessary for enhancing the quality of sibling interactions. For clinicians and researchers interested in programs focused on training parents, this review showed some evidence of the benefits of teaching parents mediation techniques in a relatively short period of time. A large assortment of parenting education programs, however, do exist and many of the more effective and evidenced-based programs (e.g., Active Parenting Today, STAR Parenting, Systematic Training for Effective Parenting (STEP), Triple P-Positive Parenting Program) include content on sibling conflict. Enhancing widely used programs may be an appealing practical approach rather than developing new stand-alone programs. Although a review of each of these programs is beyond the scope of this review, a major adaptation may not be needed and the information from this systematic review may be useful to refine programs that already include some content on sibling relationships. For those who may be deciding among the different parenting programs available, findings from this review suggest that not only is social skills and/or mediation training important components of interventions to reduce sibling conflict and aggression but that such intervention work could be done in a variety of settings (i.e., home or laboratory) over a short period of time even with very young children.

Sibling interventions and preventions also could be integrated into existing service programs such as parenting classes required for parents going through the divorce process. Research shows that the relationship quality of marital and sibling relationships are linked directly and indirectly through the parent-child relationship (Stocker & Youngblade, 1999). Also, sibling relationships in divorced families have higher levels of conflict compared to sibling relationships in always married families (Sheehan, Darlington, Noller, & Feeney, 2013), but siblings can play an important supportive role after a divorce (Tucker, Holt, & Wiesen-Martin, 2013). Programs focused on constructive co-parent interactions may benefit sibling interactions and increase children's well-being postdivorce. Family violence is associated with sibling victimization (Tucker, Finkelhor, Turner, & Shattuck, 2015). An inclusive approach to family violence that incorporates sibling aggression is characterized by domestic violence programs that provide services such as referrals to clinicians and programs, and support and information about sibling aggression and violence could address gaps in the intervention needs of children in domestically violent homes.

Summary and Implications

Sibling aggression is highly prevalent and represents a common family issue. Yet this review found only five studies using broad inclusion criteria that focused on addressing this parenting concern. Our review reveals major gaps in the research on interventions to prevent sibling conflict and aggression. Such research has likely been limited by the general lack of recognition that sibling conflict and aggression is anything but normative and benign. Interventions that successfully prevent or intervene with regard to sibling conflict and aggression can positively impact and improve individual well-being and improve sibling relations and reduce family violence. Given the current state of the literature on interventions designed to improve sibling relationship quality, preliminary evidence has been found for the efficacy of a small number of interventions. However, this work is incomplete. Given the documented negative association of sibling conflict and aggression for child and adolescent well-being and family atmosphere, more research is needed to develop effective interventions to inform practice. With a greater focus on parenting as part of a public health initiative led by the U.S. DHHS and CDC, attention to

the most common form of family relationship violence is critical. The programs reviewed here suggest such programs do have the potential to improve sibling interactions, but further research is needed to establish evidenced-based strategies that achieve the full potential of creating a positive family atmosphere.

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